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OVERVIEW AND SYNTHESIS OF THE ARCHEOLOGY OF THE JÉMEZ PROVINCE, NEW MEXICO

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ARCHAEOLOGY NOTES 51

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Michael L. Elliott
Albuquerque, New Mexico
September 30, 1986

CHAPTER 1. INTRODUCTION

The purpose of this volume is to present a synthesis of past archaeological, historic, and ethnographic investigations in what is called the Jémez Province. The term "Jémez Province" has both an old and a new connotation. The first Spanish explorers into New Mexico classified groups of Pueblo Indians by what they called themselves, and by what language they spoke. The Jémez peoples' self-designation, *Hemish*, came to be applied to the people, their language, and the area of land they controlled or used. The term Jémez Province, as used by the Spanish, meant all the area in use by the Jémez Indians. Archaeologists in the 1930s (for example, Reiter [1938]) later adopted this term to describe an area subsuming archaeological remains thought to correspond to the protohistoric Jémez people's domain.

More recently, archaeologists have begun to use the term province to describe areas of similar archaeological remains, whether prehistoric, protohistoric, or historic. Ruppé (1953) used the terminology "Acoma Culture Province" to describe a roughly hexagonal 10,000 square kilometer area around Acoma Pueblo. Plog (1979:121) defined a province as "an area in which artifactual remains were sufficiently similar to suggest considerable exchange and interaction but not a singular organizational entity such as a tribe."

As we shall see later, not all the cultural remains in the Jémez Province can be attributed to the Jémez people or tribe. The use of Jémez Province is appropriate for the way the term province is now used, as well as for the way the Spanish and earlier archaeologists used it.

For purposes of this report, the boundaries of the Jémez Province have been arbitrarily defined by the distribution of architectural/habitation sites exhibiting high frequencies of Jémez Black-on-white ceramics. This area does not include certain sustaining areas that were undoubtedly utilized by the protohistoric Jémez people. Traditional boundaries of the Jémez Province, such as those presented to the Indian Land Claims Commission (Ellis 1956; Sando 1982), include a much larger area. Based on archaeological evidence, however, the Jémez were actually living in a much smaller area. The northern boundary of the Jémez Province is the 8,400 feet elevation contour. The eastern boundary is Peralta Canyon. The southern boundary is the lower Jémez River, about where the Salado River enters it. The western boundary is a line 1 mile west of the Río Guadalupe. This area is typified by several large ponderosa pine-covered mesas, separated by deep, relatively narrow canyons with permanent drainages flowing through them (see Fig. 1).

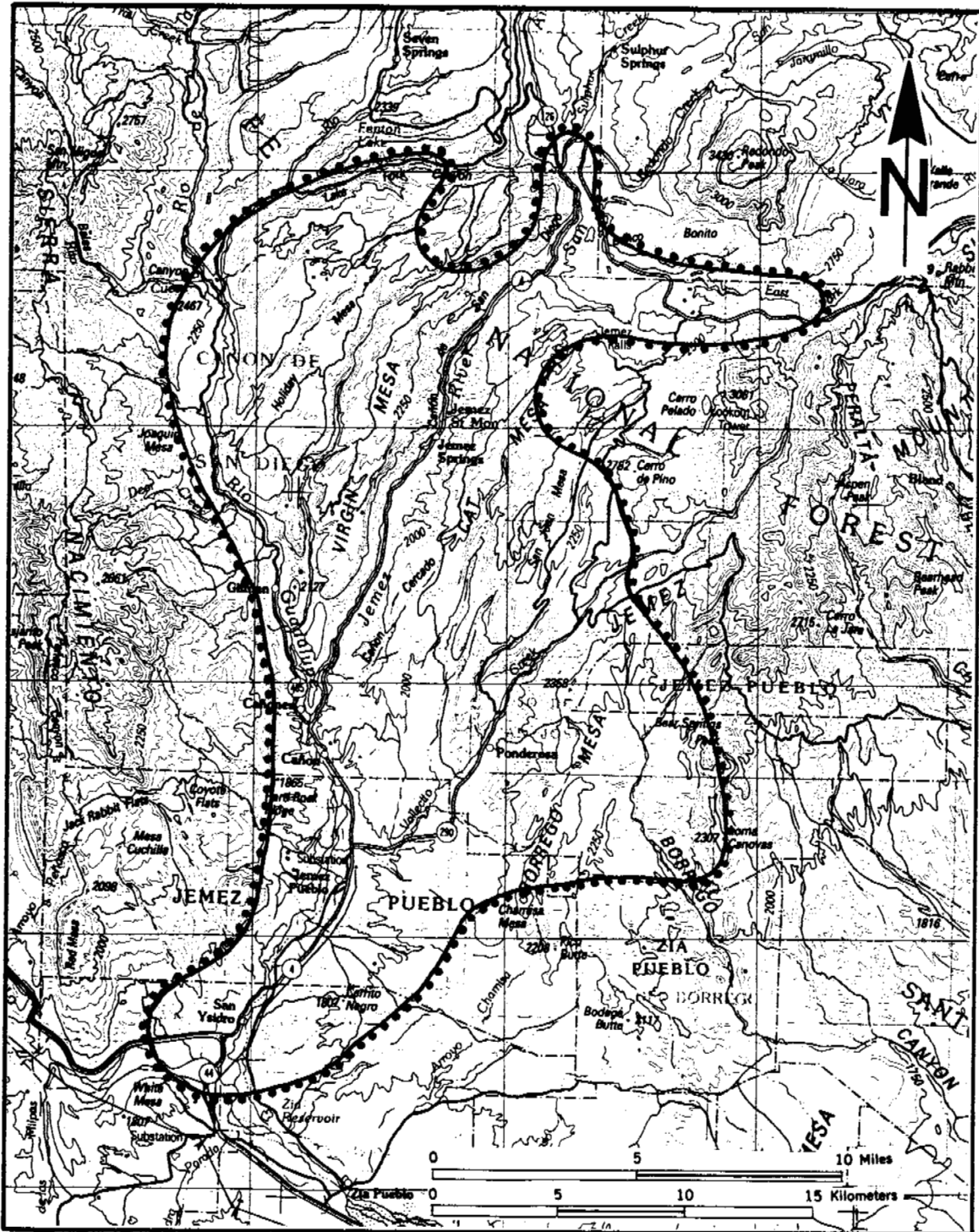


Figure 1. Map of the Jemez Province.

CHAPTER 2. THE ENVIRONMENT

Geographically, the Jémez Province occupies much of the southern Jémez Plateau (Bailey et al. 1969). The Jémez Plateau is part of the Jémez Mountain range, a complex volcanic layering of Tertiary and Quaternary age formations (Ross et al. 1961). The central feature of the Jémez Mountains is the Valle Caldera, a large collapsed volcanic crater about 15 miles in diameter.

Volcanism in the area began in the early to middle Pliocene Epoch, and continued intermittently through the Pliocene with successive eruptions of basalt, andesite, dacite, quartz latite, and rhyolite. Volcanic activity culminated in the Pleistocene with the eruption of rhyolitic ash flows. The eruptions that formed both the Toledo and then the Valle calderas occurred about 1.4 and 1.1 million years ago. These eruptions deposited a layer of ash that formed the lower Otowi Member and upper Tshirege Member of the Bandelier Tuff Formation. These eruptions covered an area of up to 400 square miles with ash, which has formed as much as 1,000 vertical feet of tuff. It has been estimated that some 50 cubic miles of ash erupted from these episodes (Ross et al. 1961).

Soils in the area are deepest in the lower elevations where sedimentary rocks have been exposed for long periods. Those found on the tuff deposits have undergone highly variable degrees of formation. Soils forming in material derived from limestone, tuff, pumice, or basalt are generally said to be the most fertile in the area (Gass and Price 1980:38).

The principal drainage systems in the area include the Jémez River, Guadalupe River, Rfo Cebolla, Rfo Las Vacas, East Fork, San Antonio River, and Vallecitos Creek. Numerous hot, warm, and cold springs are found in the area. The average annual precipitation varies from about 10 inches at the lower, warmer end to about 25 inches at the higher, wetter end. About half the precipitation occurs in the form of intense summer thunderstorms. Snowfall is usually negligible at the lower elevations, but can range as high as 5 feet in the mountains. Mean annual temperatures range from about 35 degrees F in the mountains to about 50 degrees F in the southern end. Frost-free seasons range from about 110 days in the mountains to about 190 days in the south annually (Gass and Price 1980:40).

Several plant communities based on the idea of potential natural vegetation (i.e., plant species that would grow in an area without the effects of man) have been defined for the Jémez Province (Fig. 2) by Forest Service ecologists (Gass and Price 1980:53). The one-seed juniper woodland is typified by one-seed juniper. Common associated plant species include fringed sage, broom snakeweed, cholla, pingue, blue grama, and western wheatgrass. The pinyon pine-one seed juniper woodland is typified by pinyon pine and one-seed juniper. Common associated plant species include broom snakeweed, mountain mahogany, Indian paintbrush, pingue, yucca, blue grama, and western wheatgrass. The pinyon pine-one seed juniper-Rfo Grande cottonwood-willow

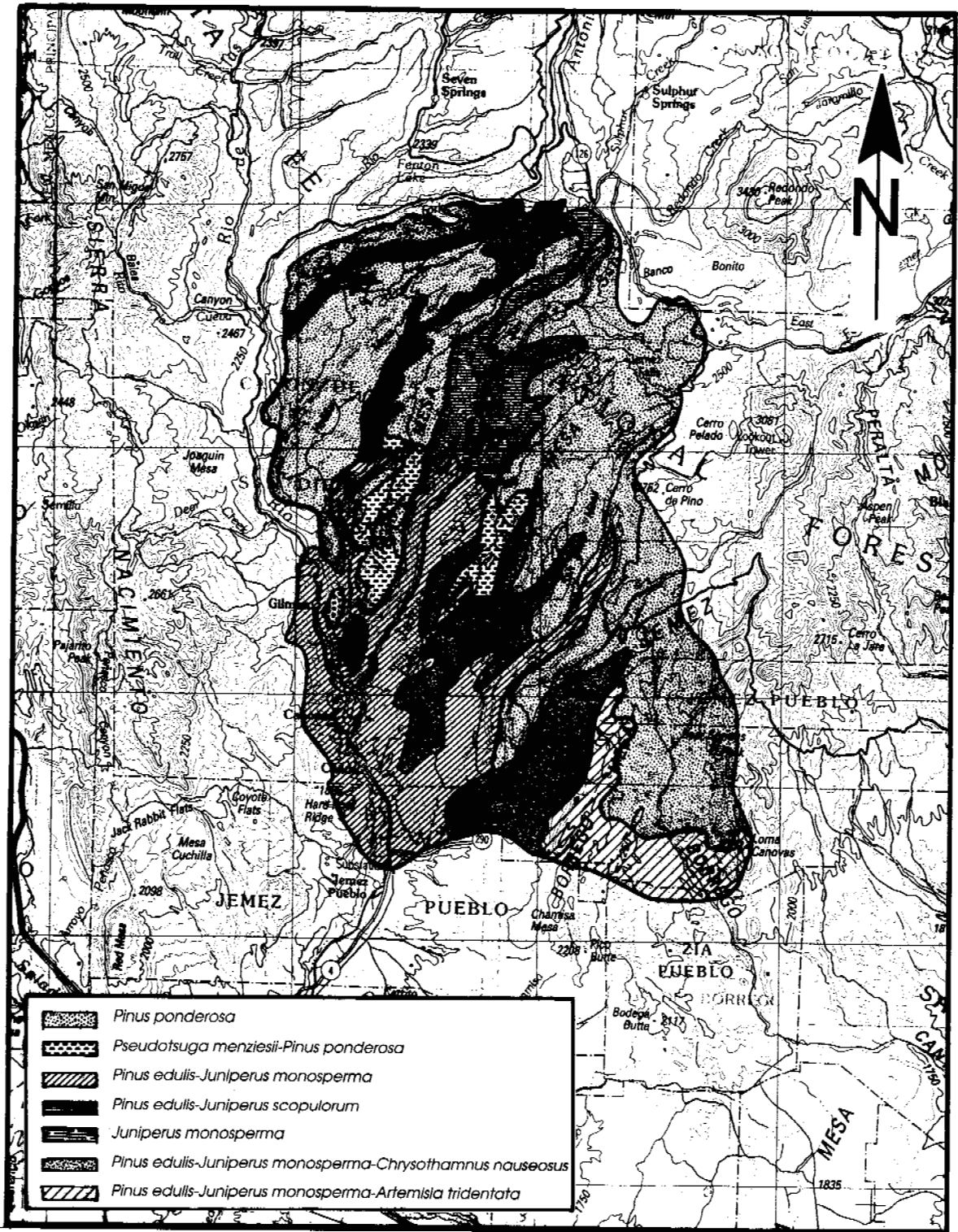


Figure 2. Map of potential natural vegetation in the Jemez Province.

woodland occurs exclusively in alluvial positions associated with perennial streams. This association is similar to the pinyon pine-one seed juniper woodland with the addition of riparian species. The pinyon pine-one seed juniper-big sage woodland is typified by the addition of big sage to the pinyon and juniper. Sage typically will grow after the removal of the pinyon and juniper.

Pollen analysis of samples from two fieldhouse sites in Cebollita Canyon indicated that sage was relatively more common during the occupation of the sites than today (Scott 1986:94). Scott suggests that the pine trees in the area may have been cut or were not as numerous as today.

The pinyon pine-Rocky Mountain juniper woodland includes the plant species one-seed juniper, mountain mahogany, groom snakeweed, yucca, Indian paintbrush, blue grama, side oats grama, and western wheatgrass. The pinyon pine-alligator juniper woodland is similar to the pinyon pine-Rocky Mountain juniper woodland with the addition of the alligator juniper, rare in this part of New Mexico.

Forest associations in the Jémez Province include the ponderosa pine-alligator juniper forest. Associated with those two trees are Rocky Mountain juniper, pinyon pine, Gambel oak, blue penstemon, blue grama, bottlebrush squirrel tail, and mutton bluegrass. The ponderosa pine forest includes Gambel oak, Oregon grape, kinnickinnick, penstemon, lupine, rose pussytoes, western yarrow, junegrass, Arizona fescue, and mountain muhly. The Douglas fir-ponderosa pine forest also includes white fire, aspen, New Mexico locust, wild rose, sticky geranium, snowberry, American vetch, and mountain brome.

Wildlife now present in the Jémez Province includes a number of large mammals that were probably important to the protohistoric Jémez people, such as deer, elk, brown bear, and perhaps antelope in the lower elevations. Streams in the area would have been populated by the native Río Grande cutthroat trout. Smaller mammals such as rabbits are common. Avian species such as wild turkey, hawks, and eagles are present in the area today and were undoubtedly utilized for their eggs, meat, and feathers.

The past environment was an important factor in the human utilization of the Jémez Province. Unfortunately, very little fine-grained work has been done to attempt to characterize paleoenvironments in the area. Analyses of tree rings have resulted in the generation of contour maps correlating temperature, rainfall, and tree-ring widths for most of the Southwest, including the Jémez Province (Dean and Robinson 1977). Investigators for the Baca Geothermal Project (Baker and Winter 1981) were unable to provide very detailed paleoenvironmental information. Pollen analysis was conducted on a bog core from the area (Stearns 1981), and macrobotanical analyses were conducted on samples collected from sites (Donaldson and Struever 1981).

Any future archaeological research conducted in the Jémez Province should emphasize paleoenvironmental reconstruction. Packrat midden analysis, palynology, faunal analysis, macrobotanical analysis, and more tree-ring analyses should be conducted. Archaeological research has the potential to produce well-dated samples needed for each methodology. Since the protohistoric Jémez people seem to have been living on the edge of environmental diaster, paleoenvironmental and paleoclimatic reconstructions are crucial to the interpretation and explanation of the Jémez settlement system.

CHAPTER 3. PREVIOUS RESEARCH AND THE DEVELOPMENT OF THOUGHT IN THE JÉMEZ AREA

Early recorded explorations in the Jémez area probably began with Lieutenant James Simpson. In 1849, while leading a military exploration, he became the first U.S. citizen to visit and report on an abandoned Jémez pueblo. Simpson made a trip to Jémez Springs with Francisco Hosta, the lieutenant governor of Jémez. There, he made note of the abandoned mission at Giusewa Pueblo (McNitt 1964:17; Simpson 1852, reprinted in Chapter 4). Simpson was accompanied by two illustrators, Richard and Edward Kern, who made sketches of the San José mission at Giusewa (see Simpson 1852).

Oscar Loew, a member of the Corps of Engineers team surveying New Mexico, visited Astialakwa, Patokwa, and Giusewa in 1874, under the guidance of the same Francisco Hosta who had served as Simpson's escort to Giusewa in 1848. Loew described Jémez Pueblo as "one of the most prosperous in New Mexico" (Loew 1879:342). Loew also states that he was told of 25 or 30 ruins in the area. Only about 40 large ruins are now known in the area, and it appears that by no later than 1875, local residents knew the location of most of them. Loew also quotes Francisco Hosta concerning the history of the Jémez (1879:343):

If you wish to see what a great people we once were, you must go upon the mesas and into the canyons of the vicinity, where ruins of our forefathers are numerous. Our people were a warlike race, and had many fights not only with the Spaniards but also with other Indian tribes, the Navajos and Taos for instance, and were thus reduced to this pueblo of Jémez, which now forms the last remnant.

One of the most interesting legends concerning the Battle of Astialakwa between Governor Vargas and the Jémez, which occurred on July 24, 1694, is told by Loew, again quoting Francisco Hosta (Loew 1879:344):

When the Spanish came up, the despair of the people was great; many threw themselves headlong into the frightful depths below, preferring suicide to humiliating death at the hands of their conquerors. Suddenly the Spirit Guadalupe, who is the custodian of the canyon, made his appearance, and from this moment the people could jump down without any danger, and since this remarkable episode the image of Guadalupe had been upon the rocks.

Loew goes on to describe the image:

On descending, I viewed this image, which is a white figure, about ten feet in length, painted high up on the vertical bluffs, apparently a difficult task for the unknown artist. The only place from which the spot could be reached is a narrow prominence 30 to 40 feet below the picture. As there is a sort of halo around the head, such as we are accustomed to see in pictures of saints, I believe this image to be the work of a Spanish priest who desired to impose upon the people, for which purpose he might have secretly made this picture, which to them is a miracle. (Loew 1879:344)

Much the same story is told about the image of San Diego, which can still be seen on the east-facing cliffs of Guadalupe Mesa.

According to Jémez legend, it was probably during the course of this battle that some people jumped over the cliffs to avoid capture; at the moment a likeness of San Diego appeared on the cliff, and the people who had jumped simply landed on their feet and did not die. (Sando 1982:120)

Early Research 1880-1907

The early history of scientific research (from 1880 to 1907) into the Jémez area was dominated by a few investigators, termed here the archaeologist-historian-ethnologist. These individuals were pioneers in a real as well as a scientific sense. Adolph Bandelier conducted some brief investigations of the Jémez area in 1887 and 1891. His chapter entitled "The Country of the Jémez" from his final report (Bandelier 1890-1892:200-217) relates some of the documentary history and ethnohistory of the Jémez. This was the first indepth discussion of the archaeology, documentary history, and ethnology of the Jémez area.

The first few pages of Bandelier's chapter (1890-1892:200-204) on the Jémez describe the location, geology, and hydrology of the area. He then begins to describe the archaeological sites:

The first vestiges which I noticed, when coming from the Valles, were at La Cueva, five miles below the San Antonio Hot Springs. I was informed by various persons that pottery had been found at that place; also the remains of small houses of stone. Lower down, the canyon becomes too narrow and rugged for habitation; there is no space for cultivation as far as the cold soda springs. On the mesas right and left there are said to be traces of ruins; but the extensive ones only begin about the springs. In the bottom, about half a mile to the north of the baths, on a gentle slope descending to the river's edge from the east, lie the ruins of the old pueblo of Giusewa, with the stately old church of San Diego de los Jémez. (Bandelier 1890-1892:204)

Of interest here is the mention of the "small houses of stone" in the La Cueva area. These are almost certainly the ubiquitous "fieldhouses." There may be several thousand of these sites in the area. Bandelier evidently did not notice the sites of Unshagi, Nanishage, and Jémez Cave, which lie in Jémez Canyon near Giusewa. Bandelier's identification of the mission church at Giusewa was accepted until the 1930s. The church there is now generally known as San José de los Jémez.

The pueblo was built of broken stone, and formed several hollow quadrangles at least two stories high. It contained about eight hundred inhabitants. The church is a solid edifice, the walls of which are erect to a height of ten or fifteen feet, and in places nearly eight feet thick. It is not as large as the one at Pecos, and behind it, connected with the choir by a passage, rises an octagonal tower, manifestly erected for safety and defense. Nothing is left of the so-called "convento" but foundations. The eastern houses of the pueblo nearly touch the walls of the church, and from this structure the village and a portion of the valley could be overlooked and the sides of the mesa easily scanned. (Bandelier 1890-1892:204)

Excavations were conducted over a period of years at Giusewa by The School of American Research and the Museum of New Mexico. The site was donated to the state in 1921, and is now known as Jémez State Monument. The church and portions of the pueblo have been stabilized and interpreted for the public enjoyment. A small visitor's center and museum are also present.

Bandelier then begins to describe some of the documentary history of the Jémez. Although much of what he describes is accurate, later work has resulted in some revisions. Also of interest here is Bandelier's description of the location of the pueblo of Amoxiumqua "on the mesa that rises west of the springs." Maps in his journals leave no doubt that Bandelier was told that Amoxiumqua was the site on Virgin Mesa (LA 481) just west of Jémez Springs. John P. Harrington (1916) later tried to make the unconvincing case that Bandelier meant the site on Holiday Mesa (LA 482) as Amoxiumqua, as Harrington's informants had told him.

Bandelier also describes the Jémez origin myth:

The few fragments of Jémez traditions I was able to gather are confused, and somewhat conflicting. They speak of a lagoon lying in the north, to which the soul travels after death in four days, which they call Ua-buna-tota. There, they claim, the Jémez had their origin. But they also say that the people of Amoxiumqua dwelt first at the lagoon of San José, seventy-five miles to the northwest of Jémez, and that they removed thence to the pueblo of Anu-quil-i-jui, between Salado and Jémez. In both of these places there are said to be ruins of former villages. *All these bits of tradition indicate a migration from the north [emphasis added].* There are also tales about a remarkable man whom the Jémez call Pest-ya So-de, who derived his "medicine" from the sacred lagoon of Ua-buna To-ta and who introduced the various "customs" as the rites of the secret societies are called in the tribe. He was a famous hunter, and may be the equivalent of Pose-euve, Pusha-iankia, and Push-a-ya. (Bandelier 1890-1892:207-208)

This was the first recording of the Jémez origin myth. It was also the first mention of the remarkable Pestyasode, who, as Bandelier correctly notes, has analogues in several other Pueblo groups. The emphasized passage is also the first time that the Jémez migration from the north into the area was suggested. Note that the evidence for this notion is solely the origin myth, related to Bandelier by unknown informants from Jémez.

Bandelier then returns to his review of the documentary history of the Jémez, discussing at some length the role the Jémez played in the Pueblo Revolt of 1680. He also discusses in detail the visits and battles the Jémez had with Diego de Vargas, the reconqueror of New Mexico. Finally, Bandelier mentions collections of artifacts made from Jémez ruins for the Smithsonian by James Stevenson of the Bureau of American Ethnology (Stevenson 1881).

Thus, despite spending only a short time in the Jémez area, Bandelier provided the first comprehensive and detailed publication dealing with the archaeology, history, and ethnology of the area. His importance and influence on later researchers in the area cannot be overestimated.

In 1889, W. H. Holmes of the Bureau of American Ethnology conducted an archaeological reconnaissance survey of the Jémez area while accompanying a field party of the United States Geological Survey. Holmes visited several of the larger ruins in the area. He visited two still unrecorded artifact scatters one-half mile south of Jémez Pueblo; LA 2048, a Zia refugee site dating to the late 1600s; LA 248 and LA 258, two small pueblos close together on Vallecitos Creek, which later became the type sites for Mera's suggested ceramic type Vallecitos Black-on-white; the historic Jémez pueblo of Patokwa (LA 96), which has a church ruin now generally known as San Diego del Monte, and an earlier component; Astialakwa (LA 1825), the Jémez refugee site conquered by Vargas in 1694; Giusewa (LA 679) and the San José de los Jémez church; and Amoxiumqua (LA 481). He mentions, but did not visit, Kwastiyukwa (LA 482), Nanishagi (LA 541), and Unshagi (LA 123).

Holmes discusses the ceramics he observed at several sites. He believed, as did many researchers of this time period, that all black-on-white ceramics were prehistoric. Since he did not have the benefit of tree-ring or other forms of dating, he could not know that Jémez Black-on-white was made in the area until at least 1700. This assumption affected later research in the area. The excavators of Amoxiumqua assumed the site had two components, one prehistoric, the other historic. The basis of this assumption was primarily the prevalence of the black-on-white ceramics in one area of the site. The same process led early researchers to believe that Giusewa and Patokwa had prehistoric components.

Holmes also made special note of the small sites in the area:

A unique feature of the antiquities of [the] Jémez Valley are the ruins of small stone houses that are encountered by the explorer at every turn in the tributary valleys, on the steep slopes of the plateaus, and scattered over the upper surfaces of the wooded tablelands. In the foothills they are seen sometimes occupying very precipitous sites, and in riding through the deep forest of the uplands they may be counted by the score. They consist generally of a single room, rarely of two or more rooms, and the dimensions of the apartments seldom exceed ten or twelve feet. The walls are thin and loosely laid up, and today are rarely more than three or four feet in height, the dearth of debris indicating that they could not have been more than one story in height at any time. A few potsherds of the white ware with black decoration are about all that could be found in the way of artifacts around these structures. The presence of this ware, however, is good evidence of the considerable antiquity of the work. These houses occur in considerable numbers in the valley of the San Diego near the great bend, twenty miles above Jémez pueblo [around Battleship Rock in the vicinity of Unshagi and

Nanishagi]; in the vicinity of the warm springs a few miles above the bend [known locally as Abousleman Spring, and in the vicinity of the Hot Springs Pueblo and Bj 74]; on the plateau east of Jémez Springs [Cat and San Juan mesas]; and along the terrace like projections of the western slope of the canyon wall. The use of these small structures can only be surmised. They were hardly permanent abodes for families, but seem rather to have been designed for some temporary purpose, as lodges for watchers, hunters, herders (if within the Spanish period), shrines, or places of resort on special occasions connected with religious observances. (Holmes 1905:211-212)

Considering the time it was written, this passage is amazingly sophisticated, if flawed by some of the assumptions made. It was about 90 years before the small "fieldhouse" sites became the subject of such detailed attention again. When the Forest Service began large-scale archaeological inventories of the area in the late 1970s, the ubiquity of these sites was confirmed. Holmes's article was also reprinted by Hewett in his 1906 publication, "Antiquities of the Jémez Plateau" (reprinted in Chapter 4).

Field Research 1907-1921

The next period of research lasted from 1907 to 1921. It was during this period that the first "professional" excavations occurred in the area. The School of American Archaeology was founded in 1907, and became interested in the Jémez area shortly thereafter. In 1909, they conducted a brief reconnaissance through the region. In 1910, Frederick Webb Hodge (Ethnologist in Charge, Bureau of American Ethnology), Kenneth M. Chapman, and Jesse Nusbaum spent several days at Giusewa. Hodge removed some burials, and Chapman collected some pot sherds for the Smithsonian Institution.

After the completion of this work, they climbed to Amoxiumqua to begin what was to become four seasons of field work there. According to Reiter (1938:81), several weeks were spent excavating at Amoxiumqua in 1910. No notes or publications describing the work done in 1910 exist. Reiter says (1938:84, n. 17) that most of the materials from the 1910 excavations were sent to the Smithsonian Institution.

Amoxiumqua

In 1911, work continued at Amoxiumqua. Frederick Webb Hodge, Edgar L. Hewett, Kenneth M. Chapman, and J. C. Goldsmith conducted the excavations. Chapman's (1911) field notes for that season are the only known documents relating to any of the excavations at Amoxiumqua. Sixteen rooms and several test trenches were excavated in at least five room blocks or mounds. One hundred and thirty burials were excavated, many in very poor preservation. Forty-nine of these burials were accompanied by artifacts.

A child burial found in Room Block B, 18 inches below the surface, had a string of 22 "Venetian" style beads around its neck. Half (eleven?) of these beads, said by Reiter to belong to the Museum of New Mexico, "were sent away for identification" (Reiter 1938:86, n. 19).

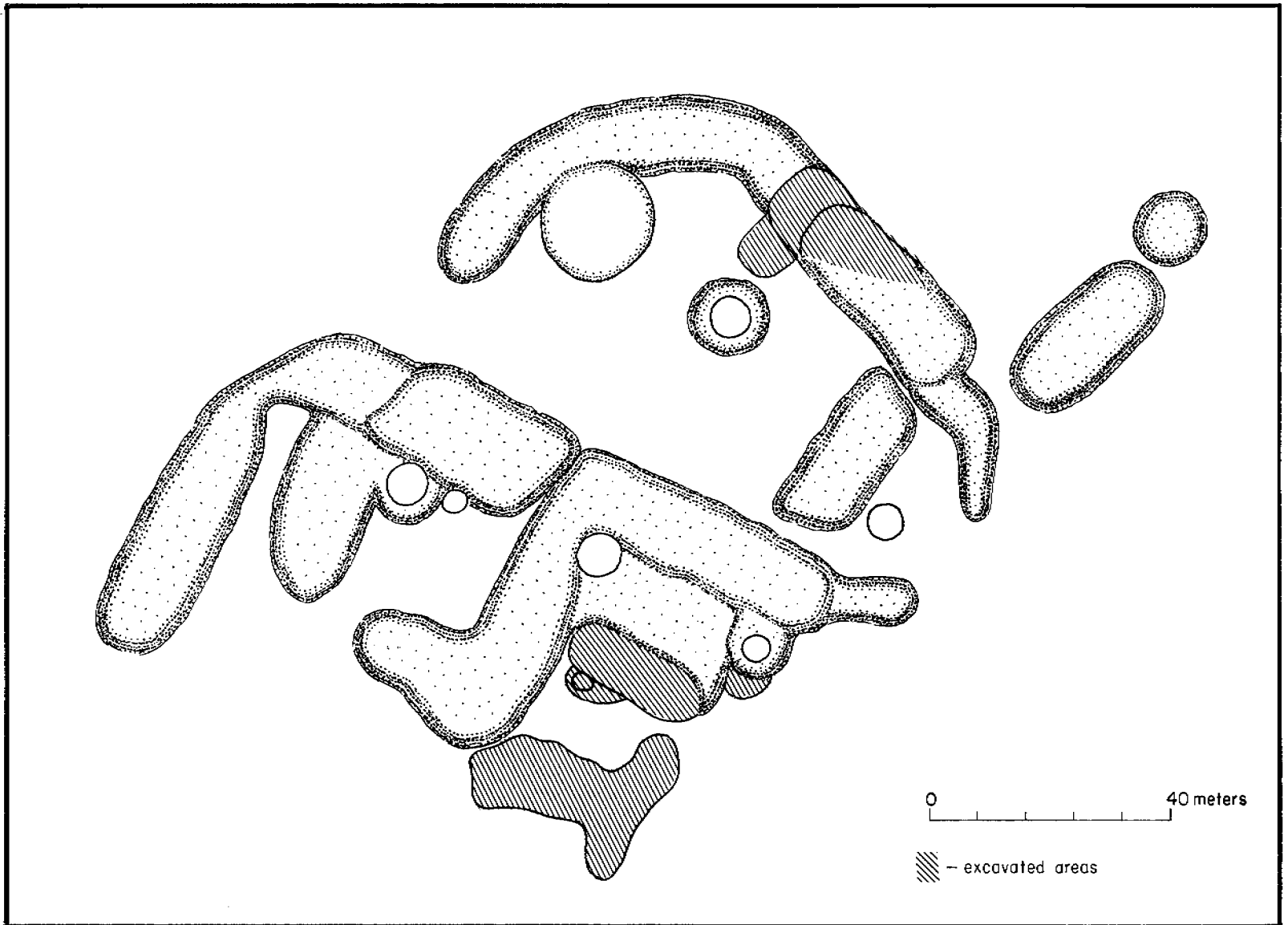


Figure 3. Sketch map of Amoxiumqua showing excavated areas.

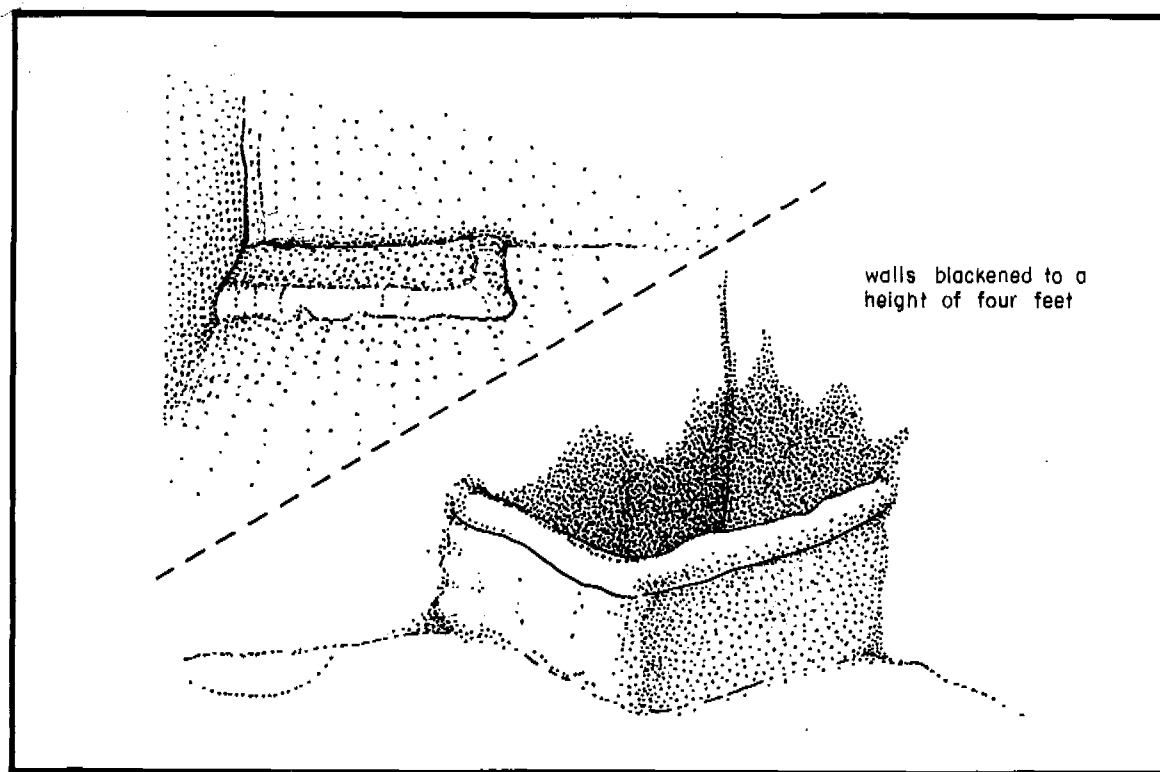


Figure 4. Sketch of room features at Amoxiumqua.

Reiter quotes Edgar Hewett as telling him on August 27, 1937 that the beads were "genuine Venetian" (Reiter 1938:86, n. 19).

The Laboratory of Anthropology also had an item described as "European 'Padre' beads" listed on an inventory of artifacts in their collections. This same inventory describes the Venetian beads as "Venetian blue glass trade beads." Another interesting artifact was found in Room Block B. This specimen was a so-called flesher made from a human femur. The implement had several wear marks on its worked surface.

Chapman provided very little architectural information. Reiter compared Amoxiumqua to Unshagi and concluded that, relative to Unshagi, the rooms were larger and were better constructed. Reiter found examples at Amoxiumqua of all three room types of his Unshagi classification. These included the four Class A rooms with no floor features, six Class B rooms with either a bin or a firepit, and three Class C rooms with bins, firepits, deflectors, vents, and benches in some cases. No Class C room at Amoxiumqua had all those features, however. The morphology of the interior features was similar at both sites (Figs. 3 and 4).

Reiter's comparison of the burial populations at both sites revealed that burials at Amoxiumqua were more likely to be accompanied by artifacts, exhibited more intrasite variability in orientation and child-adult ratios, and were less likely to be extended than those of Unshagi. Reiter also remarks that several of the extended burials at Amoxiumqua were "non-Pueblo" in appearance (Reiter 1938:87). While provocative, the comment is "also said to be inconclusive unless made by an authority in physical anthropology" (Reiter 1938:87).

The 1910-1911 work was done in cooperation with the Bureau of American Ethnology (Hodge 1918). Reiter states that the 1914 work at Amoxiumqua was also done in conjunction with the bureau. He further states that all of the skeletal material, half of the pottery, and most or all of the artifacts from the excavations of 1911 and 1914 was sent to the National Museum (Reiter 1938:84, n. 17).

Work at Amoxiumqua continued in 1912, with the Ontario Society of the American Institute of Archaeology and the Royal Ontario Museum of Archaeology as cooperating institutions. Some material from the 1912 season was sent to the Royal Ontario Museum. Reiter states that Kenneth Chapman told him in June 1937 that fragments of several iron artifacts were recovered from the site (Reiter 1938:86, n. 19).

Kwastiyukwa

The final season of excavation at Amoxiumqua was 1914. Also in that year, excavations began at Kwastiyukwa (LA 482), on Holiday Mesa. Wesley Bradfield and Charles F. Lummis were in charge of those projects. The excavations at Kwastiyukwa were apparently located on the easternmost room block, and perhaps in the northernmost room block (Fig. 5). Reiter (1938:86, n. 19) notes that Bradfield's records of the two later excavations were mislaid. Lummis (1925:457ff) provides some reference to the Kwastiyukwa (he called the site Amoxiumqua after Harrington) excavations.

In some of the rooms we excavated, we found the neatest and most ingenious arrangement of little stone corn bins, so carefully plastered with gypsum as to be almost perfect as a receptacle; and the metates (mealing-stones) carefully boxed, sloping to smaller bins so that the flour "scrubbed out" upon them with the mano or "hand" (the upper millstone) could be all gathered up . . . we uncovered many skeletons buried at full length, and some buried under the kitchen hearth, and some buried under a wall.

A map in Chapman's notes, and a recent inspection of the sites, provide good indications of where the field work at Amoxiumqua and Kwastiyukwa took place (Figs. 3, 5).

Another source (Alexander and Reiter 1935:9) mentions "major excavations" at Astialakwa (LA 1825). The accuracy of this statement cannot be determined at present. Since the 1914 work at Kwastiyukwa (LA 482) is not mentioned here, it is possible that the pueblo names controversy resulted in the inadvertent substitution of Astialakwa for Kwastiyukwa. Reiter (1938) makes no mention of any work at Astialakwa.

Giusewa

In 1921, after a hiatus beginning with World War I and lasting until 1938, the next important phase of scientific research in the Jémez area began--the School of American Research began its long series of field schools in the Jémez area. Their first major excavation was at Giusewa Pueblo and the San José de los Jémez Mission in 1921 and 1922.

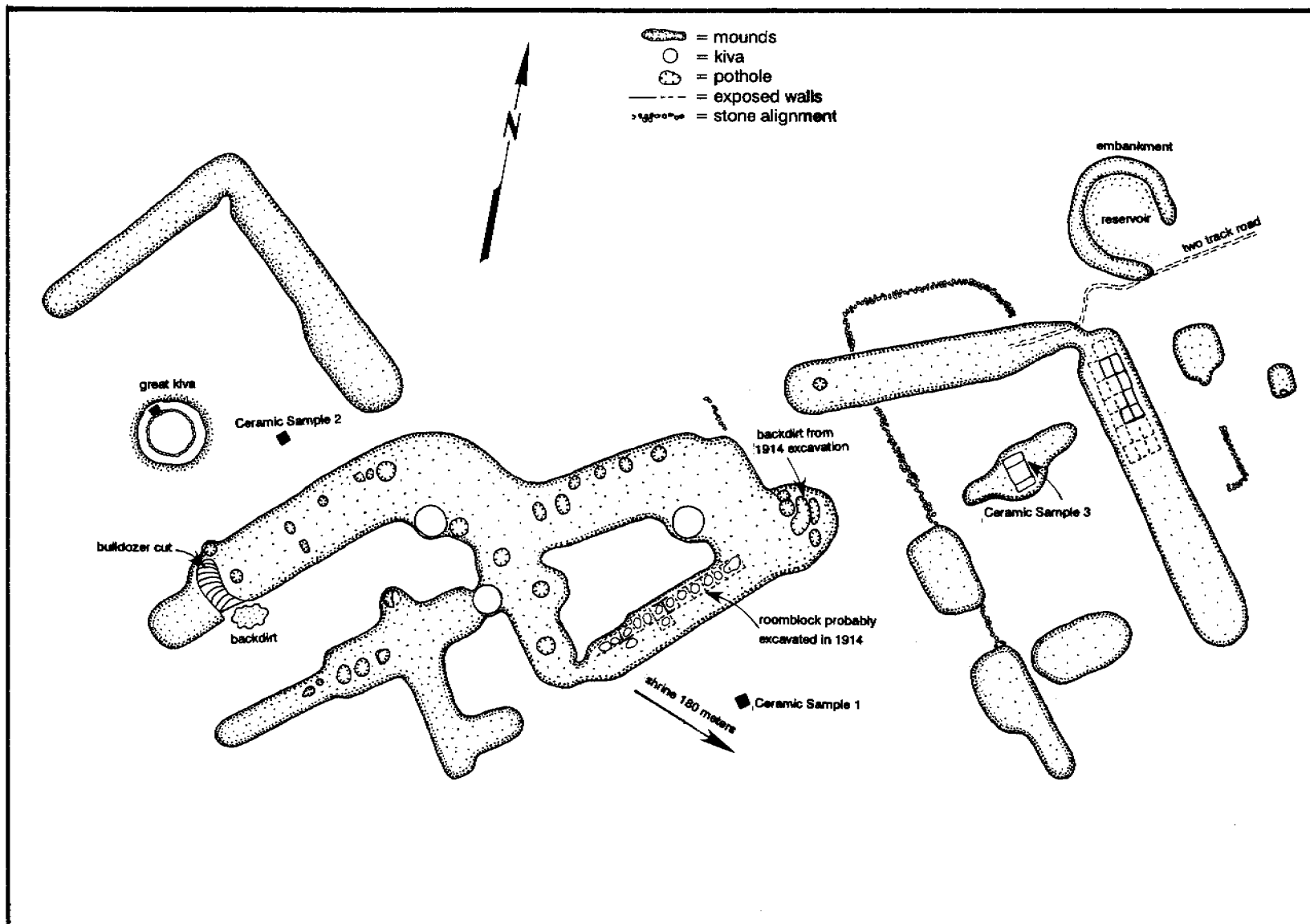


Figure 5. Sketch map of Kwastiyukwa showing excavated areas.

The main portions of the site, lying north of Church Canyon Arroyo, and east of State Highway 4 were donated to the State of New Mexico by the Miller family in 1921. Reiter notes the presence of several mounds and an apparent small kiva south of the arroyo, on what is now a residential area of the Forest Service. The site also extended an unknown distance west of State Highway 4, or under what is now the Via Coeli Catholic Church. Lansing Bloom, Wesley Bradfield, and Sam Hudelson excavated the mission and a series of rooms and kivas (Bloom 1923). Also in 1922, Bradfield undertook small excavation projects at Nanishagi and Unshagi.

It appears that the primary function of these early (prior to 1928) excavation projects was the acquisition of artifacts and skeletal remains for museum collections. Locating these collections at this point will be a very time-consuming proposition. It is indeed unfortunate that no substantive publications came of this work.

During the 1920s and 1930s, two surveys of the Jémez area were begun, one by Reginald Fisher of the School of American Research, and one by Harry P. Mera of the Laboratory of Anthropology. Fisher's survey results were never published, but a number of his excellent site maps are now in the Laboratory of Anthropology survey room files. Mera drew maps of many of the larger sites, made ceramics collections now curated at the Laboratory, and assigned LA numbers to many of the sites in the area. W. S. Stallings Jr., also affiliated with the Laboratory of Anthropology, collected tree-ring samples from a number of sites in the Jémez area from 1932 to 1937. Benny Hyde and Lansing Bloom, also of the Laboratory, collected additional tree-ring samples in the 1930s.

Mera's work (1935) in the area resulted in the definition of two local ceramic types, Jemez Black-on-white and Vallecitos Black-on-white. Mera viewed ceramic types as if they must be genetically related. He attributed the development of Santa Fe Black-on-white to a southward drift of Gallina Black-on-white, which crossbred with Kwahe'e Black-on-white to produce Santa Fe Black-on-white progeny. Vallecitos Black-on-white and its offspring, Jemez Black-on-white, were said to be the progeny of Santa Fe Black-on-white and Mesa Verde Black-on-white.

While Mera's generalizations seem somewhat quaint and oversimplified today, his type definitions are still generally used by archaeologists working in the Jémez area. Vallecitos Black-on-white was said to have a dense, fine-grained paste, just like Santa Fe Black-on-white, a thick white slip on both the interior and exterior of bowls, well-polished bowl interiors, but only smoothed exteriors. The paint ranges from solid black to gray, with slightly blurred edges. The paint fires at times to a brownish red. Mera attributes this to iron content, presumably in the paint. Shepard's later work (1938) with the Unshagi materials seems to contradict this assumption. Vallecitos designs are quite similar to Santa Fe, but less complex. Dots were placed on the rims and were used to produce spotted backgrounds.

Jemez Black-on-white was said to differ from Vallecitos in its coarser paste with large quartz and sanidine inclusions. Both interiors *and* exteriors of Jemez Black-on-white bowls were well polished. There was a tendency to copy design styles from the late Rfo Grande Glaze-paint wares, based predominantly on heavy lines in various simple combinations. Bowl rims were also said to copy those of the Rfo Grande Glaze-paint wares. Bowl exteriors were also commonly decorated.

Unshagi

From 1928 to 1934, the massive excavations of Unshagi were undertaken in a series of joint School of American Research and University of New Mexico field schools. Reiter's two volume 1938 report on the Unshagi excavations is the single most thorough and useful publication produced thusfar concerning the Jémez area. Despite being written in 1938, the report is very detailed, and appears years ahead of its time. It is difficult to synthesize Reiter's report because of its length and complexity, but the attempt will be made here. Unless otherwise identified, factual information presented below is summarized from Reiter (1938).

Unshagi consists of several room blocks enclosing a roughly quadrangular plaza area (Fig. 6). Approximately two-thirds of the site and 101 rooms were excavated. Reiter estimated portions of the site had three stories. Using his story estimates, and extrapolating them to the unexcavated areas, the site would have contained 263 rooms. Three kivas, some detached rooms, and several midden areas where numerous burials were found were also excavated.

Reiter classified all of the excavated rooms into three classes. Class A rooms had no floor or wall features other than plaster in some cases. There were 45 Class A rooms excavated. Reiter believes that most of these rooms were for storage.

Class B rooms had plastered walls and one or more floor features or secondary structures. There were 36 Class B rooms excavated. Much variability was noted in this class, which Reiter termed "a terminological 'catch-all' into which fall all the examples between one uniform group and another" (1938:67).

The diagnostic feature for Class C rooms was the presence of a deflector, though all examples of this class had other features such as bins, vents, firepits, and benches. Twenty Class A rooms were excavated, sixteen of which had two bins, one vent, and one deflector. The Class C rooms are what first led Reiter to suggest "a relationship" between the Jémez and Gallina culture areas (1938:69). The symmetrically paired bins with deflector, vent, and firepit (Fig. 7) closely resemble features of the stereotypical Gallina surface or pithouse (Mera 1938; Hibben 1938). Such formalized arrangements of features are not found in other areas of the Southwest. Whether this is *prima facie* evidence for direct migrations of the Gallina people into the Jémez area will require more study and a larger sample of excavated sites from both areas. This postulated "relationship" has acquired the status of legend today.

The masonry at Unshagi was constructed of unshaped, uncoursed, and uneven-sized elements, using large amounts of mortar, spalls, wedges, and chinks. The walls were constructed primarily from flow breccias, sandstone and other conglomerates, and rhyolite. Most exterior walls of the pueblo had no openings. Entry was probably by ladders and through roof openings. Features within rooms included the floor features mentioned earlier (bins, vents, firepits, deflectors, and benches), and small crypts or cavities in the walls, postholes, and sub-floor cists. One of the cists was jar-shaped, 4 feet 10 inches deep, and 3 feet 7 inches at its maximum diameter. The opening on the floor was 2 feet in diameter. The cist was filled with large, damp boulders. Reiter believed the cist was used to store water. The cist could have held 145 gallons. Reiter also notes that similar features have been found in the Gallina and Piedras areas.

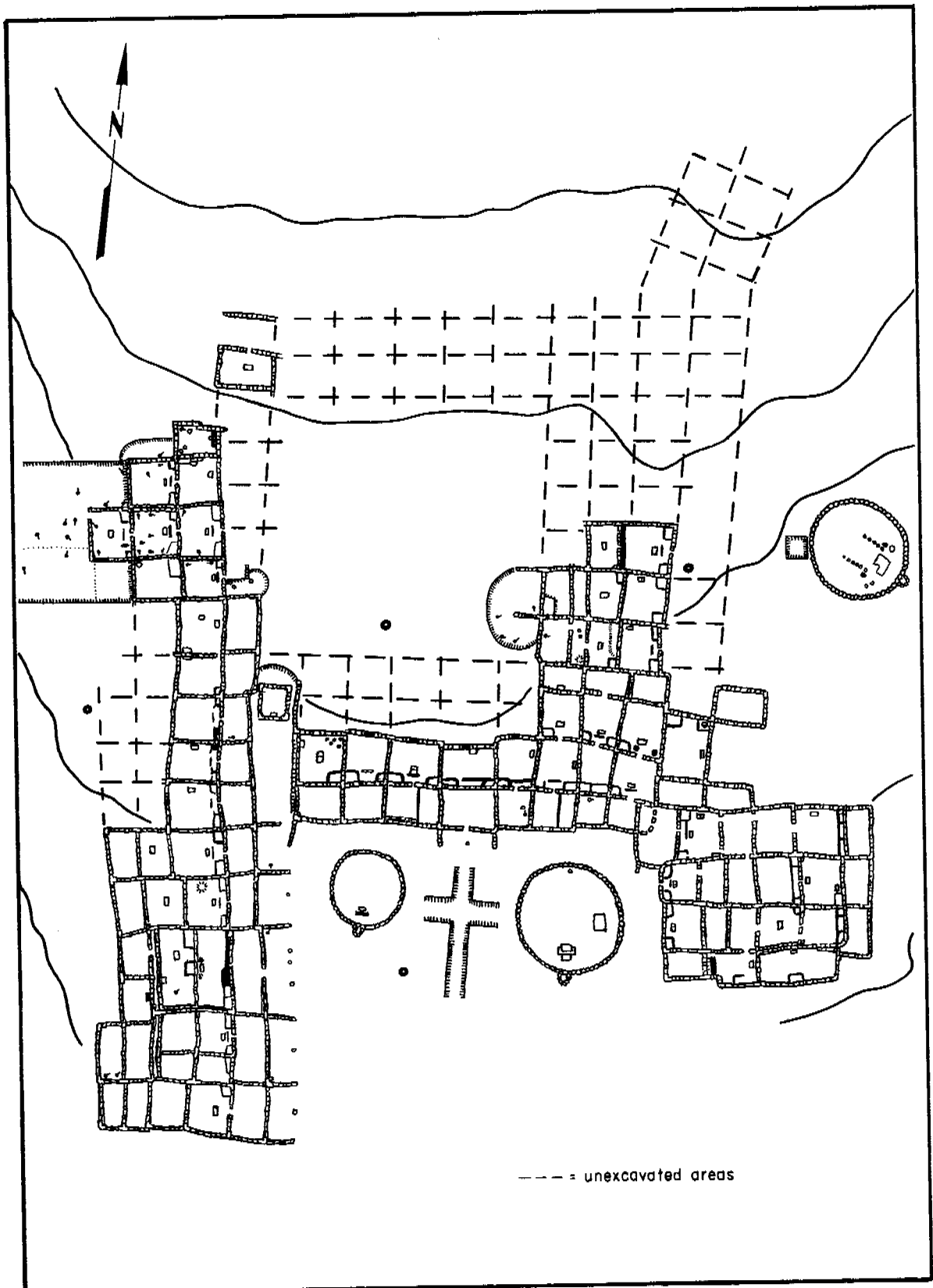


Figure 6. Map of Unshagi showing excavated areas.

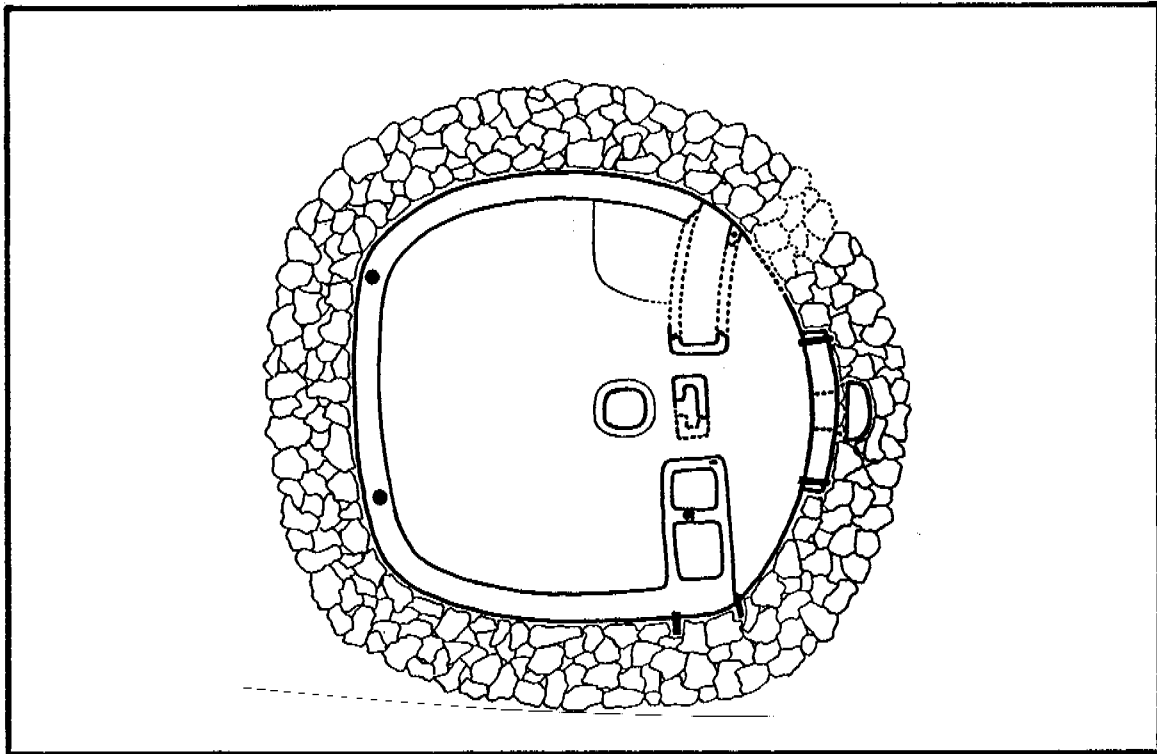


Figure 7. Map of typical Gallina sites showing floor features.

Three kivas were excavated, designated by the letters A, B, and C. Kiva A was the most elaborate. It was oval in shape with a depth of 8.1 feet and maximum dimension of 22.9 feet. Remains of a bark and grass padding were found that may have been plastered over as a wall covering for the southern walls. The altar had been extensively modified, enclosing the two firepits. The rectangular ventilator opening was about 1 foot 6 inches by 2 feet 2 inches, and emerged from the wall about 6 inches above the floor. The ventilator shaft was circular, and about 2 feet in diameter. The ventilator was located on the east side of the kiva. Two presumed postholes were found, as were two lines of smaller holes, five on one side and six on the other. These were interpreted as loom holes.

Kiva B was 24.2 feet wide and 8.5 feet deep. It had a three-sided altar, partially enclosing the firepit. The ventilator opening was to the south. A sipapu was found in Kiva B, the only such feature observed at Unshagi. It was 8 inches deep, 4 inches square, and lined with small, flat rocks. A subfloor crypt was observed, lined with rough stones and filled with considerable amounts of ash and charcoal. This feature was 3 feet 8 inches deep and 2 feet 6 inches across. No postholes or loom holes were noted. Seventeen metates in various stages of wear were found in the fill of Kiva B, but several feet above the floor. Reiter speculates they were left leaning against the outer wall of the kiva, which may have extended above the ground surface.

Kiva C was 15 feet in diameter and 8.7 feet deep. The only features observed were a small altar, with some flagstone paving on its east side. The ventilator opening was to the south of the structure.

The other areas excavated were midden areas. These were designated the south, east, and west refuse deposits. The south refuse deposit was the most extensive. Two small test trenches were also excavated in other suspected trash areas.

One hundred and ninety-one burials were recovered from Unshagi. The tendency was for the burials to be somewhat shallow, face down, flexed or semiflexed, and oriented with the head to the west. Seventy-eight (41 percent) of the skeletons were infants or children. Associated artifacts were found with 62 of the skeletons. The removal and study of so many human remains is definitely a product of the times. One can hardly imagine any archaeological excavation in the area today that would be permitted to unearth so many burials.

Reiter's section on material culture is heavily oriented to ceramic analysis. This is not surprising considering the times. Three basic ceramic groups were noted at Unshagi: culinary wares, glaze-paint wares, and Jemez Black-on-white. Over the entire site, culinary types account for 65.48 percent, and Jemez Black-on-white accounts for 31.32 percent of the total assemblage. Glaze-paint wares account for 2.86 percent of the total assemblage.

In terms of the culinary wares, Reiter observed a slow, gradual transition from indented corrugated culinary to plain, smooth-surfaced vessels. The latest levels at Unshagi exhibit almost no indented corrugated. Correlated with this gradual shift through time from indented corrugated to plain is a shift in temper types for culinary ware from predominantly tuff to predominantly vitreous andesite (Shepard 1938:206-207). Thus, the tendency through time during the occupation of Unshagi (ca. A.D. 1375-1627) in culinary wares was from a tuff-tempered, indented corrugated ware to a vitreous, andesite-tempered plain ware.

The analysis of Jemez Black-on-white ceramics done for the Unshagi report represents the most systematic examination ever done for this poorly understood pottery type. Reiter concentrated on vessel form, wall thickness, vessel size, surface treatment, design styles, and stratigraphic position in his analysis. Anna Shepard conducted a petrographic analysis of some 750 Jemez Black-on-white sherds.

Reiter was looking for the parent material of Jemez Black-on-white. Reiter believed that Jemez Black-on-white had more characteristics in common with Gallina Black-on-white and Mesa Verde Black-on-white than Vallecitos Black-on-white. He determined that fourteenth-century Jemez Black-on-white sherds cannot accurately be distinguished from seventeenth-century Jemez Black-on-white sherds. This was said to be due to the extreme variability in design, firing temperature, and workmanship through time. He mentions that bowls were more commonly painted on both sides, were larger in size, and designs were proportionately higher on the outside and lower on the inside in the later horizons at Unshagi. He believed that very thick slip probably dates to the historic period. Vessel wall thickness was said to increase slightly through time. Large solid block design figures were believed to be late. Late Jemez Black-on-white has larger inclusions and grayer paste, while the earlier is more uniform and tends towards a buff color.

Shepard's petrographic analysis of Jemez Black-on-white is very instructive. Every sherd (n=750) she examined was tuff-tempered, consisting of irregular glassy flakes and scattered coarse vesicular particles. Angular grains of quartz, glassy clear feldspar, magnetite, and occasionally hornblende and pyroxene were mixed in the paste, sometimes with fragments of volcanic glass adhering to them. Powdery tuff temper was rare. Shepard states that contrary to

some opinion, the brownish tinged paint on some Jemez Black-on-white specimens is not due to iron in the paint. The paint used on all Jemez Black-on-white is a carbon paint. Instead, this effect is due to "a peculiar effect of the paint on the clay," and is caused by accidental oxidation during firing (Reiter 1938:206). Reiter explains this as follows: "the color may be produced by the liberation of iron in the clay itself. The alkali in the carbon paint, together with an oxidizing atmosphere, may bring about this change" (1938:126). Reiter also theorizes that there may have been a selection for brown-tinged paint, and that this trait is more common through time.

Reiter also describes a surface treatment on Jemez Black-on-white that he termed "rough." The exterior of rough vessels is "relatively more crude, bearing dents, pits, and all sorts of irregularities of surface finish which do not occur or occur to a lesser extent over the interiors" (Reiter 1938:128). Reiter considers Jemez Black-on-white rough to be an early developmental variety between a "finished exterior type after modification from an unslipped, perhaps rough-exterior type" (Reiter 1938:128). Finally, Reiter states that "Quite clearly, Jemez Rough has no business being included in a list of pottery types or even of subtypes. It is neither" (Reiter 1938:128).

In terms of the glaze-paint wares, Reiter concludes that they were not manufactured in the Jemez area. There were no glaze-paint specimens with local temper types. Glaze D and E types were the most common. Earlier types were relatively rare. Tradeware ceramics include Sikyatki Polychrome, Mesa Verde Black-on-white, St. Johns Polychrome, Galisteo Black-on-white, Potsuwi'i Incised, Kwahe'e Black-on-white, McElmo Black-on-white, Tsankawi Black-on-cream, Abiquiu Black-on-gray, Bandelier Black-on-gray, and Wiyo Black-on-white.

A number of "ceremonial" objects of clay were found at Unshagi. These included miniature vessels, effigies, and pipes. An item later interpreted as a pottery bell (Lambert 1958) was found at Nanishagi. Reiter labeled it "an odd rattle" (1938, plate 22b, c). Numerous worked sherds were found, which may have functioned as spindle whorls, rubbers, pendants, or gaming pieces.

Other artifacts found but not extensively described or analyzed include objects of antler, chipped and ground stone, textiles, bone, and various ornaments. Of interest is a necklace found around the neck of a skeleton made of fish vertebrae with a worked bone disk pendant about 3 inches in diameter.

Nanishagi

In 1931, Gordon Vivian directed some excavations at Nanishagi. He conducted stratigraphic work and removed burials. Reiter did additional work there in 1936. In 1938, the University of New Mexico Field School held one of its final sessions in the Jemez area, selecting Nanishagi for excavation (Reiter et al. 1940).

The purpose of the excavations at Nanishagi were "to compare it with the contemporaneous site of Unshagi" (Reiter et al. 1940:3). Nine rooms and one kiva were excavated, and two midden areas were test excavated (Fig. 8). The site was found to be very similar to Unshagi architecturally. The same expedient masonry, room types, and room features such as bins, deflectors, vents, firepits, and one bench were observed. The kiva at Nanishagi was very different, however. An unusual subfloor crypt, which the excavation report characterizes as a

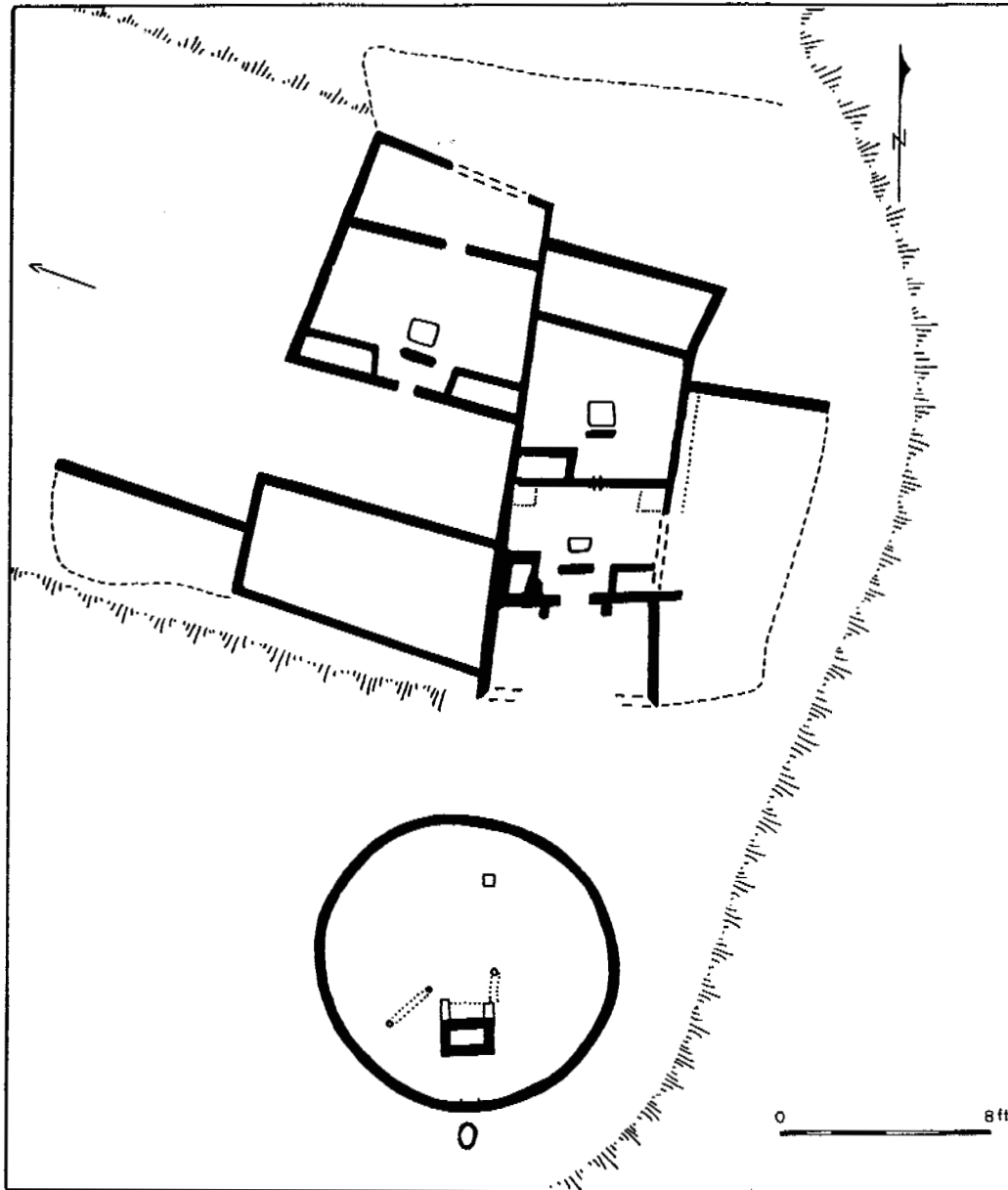


Figure 8. Map of the Nanishagi excavations.

sipapu, was found about 3 feet from the north wall and just to the east of the axis. The kiva was oriented; that is, the vent was due south.

The crypt was slab-lined, with a square opening measuring 1 foot 1 inch on a side. The opening had been plastered over. The crypt was 2 feet 7 inches deep. At depths of 2, 5, 7, and 10 inches, stone slabs (false bottoms?) had been plastered into place. Twenty-three inches below these was another slab upon which rested a Jemez Black-on-white jar. The vessel was right-side up. The orifice was slightly inclined to the east. Fourteen dark brown unfired clay objects were found next to the jar. Fragments of several thin unfired clay slabs, some clay cylinders, a small

piece of turquoise, a chipped stone fragment, several bone beads, and a broken crinoid stem accompanied the other objects. Eight inches below this level lay another upright Jemez Black-on-white jar, with five miniature Jemez Black-on-white jars. Four of these were upright, the fifth was inverted.

An irregular trench about 5 feet in length, 5 inches deep, and 4 inches wide was found in the kiva. The trench was completely covered with thin stone slabs and then plastered over. At each end of the trench were cylinders of tuff standing on end with their bases embedded in the trench. These tuff cylinders were about 7 inches long and 2 inches in diameter.

Two rows of four loom anchors were found in the kiva. The altar was three-sided. In 1938-1939, the altar was destroyed by vandals. In 1939, the area beneath the altar was excavated. A series of subfloor slab-lined cists were located that connected the firepit to the vent. Further trenching uncovered more filled and plastered loom anchors, and another trench, about 6 inches deep, which had been covered with three flat rocks. At the north end of this trench was another worked tuff object.

The meaning and significance of the objects and some of the features found in the kiva have yet to be determined. Given their location and morphology, a ceremonial function is suggested.

Twelve burials were removed from Nanishagi. One was a child, two were infants (one of these possibly a fetus), and the remainder were adults. All interpretable examples were completed flexed. Few mortuary goods were observed.

In addition to the artifacts recovered from the kiva cache, several other whole vessels were obtained. All were apparently Jemez Black-on-white, except for three culinary vessels, a reused bottom of a glaze-paint jar, and a Glaze D bowl mentioned as being associated with a burial. There is no thorough discussion of the ceramics recovered from this site in the report. There are no sherd counts from the stratigraphic tests. The report mentions that fragments of pipes, roof impressions, finger impressions, a plume holder, an unusual clay "plug," and 18 fired and unfired miniature vessels were present. The previously mentioned ceramic bell was found at Nanishagi (Lambert 1958).

Sixteen bone awls, twelve bone beads, bone fleshing implements, sounding rasps, and a bone chisel were recovered from Nanishagi. A variety of ground or smoothed stone objects were recovered, including the tuff blocks from the kiva trench, manos, plaster or pottery smoothing stones, heating stones, arrow shaft straighteners, paint stones, stone pipes, axes, a griddle or comal, and a mortar. Three unusual objects were classified as miscellaneous objects of smoothed stone.

Only four chipped stone specimens are mentioned in the report. Two were obsidian scrapers, one was a retouched "flint" flake, and the last was a "flint" knife. One turquoise bead was found in addition to several worked and unworked pieces of turquoise. One shell pendant and one shell bead fragment were found.

One iron artifact, apparently a tool of some kind, was recovered from Refuse Area B, at a depth of 2 feet 5 inches. The object had maximum dimensions of 56 by 27 by 7 millimeters. The surface was heavily rusted.

The only evidence of textiles or basketry found was a cloth impression from a burial. Shredded juniper bark, seventeen corn cob fragments, a few beans, and seeds of several species were also recovered. Ten-rowed corn cobs were the most common. Most were small, immature specimens.

Nanishagi was selected for excavation "from a desire to compare it with the contemporaneous site of Unshagi to the northeast" (Reiter et al. 1940:3). In their summary, the authors conclude that "a point by point comparison of Nanishagi features with those of Unshagi, Giusewa, and Amoziumqua would scarcely yield significant results" (Reiter et al. 1940:34), and "perhaps the chief value of the Nanishagi season was negative, yielding corroboration that Unshagi may be considered a site typical of its area and period" (Reiter et al. 1940:37). The excavators seemed oddly disappointed with the results of their work at Nanishagi. Seen in an objective light, Nanishagi may well be more important than Unshagi. It is larger than Unshagi, with more rooms, kivas, and features. Much more of Nanishagi remains intact. It would be an excellent site at which to conduct further investigations. Unshagi is sadly deteriorated. Backfilling of the field school excavations was apparently minimal at that time.

Jémez Cave

Jémez Cave lies on the northern edge of Jémez Springs, just above and to the west of the Soda Dam. Initially, the site was considered to have been "more or less barren" by archaeologists associated with the Jémez field schools. During the 1934 field school, however, an old native man with a boy as interpreter brought a bundle of "antiques" to the field camp to sell. The bundle consisted of the mummified remains of a child enclosed in leather robes and a feather blanket, and three ears of dried corn, all wrapped in another feather blanket, and a small "ceremonial" water jar with part of its dried skin covering intact. The artifacts had allegedly been recovered from several feet below the surface of Jémez Cave by the man and three others while digging in the cave for "gold treasure."

Clyde Kluckhohn, then director of the field school, and several staff members visited the site, warned off the treasure hunters, and began planning for the excavation of the site to begin immediately. The two weeks remaining in the August 1934 field school session were spent excavating at Jémez Cave. Twelve students, two staff, and Kluckhohn began the work. Another session lasting from September 15 to October 15, 1934, was directed by Hubert Alexander and Gordin Pettit, with eight laborers. This was a FERA (the "New Deal" Federal Economic Recovery Administration) project sponsored by the Museum of New Mexico, the School of American Research, and the University of New Mexico. The excavation was completed in March 1935 by Alexander and a crew of four. Alexander published a preliminary report in 1935, and the final report coauthored with Paul Reiter came out later that same year.

Jémez Cave was formed through the actions of several springs located in the vicinity, and which have also formed the famous Soda Dam, just below the cave. The opening is about 75 feet wide, varying in height from a few feet to about 35 feet. The maximum depth of the cave is from 48 to 53 feet in the two alcoves found at the rear of the cave.

The cave was excavated by gridding the floor of the cave into 3-foot squares and by arbitrary 1-foot-thick units termed levels, which were not horizontally level but parallel to the existing

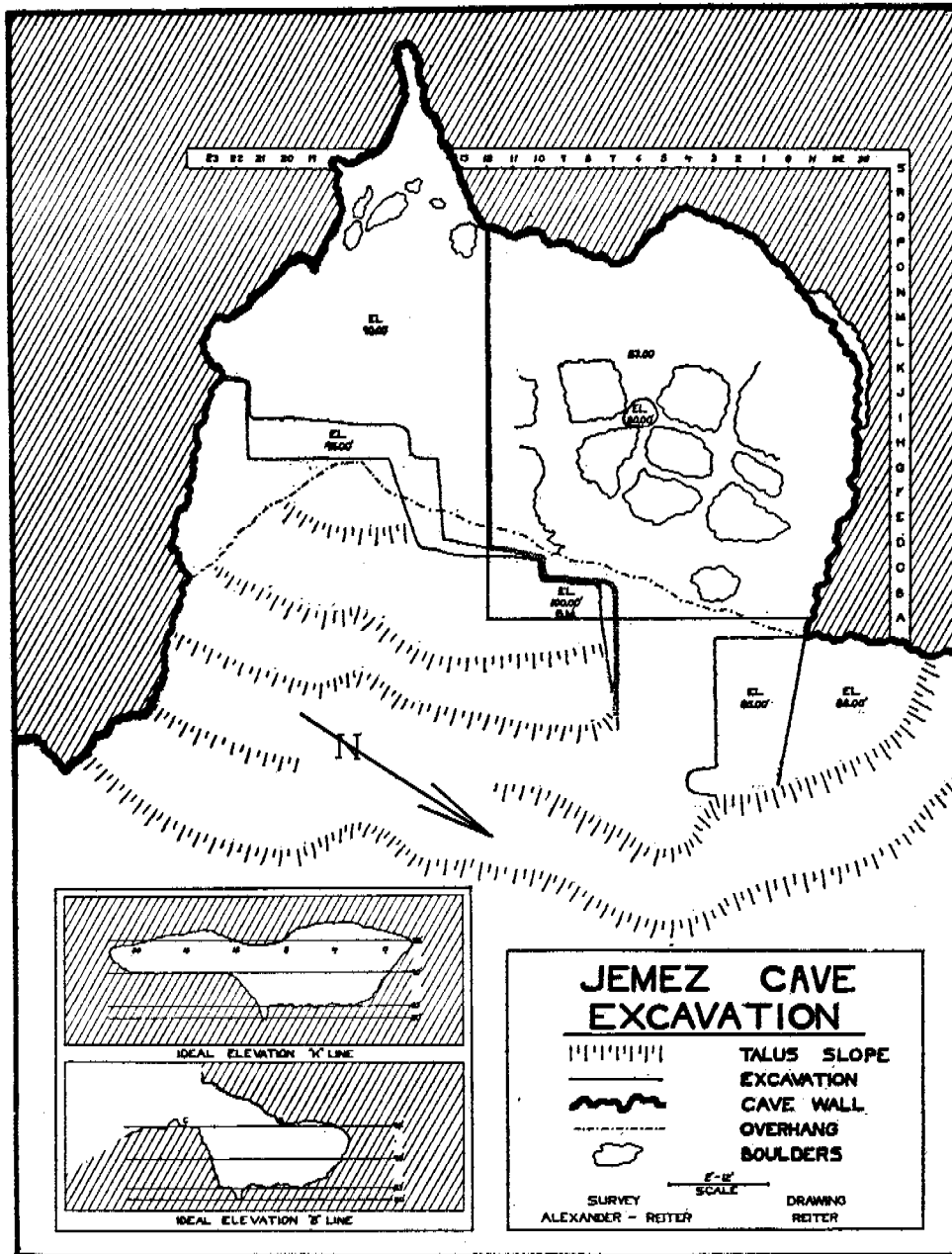


Figure 9. Plan map of Jemez Cave.

surface. Twelve-foot squares were termed "sections." Where distinct stratification could be observed, the cultural level was added to the notes and field specimen lists. A great deal of disturbance was evident on the surface, primarily from the "treasure" hunters and others.

The fill was said to consist of six types or combinations of materials: (1) a surface deposit of sheep and goat dung, (2) a white ash, (3) a gray powdery soil, (4) a coarser black soil, (5) coarse sand and gravel, and (6) a fine reddish clay. Water draining from the steep slope above the opening resulted in the deposit of much of the sand and numerous rocks and boulders in and immediately in front of the cave. In one of the less disturbed areas, up to twelve natural layers from 5 inches to 2 feet in depth, were observed. These consisted of several layers of ash and cultural materials separated by other layers of nearly sterile sand and gravel.

Four upright posts were found during the excavations. One of these, actually a double juniper post, found at a depth of 5 to 6 feet, was thought to have been a corner post of a small rectangular structure measuring about 2 feet 6 inches by 3 feet 6 inches. Walls of this structure were formed by upright reeds (*Phragmites communis*) held in place by larger sticks. No plaster was apparent in this structure. A similar structure was found somewhat higher in the fill, consisting of three pine posts with horizontal reed walls. Several pieces of plaster with impressions of fingers and stone were found in the fill. These may have been part of a floor or some other stone feature.

The material culture of Jémez Cave included chipped and ground stone, ceramics, and a relatively large assemblage of artifacts manufactured from organic material. This group included a gourd ladle, a shell bead and pendant, several classes of bone and antler tools, a number of wood tools, including several digging sticks and dart components, numerous basketry and sandal specimens, blankets and other textiles, hide artifacts, and cordage and netting, as well as the raw materials to make many of the preceding classes of artifacts.

The "ceremonial" water jar recovered with the burial bundle was partially covered with a fragment of dried skin. This vessel was just under 3 inches in both diameter and height. From the description, it appears the analysts considered it be Vallecitos Black-on-white, though they do not explicitly state this. Four badly stained and sooted Santa Fe Black-on-white bowls were found inverted and piled in Grid 0-4, Level 3. Two of these were large, one being 11½ inches in diameter and 5 inches high, and the other 11 inches in diameter high and 5 inches high. These two specimens were heavily used, as much of the design had worn off their bottoms. The two smaller bowls measured 7 5/8 inches in diameter and 3 7/8 inches high, and 7¼ inches in diameter and 3 in high. All the vessels' interiors were coated with a food residue.

Five decorated ceramic groups were present among the 114 painted sherds examined. These included Santa Fe Black-on-white, Wiyo Black-on-white, Vallecitos Black-on-white, Jemez Black-on-white, and a group described as "transitional" between Santa Fe and Vallecitos. The transitional category was the largest, while the other groups were about equal in size. The authors state "typing was difficult owing to the small size of some of the pieces, and the heavy staining and burning" (Alexander and Reiter 1935:33). The painted ceramics were apparently typed by both Paul Reiter and Stanley Stubbs of the Laboratory of Anthropology. Plain and indented corrugated culinary sherds were found, along with one sherd said to be "comparable to a Chaco type" (Alexander and Reiter 1935:33).

As was usual for cave or other types of excavations during this time period, lithic debitage was not analyzed. However, there is mention of "a large quantity of rejects, cores, and flakes" (Alexander and Reiter 1935:33). Eighty-five percent, or 269, of the 317 implements were obsidian. Other material types were chalcedony, jasper, chert, slate, and one of quartzite. The morphology of the projectile points indicate a long period of use for Jémez Cave. Point styles range from the Late Archaic period into the Coalition period.

About 300 pieces of ground stone were recovered. These were usually sandstone, basalt, tuff, and limestone river cobbles or pebbles. They were generally ovoid in shape, and flattened (used) on one or two surfaces. Some were pecked on the end. A few had a reddish powder on one of their surfaces, indicating use for pulverizing paint.

Vegetal remains from Jémez Cave were sent to Volney Jones at the University of Michigan Ethnobotanical Laboratory for analysis. Four types of corn were found in the cave. Over 200 cobs came from Grid E-3, Level 4, near the cave's center. While much of this corn appears similar to modern Pueblo corn, a number of specimens sound very much like the early varieties of corn found in Mexico that were later introduced into the Southwest. Jones, of course, did not have the results of MacNeish's work in the Tehuacan Valley, or the investigations conducted at Bat Cave, Tularosa Cave, Ventana Cave, and the like.

Jones also discussed the other vegetal remains. He described the identifiable yucca fragments as being exclusively *Yucca baccata*. The reed grass found in the walls of the wattle structures is *Phragmites communis*. Most of the juniper bark masses found were probably from *Juniperus monosperma*. All the identifiable squash remains were identified as *Cucurbita moschata*. Three varieties of cactus were identified: *Opuntia* (prickly pear), *Echinocereus*, and *Ocotillo*. Other identified vegetal remains included rush (*Scirpus lacustris*), seeds of a switch-grass (possibly *Panicum virgatum*), hop-tree (*Ptelea crenulata*) fruit, pinyon (*Pinus edulis*) nuts, ground cherries (*Physalis neomexicana*), and cotton. Some historic food remains were also identified, including peas, grapes, a peach stone, and a handful of wheat from Level 12 (11 to 12 feet below the surface). This occurrence was attributed to a rodent.

On the basis of their analyses, the authors proposed three periods of occupation in Jémez Cave. The earliest period was one during which sporadic utilization of the cave occurred. Though they state that they could not tell when the first use of the cave occurred, the artifacts from the lower levels of the cave suggested to them that this early period of sporadic occupations occurred during the Basketmaker period. The cave's function during this period was said to be that of a temporary shelter for travelers, hunters, or "those in search of mineral or vegetable paints, or clays, obsidian, and other arrowhead materials" (Alexander and Reiter 1935:65).

The second period was one of semipermanent occupation. Ceramics date this period from about A.D. 1250-1300. The burial bundle was believed to date to this period. The authors believed this was the first period the area was utilized for maize horticulture.

The latest period was one where the cave served again as a temporary shelter. The diagnostic trait of this period was the presence of Jémez Black-on-white sherds. Thus, this period would date from about A.D. 1350 until the present. Quoting an old Jémez Indian, the authors suggest a possible ceremonial use for the cave during the historic period. The final stage of use of the shelter was as a goat and sheep pen or shelter.

In 1958, a radiocarbon date from a corn cob recovered from Jémez Cave was published (Crane and Griffin 1958). This specimen, said be a "Bat Cave" type, produced a date of 2440 ± 250 radiocarbon years. This cob came from the 7 to 9 foot level in Section 9. An additional 7 feet of deposits below this specimen contained corn. Thus, there might be an even earlier date for the beginning of maize horticulture in the vicinity of Jémez Cave.

Excavation of additional deposits (Ford 1975) provided more information on the early period of use of the cave. In addition to a "Santa Ana" style projectile point, *Cucurbita pepo* rind fragments and a seed were found. Ford suggests that Jémez Cave was seasonally occupied, probably in the spring and fall. During this period, corn and pumpkins were planted and harvested. Ford concluded by stating that "Jémez Cave should be considered one of the Southwest's early agricultural sites," and "Jémez Cave is an important preceramic early horticultural site" (Ford 1975:22).

Additional Early Excavations

In 1935, a University of New Mexico field school session resulted in some additional excavations at Giusewa (Gentry and Luhrs 1935). Edgar Hewett and Donald Brand supervised the excavation work in a location "immediately adjacent to the earlier room work" (Alexander and Reiter 1935). Presumably this means within the pueblo. Also in 1935, Ely Baker excavated the *convento* (Reiter 1938:81). A program to stabilize and repair the mission was begun during this period under the supervision of Charles Hutchinson, Gordon Vivian, Joseph Toulouse, Wesley Bliss, and others. As part of this stabilization program, Francis Elmore continued Baker's work in the *convento* and excavated some pueblo rooms and a kiva (Elmore 1936). Baker continued this work in the summer of 1937 (Toulouse 1937). Other work at Giusewa was the so-called pipeline mitigation conducted by Larry Hammack in 1965, the 1965 stabilization work (Ely 1965), and the major 1977-1978 stabilization project.

In 1939, Paul Reiter and others test excavated the Hot Springs Pueblo (LA 24553) and Bj 74, a small house in a rock shelter (Reiter 1940). The work at Bj 74 was completed in 1949 (Luebben 1970). The 1949 work marked the last of the University of New Mexico field school sessions in the Jémez area. An era had ended.

Recent Research

From 1961 to 1968 the so-called Girl Scout Archaeological Unit conducted survey and excavations in the Jémez area. The group operated out of the Eliza Seligman Girl Scout Camp and worked mostly in the Vallecitos area. They were organized by Bertha Dutton, and supervised by Vorsila Bohrer. Among the excavations they conducted were those at LA 5917, a small Vallecitos phase pueblo near Paliza Campground; and at Boletsakwa (LA 136), a very important historic refugee pueblo dating to the 1680s, with some earlier components.

In 1962 and 1963, two pueblo sites in the vicinity of San Ysidro, New Mexico were excavated by Franklin Barnett (Barnett 1973). The two sites, Site 142 and Site 115, are about 500

m apart, on the south side of the Río Salado. Site 142 is of particular interest. This pueblo, constructed for the most part of adobe, contains several rooms with the unique corner bin, deflectors, and vents of the Class C rooms Paul Reiter found at Unshagi (1938). Excavated rooms at Site 115 lacked these features.

The decorated ceramics at this site included Jemez Black-on-white, Vallecitos Black-on-white, and the Río Grande Glaze-paint wares, Glaze A through C. Agua Fria Glaze-on-red (Glaze A type) was the most common glaze-paint ware found. Based only on the ceramics, Barnett assigned an occupation range from A.D. 1300 or 1350 to about 1450. Site 115 was assigned an occupation range from A.D. 1350 or 1400 to possibly as late as 1490 (Barnett 1973:4). No datable tree-ring specimens were recovered.

In 1972, an important publication appeared, the result of an advanced seminar held at the School of American Research. Entitled *New Perspectives on the Pueblos*, and edited by Alfonso Ortiz, this volume contained a chapter by three archaeologists entitled "Three Perspectives on Puebloan Prehistory" (Ford, Schroeder, and Peckham 1972). The three authors presented their views concerning the movements of people and ideas throughout the Southwest from the beginning of the Basketmaker III period (ca. A.D. 500) on.

Of particular interest are their conclusions concerning the prehistory of the Towa-speaking Jémez Indians. Citing a series of sources, beginning with Reiter (1938:69), the authors concluded that:

recognizeable Towa prehistory begins about A.D. 1 with the Los Pinos (phase defined in the Navajo Reservoir studies, Eddy 1966) and develops in this area and farther south through the Rosa Phase. Sometime before A.D. 950, these people moved into the Gallina region and by A.D. 1250 had moved into the mountainous Jémez country, where Jemez B/W pottery is a direct descendant of the carbon painted Gallina B/W pottery, and where lithic artifacts and similarities in burial practice support the connection. (Ford et al. 1972:25) [Emphasis added]

If the idea had not been firmly implanted before, then this chapter certainly established the "generally accepted" view that the Jémez had migrated into the area from the Gallina country. This chapter went even further, however, in extending Towa prehistory back through the preceding Rosa and Los Pinos phases. In a later work, Cordell (1979b:143) perpetuated this notion.

In the early 1970s, a German geographer named Dietrich Fliedner conducted some survey and other investigations in the area of the Battleship Rock in Jémez Canyon. He prepared at least two papers on his work (Dietrich 1972, 1975). In his papers, he discussed the relationships between and the functions of several classes of sites he observed, including the pueblos, fieldhouses, observation cabins, small caves, trails, and "field relics" consisting of terraces and checkdams. Fliedner makes some interesting speculations concerning economy, population density, social structure, and regional organization in the Jémez area. However, his conclusions were apparently based only on surface indications.

In 1981, the Office of Contract Archeology at the University of New Mexico published a lengthy report entitled *High Altitude Adaptations along Redondo Creek: The Baca Geothermal*

Project (Baker and Winter 1981). This work focused on a series of high altitude lithic scatters found on the west side of Redondo Peak. Most of these sites were Archaic in age, but obsidian hydration analysis indicated that the area was probably also used by the Jémez Indians. The chapters on historic and ethnographic research conducted for the project contain much useful information (Scurlock 1981; Weslowski 1981).

In 1982, a report was published concerning the results of an archaeological monitoring program for the construction of 23 water service lines at Jémez Pueblo (Dodge 1982). The trench cutting was monitored, and the fill was examined, but not screened, for artifacts. Dodge defined five broad research goals, relating to the age, growth patterns, use of space, post-depositional disturbance, and trade and technology at the pueblo. Dodge acknowledges the problems caused by the small sample of materials from a limited portion of the pueblo with which he was dealing. He also states that sterile soil was not encountered in some of the trenches, leading to the possibility that earlier remains were present.

Dodge found nothing, however, to contradict the notion that the pueblo was first occupied around 1621. Most of the ceramics he examined were eighteenth-century types. The pueblo was apparently constructed originally in the same configuration it now has. No trends in the use of space could be discerned from the evidence. Numerous water, sewer, and utility lines were encountered in the trenches. Dodge concludes that "human disturbance has altered the artifacts' depositional context and the stratigraphic record of the soil profile underlying the pueblo" (Dodge 1982:86). Most of the decorated trade ceramics recovered were from Zia Pueblo, although trade-wares from Santa Ana, Santo Domingo, Cochiti, and Tewa pueblos were also found.

In the mid-1960s, the USDA Forest Service acquired much of the old Cañon de San Diego de los Jémez land grant through a land exchange. By the mid-1970s, the Santa Fe National Forest had begun conducting cultural resource inventories of large parcels of land in the Jémez area. These inventories have generally been conducted in advance of land-disturbing activities of the forest, such as timber sales. As a result of these inventories, and other survey under contract for forest permittees, a substantial data base for the Jémez Springs area has been built consisting of a computerized site and report file, hard copies of site forms and reports, and map atlases with the locations of over 1,000 sites recorded in the Jémez area. In 1984, 33 large pueblo sites in the Jémez area on USDA Forest Service land were accepted for nomination to the *National Register of Historic Places*. These sites are also listed on the *State Register of Cultural Properties*.

In 1980, 1984, and 1985, the Santa Fe National Forest conducted excavations and other investigations at several fieldhouse sites. In addition, mapping and ceramic analyses were conducted at some of the large pueblos with which they are associated. In 1980, Site 552 (all USDA Forest Service site numbers in the Jémez Ranger District are preceded by AR 03-10-03-) was excavated. This site was a one-room fieldhouse located near Paliza Canyon at 7,100 feet in elevation. The masonry was very poor quality, and it did not appear that the masonry walls could have been full height. A brush or log superstructure is suggested. A single hearth was found in the floor of the structure. Macrobotanical remains of corn were found in the hearth. Very few artifacts were found in association with the structure. The only decorated sherds were early Jemez Black-on-white. Solely on the basis of the artifactual assemblage, the site was dated to the early Jémez phase, or about A.D. 1350-1500 (Gauthier and Elliott 1986).

In 1984, two fieldhouses were excavated. Surface artifact analysis was conducted at additional fieldhouse sites. Mapping and/or surface artifact analysis was conducted at three nearby large pueblo sites. The fieldhouse sites were all located in Upper Cebollita Canyon at elevations ranging from about 8,100 to about 8,300 feet.

Site 1515 was a two-room fieldhouse that had been severely impacted from historic activities. The mound of the structure had been greatly reduced, probably to recover building stones for use in an apparent historic logging camp. Large quantities of historic trash dating to around the 1940s was superimposed over the earlier remains. Upon excavation, the structure was found to have two rooms. One of the rooms had a bin or hearth feature lined with upright slabs and a slab bottom. This feature contained a fine gray, ashy fill. A small quantity of corn pollen was found under the slab bottom of the hearth, and plaster on wall of the hearth contained a large quantity of *Pinus* pollen (Scott 1986).

The ceramic assemblage from Site 1515 contained Jemez Black-on-white, Glaze E, and ten different varieties of utility wares. On the basis of the Río Grande Glaze-paint wares, the site was dated to the period A.D. 1550-1650 (Gauthier and Elliott 1986:80). Obsidian hydration analysis on a projectile point fragment yielded a "ballpark" date of A.D. 1578 (Gauthier and Elliott 1986:93).

Site 1513 was also a fieldhouse with two contiguous rooms, but was relatively undisturbed. The site was located on an east-facing slope at 8,180 feet. One of the rooms in the structure had two slab-lined hearthlike features, similar to the one found at Site 1515. These were the only features found in this room, and few artifacts were found there. The other room also had two slab-lined hearth features, but also had a bench and a plastered flagstone floor.

A pollen sample from the floor of Room 2 contained both aggregates and single grains of *Zea* pollen, which Scott (1986:94) suggests "may be related to food processing in this area." This sample also contained a large quantity of Gramineae pollen "suggesting that grass seeds may have been exploited, or grass used for some other purpose" (Scott 1986:94). A large quantity of *Cleome* pollen was also found. *Cleome* was used as a food, but also as pottery paint (Scott 1986:94).

The pollen sample from Bin 2 in Room 2 exhibited a large quantity of *Artemisia* pollen, no *Zea* pollen, and very little *Cleome* pollen. Scott (1986:94) suggests that pine trees may have been less numerous than today or may have been cut at the time of occupation of this site. This observation could be an indication of a slightly warmer and drier environmental regime in the 1500s than today.

The ceramics from Site 1513 were predominantly utility wares (88.5 percent). The remainder were Jemez Black-on-white, with bowls being about twice as common as jars (7.8 to 3.5 percent). One Glaze E body sherd was observed during the surface ceramic analysis. On that basis, the site is considered contemporary with Site 1515.

Half the ten lithic specimens recovered from the excavation of Site 1513 were Jemez obsidian, and three were Pedernal chert. Half the specimens were tertiary flakes, and three were secondary flakes. Four of the specimens recovered exhibited some signs of utilization.

Important conclusions from this project include the fact that Jémez fieldhouses are somewhat more complex architecturally than such structures in other areas of the Southwest. This may indicate that correspondingly more time was spent in these structures, making the "expense" of building more elaborate structural features worth the effort. The ceramics indicate that the sites excavated, as well as most of the other sites examined, are relatively late in the Jémez sequence. Together with the pollen data, this may suggest a late movement of population into the higher elevation zones. This trend could be the result of increased population in the Jémez area, and the fact that they were somewhat circumscribed from movements or colonization of lower elevation areas by other aboriginal groups.

Historic and Ethnographic Research in the Jémez Area

It is quite difficult to separate the early historic and ethnographic research in the Jémez area from the archaeological work. There was a tradition of one person conducting research into all facets of prehistoric, historic, and modern Indian culture.

Historical research into the documentary history of the area probably began with Bandelier (1890-1892; Bandelier and Hewett 1937). The standard early references of Bancroft (1893), Winship (1896), and Bolton (1916) contained numerous references to the early documentary history of the Jémez Indians.

Lansing Bloom published a series of articles dealing with the history of the Jémez area (1922, 1923, 1931; Bloom and Mitchell 1938). Bloom's "West Jémez Cultural Area" (1923) is responsible for the notion that the Jémez villages encountered by Barrionuevo (of Coronado's expedition) were located in the Vallecitos area. Ceramic evidence contradicts this notion. Bloom's article also identified the "Aguas Calientes" pueblos listed by Casteñada of Coronado's expedition as the sites in Jémez Canyon.

France Scholes published an article in 1938 concerning the identification of the mission names in the Jémez area. He believed that the mission at Giusewa was not San Diego de la Congregación, as Bandelier had originally suggested, and all subsequent researchers had accepted, but San José de los Jémez. Scholes believed San Diego de la Congregación and San Juan de los Jémez were located at Walatowa (modern Jémez Pueblo), and the San Diego del Monte was located at Patokwa. Some doubt remains concerning this issue.

Much of the documentary history of the Jémez is in the journals and other documents of the early explorers, priests, and colonists. The Coronado Expedition Journals are presented and discussed in Winship (1904), Hammond and Rey (1940), and Bolton (1949). The journals of the later entradas of the Chamuscado-Rodriguez and Espejo-Beltran parties are presented and discussed in *The Rediscovery of New Mexico* (Hammond and Rey 1966). The journals and other documents relating to the colonization of New Mexico by Don Juan de Oñate are also discussed by Hammond and Rey (1953). In a two-volume set, Hackett (Hackett and Shelby 1942) provides detailed discussions of the role the Jémez played in the Pueblo Revolt of 1680. The only good discussion of the reconquest of the Jémez area appears in Espinosa's *Crusaders of the Rto Grande* (1942). Other important historic sources are the two *Memorials* of Fray Alonso de Benavides (1945, 1965), and the *Relaciones* of Fray Geronimo de Zarate Salmeron (1966).

An important discussion of the history of the Jémez area appears in Baker and Winter's *High Altitude Adaptations along Redondo Creek* (1981). Though focused primarily on a series of high elevation lithic sites near the Valle Grande, the part entitled "Ethnohistoric Investigations" (Scurlock 1981:131-160) is very detailed, particularly for land uses in the American period.

Previous Ethnographic Investigations

Scientific ethnographic investigations at Jémez Pueblo also probably began with Bandelier (1890-1892). Earlier accounts, such as Simpson's journal, were primarily anecdotal in nature. The *Handbook of American Indians North of Mexico* (Hodge 1912) contains references to some 30 former Jémez pueblos. In the *Ethnogeography of the Tewa Indians* (Harrington 1916), native Jémez informants were interviewed to learn names of places and abandoned pueblos.

Albert Reagan, a government agent stationed at Jémez Pueblo, published a series of articles concerning the Jémez, beginning in 1917 (see Reagan 1927 for a bibliography of those works).

Elsie Clews Parsons conducted ethnographic investigations at Jémez Pueblo in 1921, which resulted in her 1925 publication, *Jémez Pueblo*. Parsons published what was regarded as confidential and sacred information, as well as the names of informants. This resulted in a strong attitude of distrust towards ethnologists and anthropologists, and an understandable resistance to further studies. Sando (1979:216) states "there is still some fear that someone like Elsie Clews Parsons may come to stay in the village again."

Two University of New Mexico students, Blanche Harper (1929) and Sarah Cook (1930), contributed Master's theses on the history and ethnography of Jémez, and the ethnobotany of Jémez, respectively.

Florence Ellis served as a consultant for the Pueblo during the Indian Land Claims Commission hearings, and appears to have succeeded in at least partially allaying the Indian's fears of being studied. She collected valuable information during her work as a consultant (Ellis 1952, 1956, 1964). Gordon Bronitsky also published articles dealing with the ethnohistory of Jémez (1973). Joe Sando, a Jémez native, published chapters on Jémez Pueblo and the Pueblo Revolt of 1680 in the *Handbook of North American Indians* (Sando 1979:418-429, and 194-198). In 1983, he published *Nee Hemish*, an inside account of Jémez ethnohistory and culture. Lois Weslowski collected valuable information on Native American land use and general world view as part of the cultural resources investigations for the Baca Geothermal Project (Weslowski 1981:105-129).

CHAPTER 4. ARTICLES

These papers were selected for reproduction here for several reasons. They presented ideas crucial in the development of thought concerning the Jémez area. They provide a background and cross section of information on this area. Few of these papers are well known, and many were published in the appendixes of other works, or in early editions of regional journals without wide circulation. All of these works appeared in volumes that are no longer in print.

Journal of a Military Reconnaissance, from Santa Fé, New Mexico, to the Navajo Country, Made with the Troops under Command of Brevet Lieutenant Colonel John M. Washington, Chief of Ninth Military Department, and Governor of New Mexico in 1849, by James H. Simpson, A.M. First Lt. Corps of Topographical Engineers. Senate Ex Doc 1st Sess. 31st Congress No. 64. Lippincott, Philadelphia, Pennsylvania. 1852.

Lieutenant James Simpson visited Jemez Pueblo in August 1849. He was leading part of the first United States military campaign against the Navajo. The commander of this mission was Lt. Colonel John M. Washington. Accompanying Simpson were two artists, Richard and Edward Kern. Simpson's party stayed in the area for three days, visiting Giusewa and the San Jose mission ruin near Jemez Springs. The sketches by the Kerns are the first pictorial records of Jemez Pueblo and other sites in the area. This journal also marks the first mention of Francisco Hosta, apparently Governor of Jemez at this time. Hosta accompanied the Simpson party on their trip west as a guide, a role he was to repeat with the photographer William Henry Jackson some 30 years later.

Santa Fé, August 15.—To day, in consequence of information having reached headquarters for the concentration of the Utahs near Albiquiu, orders No. 32 have been so far modified that Captain Ker's company of dragoons, now stationed at Albuquerque, and Captain Chapman's company of mounted volunteers, now stationed at the *Placer*, instead of moving on Jémez, are to proceed to Albiquiu, and, in conjunction with Major Grier's company of dragoons and Captain Valdez's company of mounted volunteers, the whole under the command of Brevet Lieutenant Colonel Beall, effect, if possible, a peace with the Utahs in that quarter, or, failing in this, prosecute a war against them. Effecting a peace, Captains Ker and Chapman, with their companies, are to join the main command under Colonel Washington at Chelly. Not accomplishing a peace amicably, or by force of arms, Colonel Washington will, after accomplishing his objects with the Navajos, join the troops in the Utah country.

First camp, August 16.—The preparations being in a sufficient state of forwardness, the portion of the troops referred to in orders No. 32 stationed at Santa Fé took up the line of march this morning, their destination being Jémez, *via* Santo Domingo. These troops consist of two companies of the 2d artillery, ("B," commanded by Brevet Major John J. Peck; "D," by 2d Lieutenant J. H. Nones; the battalion by Brevet Major H. L. Kendrick), and four companies of the 3d infantry, ("D," commanded by Brevet Captain George Sykes; "F," by 2d Lieutenant C. B. Brower; "G," by 2d Lieutenant Andrew Jackson; and "H," by first Lieutenant Colonel E. B. Alexander)—the whole aggregating (fifty-five of artillery, and one hundred and twenty of infantry) an effective force of one hundred and seventy-five men,

under the command of Brevet Lieutenant Colonel John M. Washington, 3d artillery, commandant of the 9th military department, and Governor of New Mexico. The officers of the staff are 1st Lieutenant J. H. Simpson, Corps Topographical Engineers; Brevet 1st Lieutenant James N. Ward, 3d infantry, acting assistant quartermaster and commissary; 2d Lieutenant John H. Dickerson, 1st artillery, acting assistant adjutant general and Assistant Surgeon J. F. Hammond. Lieutenant Simpson has with him, to assist him in his duties, Mr. Edward M. Kern of Philadelphia, and Mr. Thomas A. P. Champlin, of Buffalo. In addition to the officers mentioned, James S. Calhoun, Esq., of Georgia, Indian agent, goes out with a small party of assistants to effect, in connection with the colonel commanding, a proper treaty with the Navajos; and Mr. James L. Collins accompanies Colonel Washington, as Spanish interpreter.

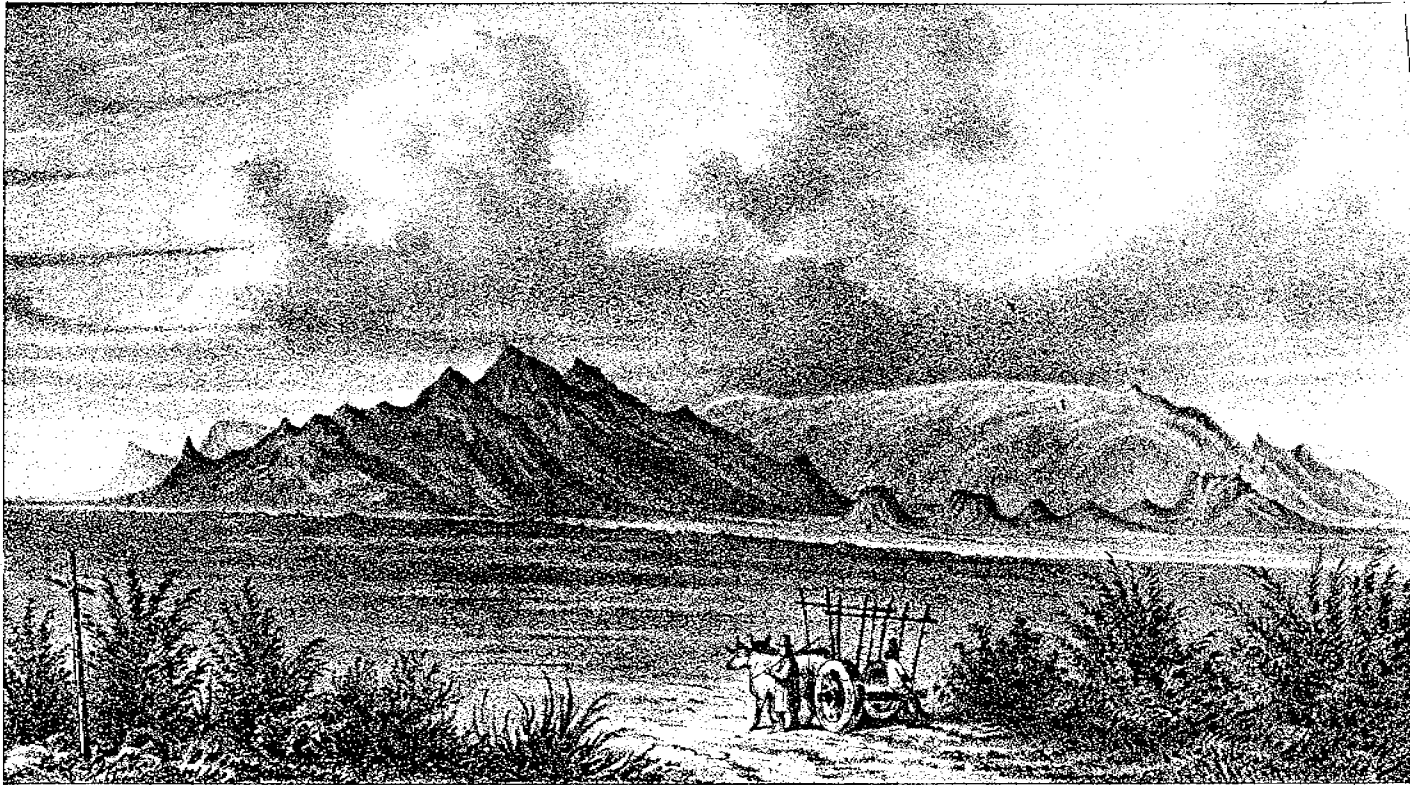
Wagon transportation is furnished to the troops as far as Jémez, and then pack animals are to be resorted to.

The road taken by the artillery (see accompanying map, the red line indicating the route pursued by the troops) was the usual one to Santo Domingo, *via* Agua Fria, (a small collection of *ranchos*—farms—six miles from Santa Fé,) and thence along the Rio de Santa Fé, on its east side, to Sienguilla, a distance of 16.02 miles, where they encamped. The general course was east of south.

The infantry and my own party, having taken a more eastern route—that usually travelled by wagons to Algodones—after having marched about the same distance, sixteen miles, are encamped two miles to the east of the artillery, on a small tributary of the Rio de Santa Fé.

The face of the country to-day has been generally level—a few *arroyos* (dry beds of streams) intersecting it at intervals, and the famous Placer or Gold mountain, and the Sandia mountain, with some intermediate conical mounds, forming, to our front, the chief features of the landscape. (See Plate 1.) Saving a very narrow and interrupted margin bordering the Rio de Santa Fé between Agua Fria and Santa Fé, and which was cultivated in corn, the country has exhibited one extended barren waste, with nought to diversify it but a few dwarf or brush cedars, sparsely scattered.

At Sienguilla—a village composed of one Roman Catholic



Drawn by R. H. Kern from a Sketch by E. M. Kera.

P. S. Duval's Steam Lith. Press Philad. P.

VIEW OF THE PLACER OR GOLD MOUNTAIN, AND SANDIA MOUNTAIN
from Santa Fe.

church and a few scattered ranchos—good grass and water are found, and sufficient fuel.

At this place, Captain Ker, with his command, has also encamped, on his way to Albuquerque. It was the intention of Colonel Washington, after reaching Santo Domingo, to make a night march upon the Utahs about Albuquerque, and thus, effecting a junction with Lieutenant Colonel Beall's command, strike the enemy a blow when he might be least expecting it; but Captain Ker's force being unexpectedly in advance of such a movement, the project was abandoned.

Second camp, August 17.—The infantry, as also my own party, joined the artillery, in the cañon* of the Rio de Santa Fé, just after the latter had left their camp. The general course to-day was slightly south of west, the road threading the cañon of the Rio de Santa Fé to its mouth, a distance of six miles; thence across the margin of the Rio Grande del Norte, seven miles, to the *Pueblo de Santo Domingo*; and thence by ford across the Rio Grande to our camping-ground, directly opposite Santo Domingo—the whole march having been 14.85 miles. Through the cañon, the road, on account of rocks and boulders, and for a mile and a half before reaching Santo Domingo, on account of sand hills, was rough; the remaining portion level and good.

The cañon of the Rio de Santa Fé we found quite interesting. Varying in depth from one hundred to one hundred and fifty feet, the Rio de Santa Fé trickling through it, its *mésa* (table) heights on either side are crowned by overlying amygdaloidal trap. This trap shows eminently, in particular localities, the blackening scoriaceous effect of fire; and in some places is to be seen underlying it an earthy formation of an ashy character, and in others a reddish porphyritic rock in beds slightly dipping towards the east. At the mouth of the cañon, on its north side, is a well-defined ash-colored formation of an argillo-silicious character, disposed in layers, and presenting, with striking and pleasing effect, the appearance of the *façade* of a highly finished piece of Grecian architecture. This object cannot fail to attract the notice of the traveller.

Debouching from the cañon, an extended plain—upon which

* The word cañon is most generally applied to a deep and narrow valley enclosed on either side by escarpments. It sometimes, however, means a shallow valley.

I saw some fifty head of cattle grazing—stretches westward about six miles to the Rio Grande; the Jémez mountains appear on the further side of the river, quartering to your right; an extended *mésa* shows itself also beyond the river to your front; and the Sandia mountain lifts itself high and sublime to your left. Not a tree is to be seen until you can look down upon the Rio Grande, and then the cottonwood is noticed sparsely skirting its banks. The bed of the Rio Galisteo, which we crossed just before entering Santo Domingo, indicated only here and there that it was even moistened with water.

Santo Domingo, which lies directly on the Rio Grande, is a pueblo or Indian town, containing about eight hundred inhabitants. It is laid out in streets running perpendicularly to the Rio Grande. The houses are constructed of *adobes*, (blocks of mud, of greater or less dimensions, sun-dried;) are two stories in height, the upper one set retreatingly on the lower, so as to make the superior covering or ceiling of the lower answer for a terrace or platform for the upper; and have roofs which are nearly flat. These roofs are made first of transverse logs, which pitch very slightly outward, and are sustained at their ends by the side walls of the building; on these, a layer of slabs or brush is laid; a layer of bark or straw is then laid on these; and covering the whole is a layer of mud of six or more inches in thickness. The height of the stories is about eight or nine feet. The lower stories have very small windows, and no doors; the lights of the windows, wherever there were any, being of selenite—the crystallized foliated form of gypsum. The mode of access to the building is by exterior ladders, which may be seen leaning against every house.

In the west end of the town is an *estuffa*, or public building, in which the people hold their religious and political meetings. The structure, which is built of *adobes*, is circular in plan, about nine feet in elevation, and thirty-five in diameter, and, with no doors or windows laterally, has a small trap-door in the terrace or flat roof by which admission is gained. Directly below the opening, and detached from the wall, is a fire-place, in plan thus,



its height being about three feet—the opening referred to serving as a vent to the smoke.

The men, I notice, wear generally nothing but a shirt and a breech-cloth; the women, a dark-colored blanket, covering one shoulder, and drawn under the other, a girdle confining the blanket about the waist, and the arms being left free and bare. This appears to be their *ordinary summer dress*. The children run naked.

At the house of the governor, I noticed a woman, probably his wife, going through the process of baking a very thin species of corn cake, called, according to Gregg, *guayave*. She was hovering over a fire, upon which lay a flat stone. Near her was a bowl of thin corn paste, into which she thrust her fingers; allowing then the paste to drip sparingly upon the stone, with two or three wipes from the palm of her hand she would spread it entirely and uniformly over the stone; this was no sooner done than she peeled it off, as fit for use; and the process was again and again repeated, until a sufficient quantity was obtained—the necessarily rapid character of the process causing the perspiration to roll from her face in streams. The woman, noticing the interest I took in the operation, handed me a sheet of the food to eat. Like the Mexican *tortilla*, although I was excessively hungry, it did not fail to leave at the stomach a slight sensation of nausea. When folded and rolled together, it does not look unlike (particularly that made from the blue corn) a “hornet’s nest”—a name by which it is sometimes called.

The Rio Grande, at the ford, is about three hundred yards wide, is between three and four feet deep, and is full of bars. Its bottom, in spots, is of quicksand character—two of the wagons stalling on this account.

The country passed over to-day, excepting a very limited area upon the Rio Santa Fé, at Sienequilla, and for a breadth of about a mile along the Rio Grande, is probably worthless for cultivation, and of but very slight, if of any, value for grazing purposes.

Our camping-ground, which is near some cornfields, is a fine one—the Rio Grande, besides furnishing us with water to drink, affording us a refreshing bath; and the grass in the vicinity being good, and wood sufficiently near.

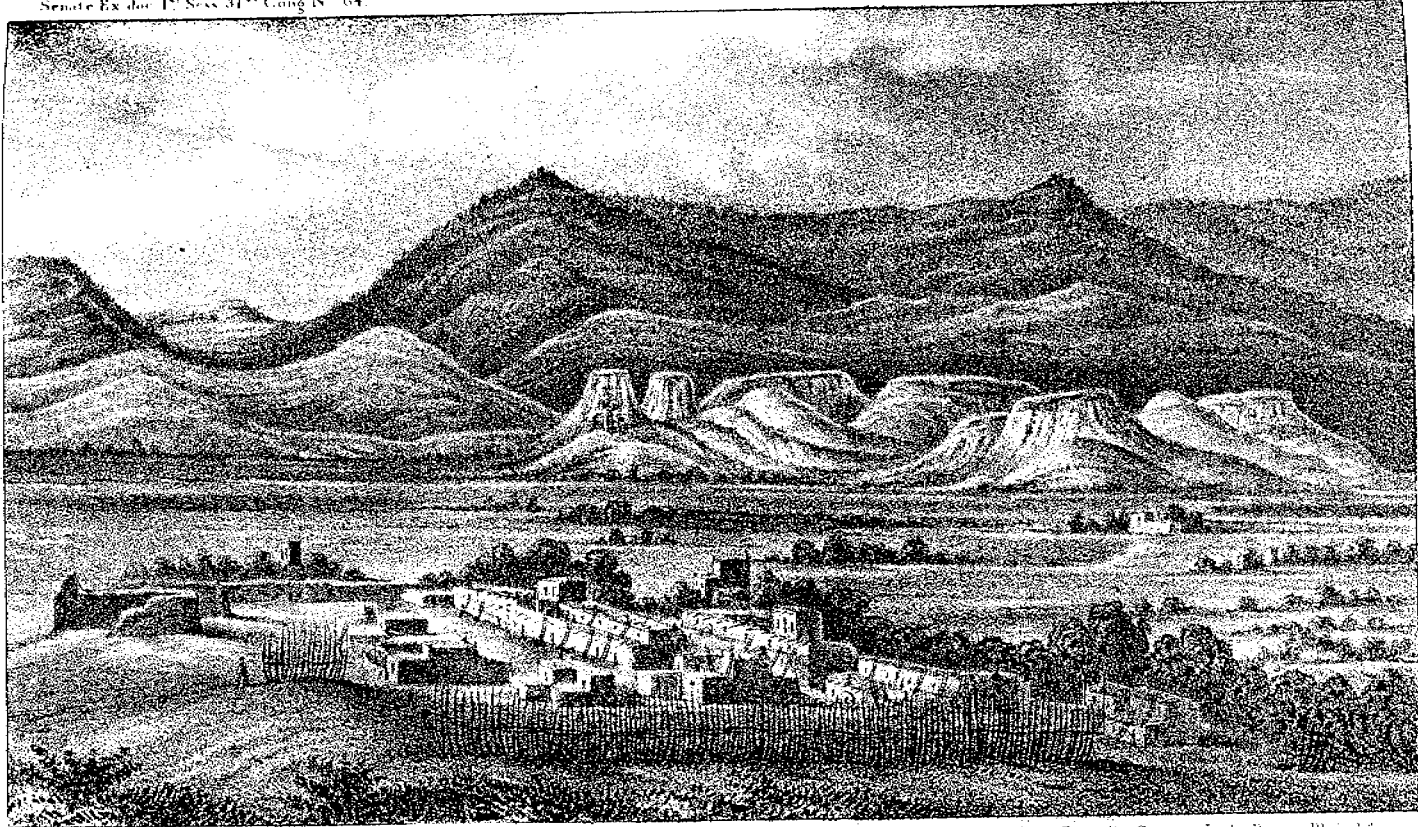
A series of astronomical observations make the latitude of this camp $35^{\circ} 30' 56''$; its longitude, $106^{\circ} 29' 45''$.

Third camp, Jémez, August 18.—Not being able last evening, on account of the strong wind, to get satisfactory astronomical observations, I obtained some this morning, before daylight.

Our route to-day, to Jémez, a distance of 26.60 miles, was generally in a northwesterly direction, and, besides being exceedingly heavy on account of sand, and rough and uneven on account of sand hills and *arroyos*, did not furnish us a drop of water throughout its whole extent.

For the first nine miles, it was up a heavy sandy *arroyo*, at the fourth mile of which there was a short steep hill to ascend, and at the ninth a rather long and steep one—which surmounted, brought us to a piece of table land of about three miles in breadth; whence could be seen, almost due west, about thirty-five miles off, the remarkable peak called *Cerro de la Cabeza*. This table land traversed, we reached the brow of the valley of the Rio de Jémez, whence, looking down upon and across the valley, a confused mass of sedimentary hills and *mésa* heights appeared to sight—the escarpment walls of the *mésa* being generally of a well-defined stratified character, and of sensible dip towards the south. To our right, and on *our* side of the Rio de Jémez, were *mésa* heights, crowned with amygdaloidal trap, apparently fifty feet thick. From the brow of the valley down to the Rio de Jémez, the road is very heavy and rough, on account of sand hills and *arroyos*.

Four miles from our last camp, I noticed on the route an outcrop of silicious limestone, containing, sparsely, some particles of felspar. Near this spot, observing a plateau or *mésa*, from two hundred to three hundred feet high, which promised a fine view of the country we had been traversing, I ascended it, to scan the landscape. As I anticipated, a noble view extended itself before me. There lay, far off towards the northeast, the Santa Fé mountains; to the southeast, the Placer mountain and Sandia mountain; intervening between them, and just discoverable, lying beyond the gleaming waters of the Rio Grande, the little town of Santo Domingo; to the north and northwest, stretching far away, were the Jémez mountains; to the south, *mésa* formations, crowned with amygdaloidal trap; and every



B. F. Kern. Del.

P. S. Duval's Steam Lith. Press Philad^a.

မြန်မာနိုင်ငံတော်
from the East Aug. 20.

where else, sparsely scattered over mountain and plain, the dwarf cedar.

The Pueblo of Jémez, as its *prefix* indicates, is an *Indian* town of probably between four and five hundred inhabitants, and, like the Pueblo of Santo Domingo, is built upon two or three parallel streets, the houses being of adobe construction, and having second stories disposed retreatingly on the first, to which access is had by ladders. I notice here, on the outskirts of the village, the usual accompaniment of Mexican and pueblo towns, the ragged-looking picketed goat enclosure—it giving to the suburbs an unsightly appearance. About the premises are probably a dozen of acres covered with apricot and peach trees. An infantry company of Mexican volunteers, under command of Captain Henry L. Dodge, is stationed at this place. A sketch of the pueblo and of some curiously shaped sandstone hills in the vicinity, is given in Plate 3.

The Rio de Jémez, upon which the pueblo lies, is an affluent of the Rio Grande; varies from thirty to fifty feet in breadth; is of a rapid current; and tends southwardly. Its bed is a mixture of red sand and gravel. Patches of good corn and wheat skirt it here and there along its banks; and the extent of cultivable land bordering it may be estimated at about a mile in breadth. Its waters are palatable; good grass is found along it, and wood exists in the vicinity. Our encamping-ground, which is just to the north of the town, has, therefore, all the requisites to make it a good one.

The soil along the route to-day, excepting the narrow margin along the Rio de Jémez already mentioned, is utterly worthless for cultivation.

The latitude of this camp, by astronomical observation, is $35^{\circ} 36' 7''$; its longitude, $106^{\circ} 51' 15''$.

Third camp, Jémez, August 19.—The wagon attached to headquarters breaking down yesterday, on account of the rough state of the road, it did not reach us early enough in the evening to have our tents pitched. The consequence was that the colonel commanding and his staff bivouacked for the night—a change which we found quite agreeable.

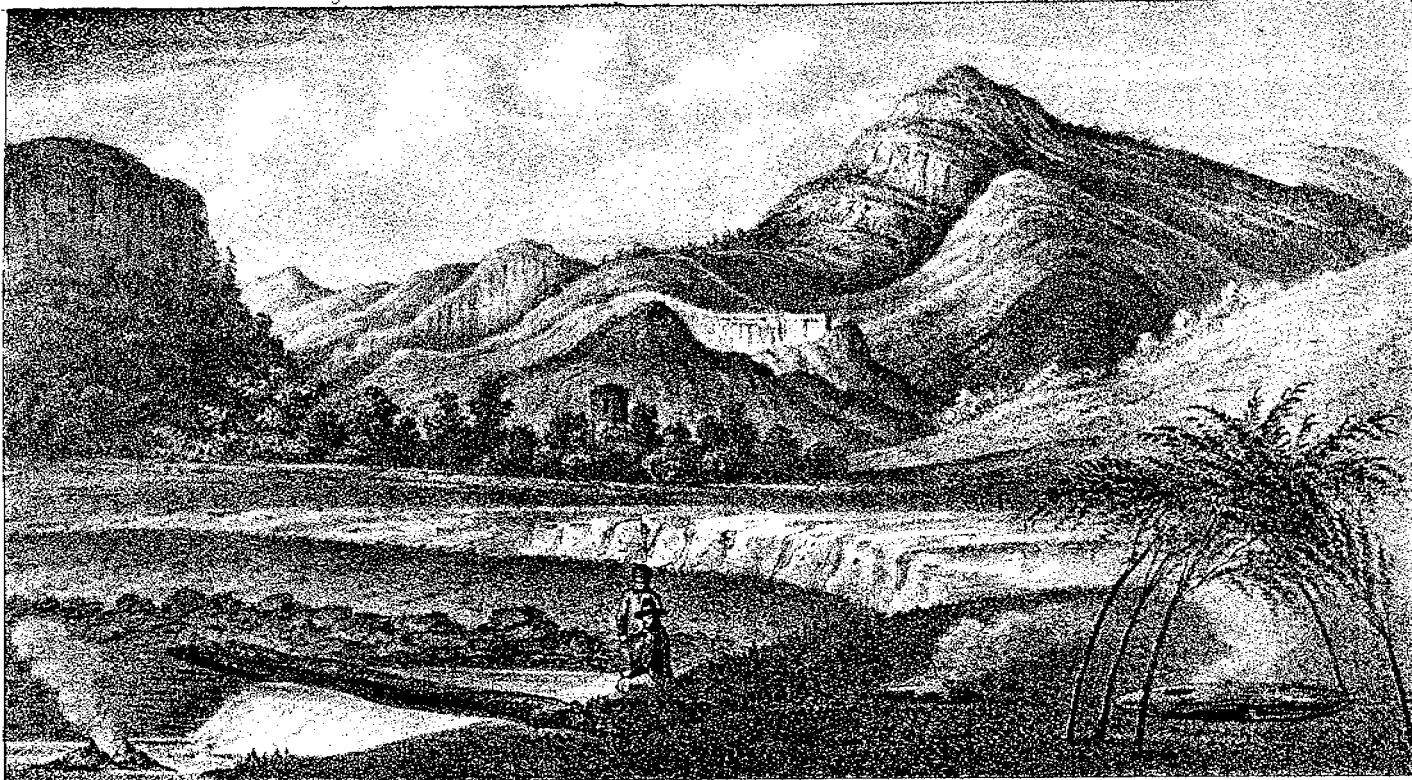
The troops will remain here for a day or two, until the assistant quartermaster, Captain Brent, can perfect his arrangements for a change from wagon to pack-mule transportation, and also for

the purpose of giving time for the concentration of the Pueblo and Mexican force, which is to join us at this point.

This afternoon, a dance—called, in the language of the Jémez Indians, *You-pel-lay*, or the green-corn dance—having been reported as being about to be enacted in the village, several persons from camp, (among them my assistant, Mr. E. M. Kern, from whom I get my information,) went down to witness it. In order the better to see the performances, they took up a position on one of the houses in the principal streets. (See Plate No. 6.) When the performers first appeared, all of whom were men, they came in a line, slowly walking, and bending and stooping as they approached. They were dressed in a kirt of blanket, the upper portion of their bodies being naked, and painted dark red. Their legs and arms, which were also bare, were variously striped with red, white, and blue colors; and around their arms, above the elbow, they wore a green band, decked with sprigs of *piñon*. A necklace of the same description was worn around the neck. Their heads were decorated with feathers. In one hand they carried a dry gourd, containing some grains of corn, with which they produced a rattling kind of music; in the other, a string, from which were hung several *tortillas*. At the knee were fastened small shells of the ground turtle and antelope's feet; and dangling from the back, at the waist, depended a fox skin. The musicians were habited in the common costume of the village, and made their music in a sitting posture. Their instruments consisted, each of half a gourd, placed before them, with the convex side up; upon this they placed, with the left hand, a smooth stick, and with their right drew forward and backwards upon it, in a sawing manner, a notched one. This produced a sound much like that of grinding corn upon a *matate*, (a slightly concave stone.)

The movements in the dance differed but slightly from those of Indians generally.

The party were accompanied by three elders of the town, whose business it was to make a short speech in front of the different houses, and, at particular times, join in the singing of the rest of the party. Thus they went from house to house singing and dancing, the occupants of each awaiting their arrival in front of their respective dwellings.



Drawn by R. H. Kern from a sketch by E. M. Kern.

P. S. Duvel's Steam Lith. Press Philad. ?

THE OJO CALIENTE
twelve miles above Jémez.

My second assistant, Mr. R. H. Kern, brother to my first assistant, Mr. E. M. Kern, joined me, from Taos, this afternoon.

Third camp, Jémez, August 20.—During the past night, we had an unusually heavy rain, attended with sharp thunder and lightning.

This morning, after breakfast, Major Kendrick, Assistant Surgeons Edwards and Hammond, Mr. E. M. Kern, and myself left camp for *Los Ojos Calientes*, (the Hot Springs,) said to be twelve miles above, in the valley of the Rio de Jémez. The Lieutenant-Governor of Jémez accompanied us as guide. Our course, which lay directly up the valley called the Cañon of San Diego, was slightly east of north. Soon after leaving camp, we passed some red-colored argillaceous rocks, well stratified, the dip of stratification on either side being anticlinal, and the gorge which we threaded being coincident with the line of strike. An upheave, therefore, must, in all probability, have taken place, the resulting force of which was doubtless normal to the line of strike. A sinking of the two series of stratification at the foot of their respective slopes could indeed have caused the like effect; but, the first mode of accounting for the phenomenon being the simplest, it is most reasonable to suppose it to have occurred.

Two miles from camp, we came to a Mexican settlement, which continued sparsely scattered along the river for about five miles. The most populous portion of it, called *Cañoncito*, we found to be about three miles from camp, at the mouth of the *Cañon de Guadalupe*. Here I saw, within a hundred yards of the village, a small gray wolf shying off very reluctantly from us.

For a distance of six or seven miles, the bottom of the Cañon de San Diego is pretty well cultivated—corn, wheat, and peppers being the chief product of the soil: the corn, which looked well, greatly predominated.

Beyond the settlements, the ruins of old *adobe* buildings were ever and anon to be seen, which, according to our guide, were once inhabited by Mexicans, who had deserted them from fear of the Navajos.

Nine miles up the *cañon* we found an old copper-smelting furnace, which looked as if it had been abandoned for some considerable period. It is quite small, is built of stone, and has arched ovens traversing each other at right angles, each oven

being furnished with a stone grating. We picked up some fragments of copper ore (probably green malachite) which lay scattered around.

Twelve miles from Jémez, we came to Los Ojos Calientes. Here, desiring to make some examinations, and it being our purpose to regale ourselves with the eatables we had brought with us, we unsaddled our horses and turned them loose to graze.

On examination, we found the springs to be situated within the compass of a few feet of each other, some of them boiling up immediately from the bed of a small bifurcated branch of the Rio de Jémez. The principal one, which is in the branch mentioned, issues from a small knoll or heap of boulder stones, which seem to partake both of a calcareous and basaltic character, the vent not being more than a foot above the bed from which it springs. The volume of water which issues from it may be estimated at about a gallon and a half per minute. This spring, as well as all the other principal ones, show a limited accumulation of a crystalline deposit about its mouth, which, on account of its fine-grained character and hardness, may probably come under the head of travertine. The complexion of the deposit is white, with a shade of greenish yellow.

We put into the jagged cup or bowl of the fountain some eggs and raw venison, both of which were cooked in about twenty minutes. The time required to do this would doubtless have been much less had the bowl been sufficiently concave to have admitted a more perfect immersion of the articles, and the fixture of a cover, by which the heat lost through evaporation could have been retained. As it was, upon an immersion by Major Kendrick of a thermometer, Dr. Edwards assisting him, the highest point to which the mercury would rise was 169°.

These springs are said, in diseases of a cutaneous or rheumatic kind, to possess powers of a highly curative character; and it is doubtless on this account that the arbors which we noticed near the main springs are placed over some basins, scooped out from the ground, into which the hot water finds its way. A view of these springs, with their accessory scenery, and among it the tower of a distant ruined church, may be seen in Plate 14.

Observing, about a third of a mile above the springs, the ruins just mentioned, we saddled up for the purpose of visiting them. On reaching the spot, we found them to be the remains of an old Roman Catholic church, in dimensions about fifty feet front

by one hundred and twenty deep. The tower, which was octagonal in form, and which rose up from the middle of the rear end of the building, was still standing, as were also the greater portion of the walls of the main building. The height of the tower I estimated at thirty feet. The thickness of the walls of the main edifice at base measured six feet. A good view of these ruins may be seen in Plate 15.

It getting late, we were obliged to hasten our return to camp—a drenching rain, which had in the mean time sprung up, adding not a little to our alacrity. A spring, however, which we unexpectedly met with on our route, tempting us by its cool appearance, we could not resist the desire to alight and try its waters, which we found not less grateful than they were unexpected.

The cottonwood, the cedar, and pine, the latter of dwarfish growth, and all rather sparsely scattered, constitute the *sylva* of the valley. The wild currant we found growing in great luxuriance and perfection about the old church.

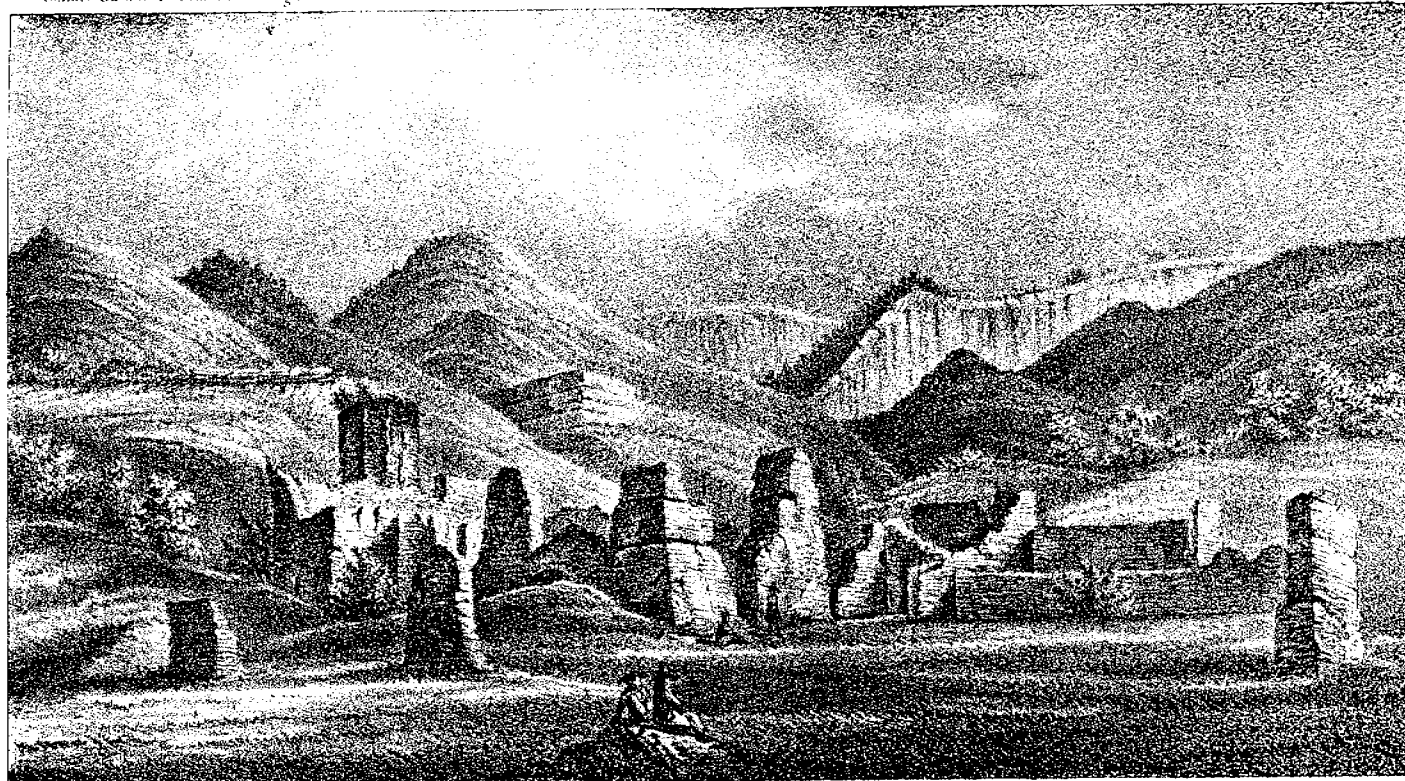
Third camp, Jémez, August 21.—This afternoon, Captain Dodge, the brothers Kern, and myself visited the Roman Catholic church of the village—the governor of the town, Hosta, procuring for us the keys, and acting as *cicerone*. The church, an adobe structure, some one hundred by twenty-eight feet in plan, appeared very old, and was evidently wasting away under the combined influence of neglect and moisture. The swallows, as is to be noticed in the Roman Catholic church at Santa Fé, seemed to be perfectly at home within it, and now, as in the church mentioned, brought home to me the appositeness of those beautiful remarks of the sweet psalmist of Israel to be found in Psalms lxxxiv. 3. A pilaster and arch arrangement, with crosses at intervals, characterized the side walls; and a number of paintings, all daubs, excepting the central one, the wall back of the chancel. Hosta informed us that this central piece was a representation of San Diego bearing the cross. At present it is considerably defaced, but the touches of a genuine artist are yet visible upon it. None but a true son of the muse could have thrown into the countenance the expression of beautiful sadness with which it is radiant. In addition to the objects of garniture already mentioned, I noticed upon a projecting piece of the side pulpit a human skull and some bones, and in a side room, to which I could only peep in, some images and pictures.

Finishing our examination at the church, we visited the *estuffas* of the town, of which there are two. Both are one story high, and, like the one noticed at Santo Domingo, have no doors or windows laterally, and are only accessible from above, through the flat roof. They differ from it, however, in being rectangular—the one we measured being twenty by twenty-seven feet in the clear, and seven and a half feet high. On the walls were representations of plants, birds, and animals—the turkey, the deer, the wolf, the fox, and the dog, being plainly depicted; none of them, however, approaching to exactness, except the deer, the outline of which showed certainly a good eye for proportions. For an exact picture of these, both as regards details of form and color, and also as respects the dingy, smoky complexion of the walls upon which they are painted, I refer the reader to Plates 7, 8, 9, 10, and 11.

Upon questioning Hosta in relation to the object of these *estuffas*, he informed us that they were after the custom of Montezuma, and for that reason they were not allowed to give them up. He also called them the churches of Montezuma. In the spring, he says, they go there to chant to him to send them rain; and in the fall they sing to him to obtain any good thing they may want. He further remarked—(and I give what follows to show the superstition of these people, for he narrated it as if he thought it might be true)—he further remarked, there was a tradition among his people, that Montezuma, whenever in his travels he stopped for the night, would make a house in one hour; and that he would plant corn one night, and the next morning it would be fit to be plucked. He went on further to inform us that they worshiped the sun, moon, and fire. The moon he called the captain of the night. The sun, however, when he rises, he remarked, puts away all the children of the night, and therefore he is the great captain.

To the question of the object of the paintings upon the walls of the *estuffa*, he said they were *por bonito*, (for ornament.) The circles represent the sun and moon; the semicircles, clouds; and the barbed, zigzag line, the forked, destructive lightning. The emblem of good lightning he represented in pencil upon my note-book as terminating more bluntly, thus:



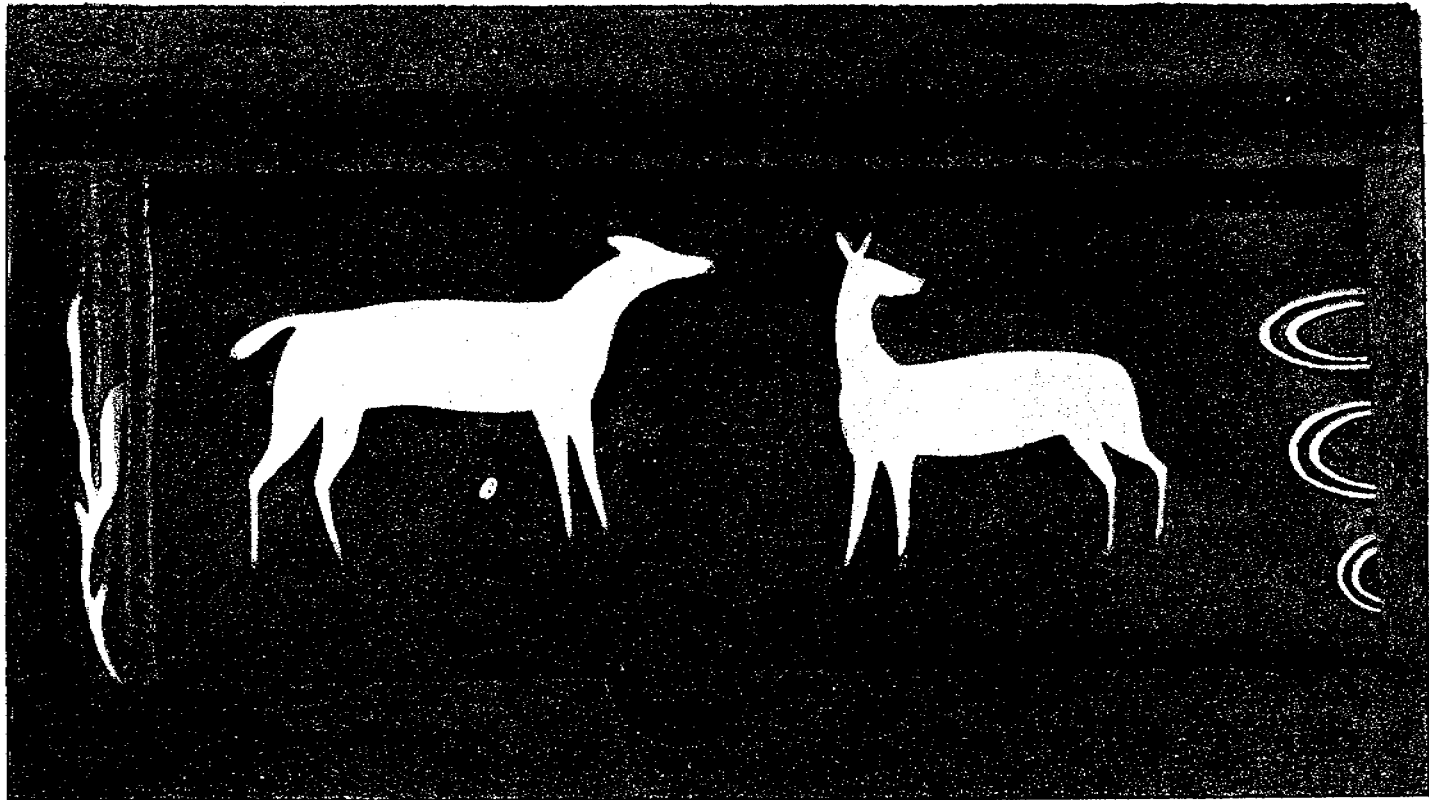


Drawn by R. H. Kern from a sketch by E. M. Kern

P. S. Davala, U. S. Geol. Surv. Photo.

RUINS OF A ROMAN CATHOLIC CHURCH

near the Ojo Caliente twelve miles above Jémez.



R.H. Kern del.

P.S. Duval's Steam Lith. Press.

COPIES OF PAINTINGS UPON THE WALLS OF AN ESTUFA AT JÉMEZ.

No. 1. Aug. 20.

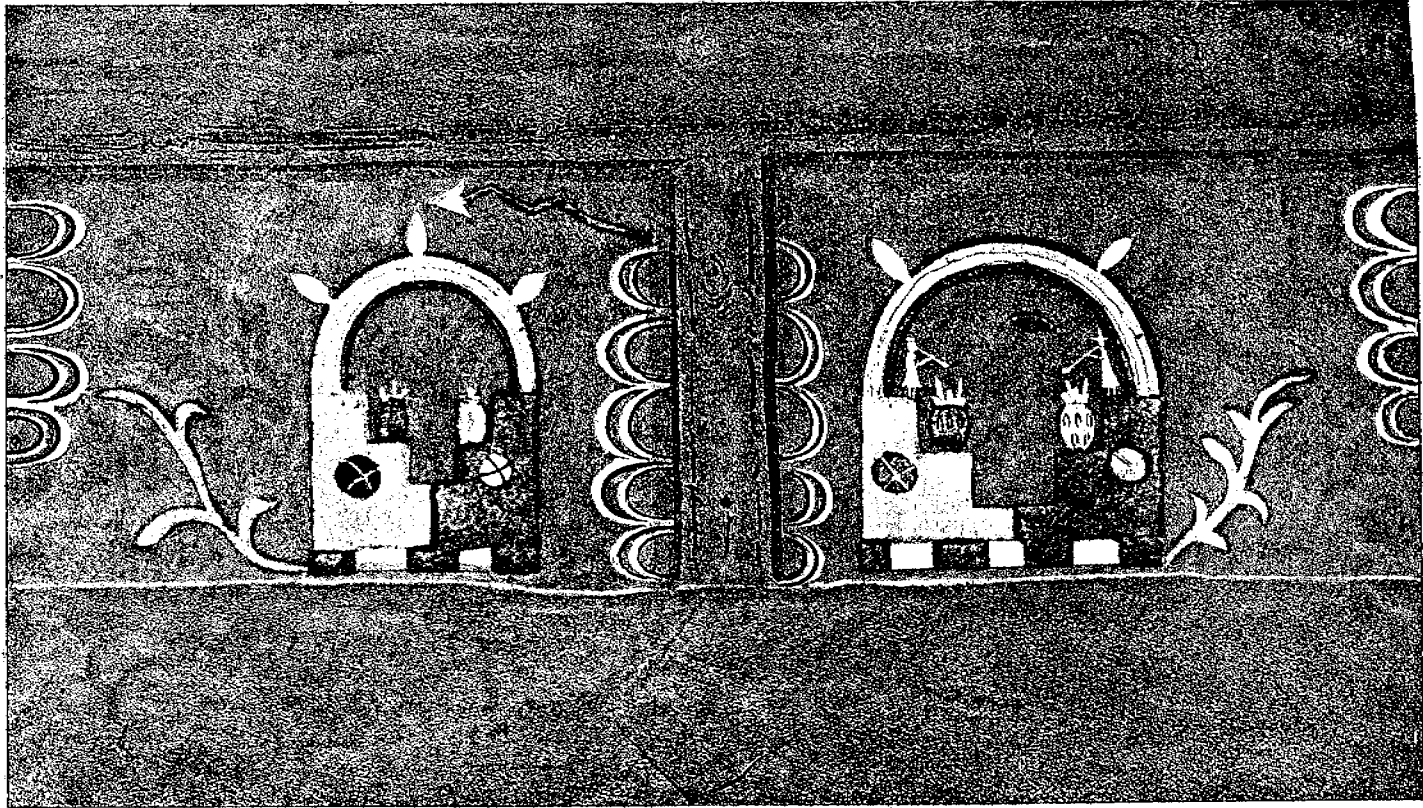


R. H. Kern del.

B. S. Duval's Steam Lith. Press Philad.

COPIES OF PAINTINGS UPON THE WALLS OF AN ESTUFA AT JEMEZ.

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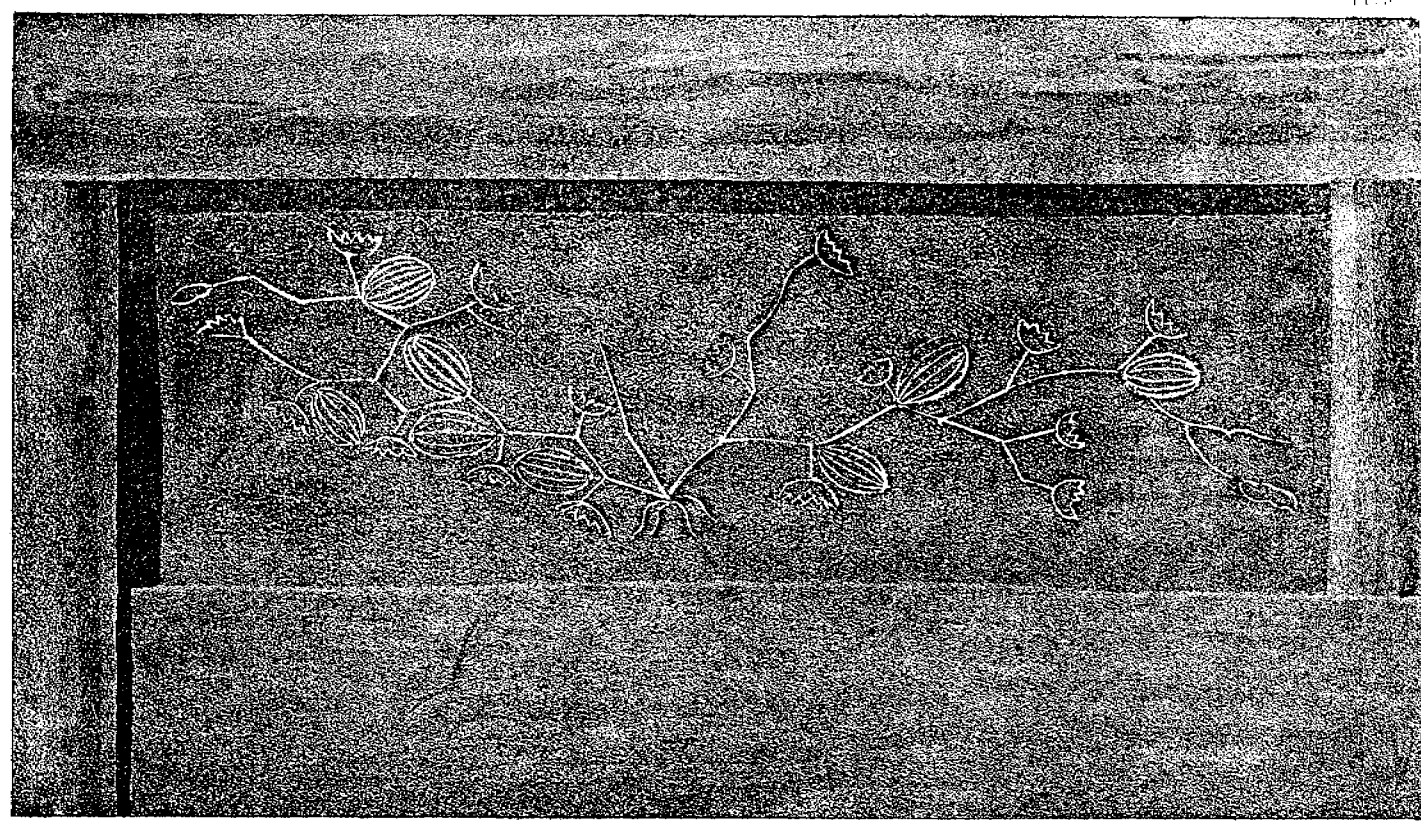


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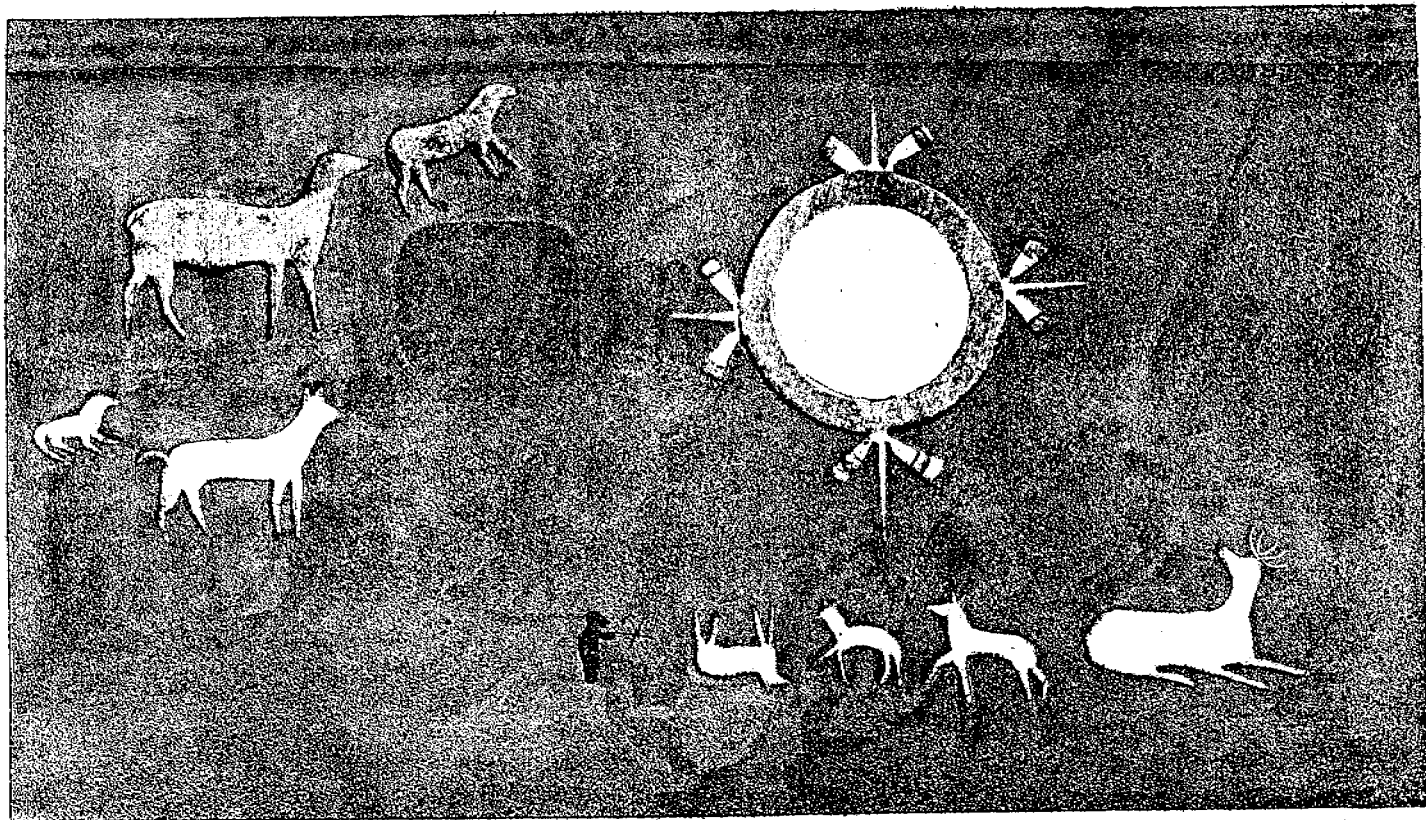


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COPIES OF PAINTINGS UPON THE WALLS OF AN ESTUFA AT JEMEZ.

N^o 4. Aug. 20.



R.H. Kern del.

P.S. Dore's Susan Bl. Press Photo.

COPIES OF PAINTINGS UPON THE WALLS OF AN ESTUFA OF JEMEZ.

N^o 3. Aug. 20.

The two human figures with trumpets to their mouths, which may be seen illustrated in Plate 9, here presents as the adjutants of Montezuma, who are sounding a call to him for rain.

Before the conquest, he says, according to tradition, the Jémez Indians were fighting with all the other tribes—those of San Felipe, Santa Anna, and Santo Domingo. At length a Spanish priest appeared among them very mysteriously. This priest, whenever he celebrated mass, made it a condition of his acceptance of them that they should every previous Saturday bring him wood. And it was his habit, whenever he wanted anything, such as skins or blankets, to take them. The people at length, getting enraged at such treatment, determined to kill him. He, hearing of it, however, disappeared as mysteriously as he had come. They then looked for his tracks; but, the snow having covered them up, they concluded he must have gone down the *Ojo Caliente!* (one of the hot springs I have already described.)

He further told us that, when living upon the *mésa* between the cañons of Guadalupe and San Diego, there came another *padre* (priest) among them, whom, whilst on his way to receive the confessions of a sick man, they killed. That, upon another occasion, whilst engaged in their dances, they were told that the Spaniards were below; but they did not believe it, and continued dancing. The consequence was that, one night, after a dance, and when they had retired for the night, the Spaniards came upon them with all their force, and they, having nothing but their arrows and knives to defend themselves with, closed in with one another, and began to throw each other over the precipice of the *mésa*. Just at this time, there appeared in the direction of the Cañon de Guadalupe *Nuestra Señora de Guadalupe*, (our Lady of Guadalupe,) and in the direction of the Cañon de San Diego the saint of that name! The Indians, noticing this, fled—some to Sandia, some to Isleta, and some settled here at Jémez. All, however, have since come to live at the last-mentioned place.

The *Pecos* Indians, he went on further to inform us, were the only people that speak the same language they do; that, during one of the revolutions of the country, when he was quite a youth, this tribe, being very much harassed by the Spaniards, (Mexicans,) asked permission of the people of Jémez to come and live among them. They not only granted them permission to do this, but sent out persons to help them get in their crops, and bring

them and their property to their new abode. When they arrived, they gave them houses and fields. The old man and his daughter, who at the time were tending the sacred fire at Pecos, the enemy, he says, seized and beat—the daughter at length being carried away captive, and the old man escaping by the way of Galisteo to Jémez. This was the reason of the fire of Montezuma ceasing. He went on to state that the Pecos and Jémez Indians, though they speak the same language, differ somewhat in their religious customs. In relation, however, to Montezuma, the different Pueblo Indians, although speaking different languages, have the same belief. Yesterday, in getting some information from a Jémez Indian, I asked him whether they now looked upon God and the sun as the same being. He said they did. The question was then put, whether they still worshiped the sun, as God, with contrition of heart. His reply was, "Why not? He governs the world!" From this Indian I also learned that they worship the sun with most pleasure in the morning, and that they have priests to administer their own religion, which they like better than the Roman Catholic, which, he says, has been forced upon them, and which they do not understand. He said they were all the children of Montezuma, and a tradition had been current among them that they were to be delivered by a people who would come from the east; that, in consequence of the good treatment they were receiving from the Americans, they were beginning to believe that that people had come; that General Kearny had told them they would believe this more and more, because they would continue to be treated well by the Americans, and they were finding it so.

From Hosta I learn that there are now living among his people only fifteen Pecos Indians, seven being male adults, seven female, and one a little girl. One Pecos male adult, he says, is living at Cuesta, one at Santo Domingo, and one in the Cañon of Pecos. These eighteen, he states, are all that are now living of his people.

For a portrait of Hosta, in his war costume, as also of his wife, in her best attire, with some of her accessories characteristic of their mode of life, I would refer the reader to Plates 4 and 5. Hosta is one of the finest-looking and most intelligent Pueblo Indians I have seen, and, on account of his vivacity and off-hand graciousness, is quite a favorite among us. A profile

sketch of *Wash-u-hos-te*, a Pecos Indian, will also be seen in Plate 12.

Fourth camp, August 22.—The arrangement for transportation by pack mules being complete, and the Pueblo levies, 55 in number, having joined us, the command having also been increased by Capt. Dodge's company of Mexican volunteer infantry,* the whole force took up its line of march to-day for the *Cañon of Chelly*.† At the same time, Brevet Lieutenant-Colonel Alexander, on account of indisposition, and Assistant Quartermaster Brent, and Assistant-Surgeon Edwards, on account of the theatre of their duties being at that post, returned to Santa Fé. Our route lay directly down the valley of the Rio de Jémez, the stream of which we crossed just above San Ysidro, a small Mexican settlement about three miles below Jémez. Three miles more brought us to our present camping ground, where we find good water, tolerable pasturage, and wood in the vicinity. The valley, as far as San Ysidro, is hemmed in by secondary mountains, and within this extent is but slightly cultivated.

At San Ysidro I called to see Señor Francisco Sandoval, the proprietor of the copper furnace we saw two days since up the *Cañon de San Diego*. He informs me that the mine near this furnace was worked until about three years since; that one man could get from it ten arrobas‡ of rich ore per day, and that gold was found in association with it. He further stated that he had now *cached* (buried) near the furnace twenty-three *arrobas* of pure copper.

Several times to-day, on the march, a beautiful humming-bird, the first I have seen since I left the States, has been hovering about me. The last time it paid me a visit, I was seated under a tent, where it lit for a moment within a foot or two of my person, and then disappeared not to be seen again.

The length of the march to-day has been only 5.78 miles—it having been deemed prudent, on the first day's trial with the packs, to go but a short distance.

Fifth camp, August 23.—The troops decamped at 8 o'clock

* Lieutenant Lorenzo Tores, a subaltern of the company, accompanied the expedition.

† The orthography of this word I get from Señor Donaciano Vigil, secretary of the province, who informs me that it is of Indian origin. Its pronunciation is *chay-e*.

‡ An arroba is a weight of twenty-five pounds.

Report on the Ruins of New Mexico by Oscar Loew (*Annual Report of the Chief of Engineers to the Secretary of War*, vol. 2, part 2, see especially pp. 342-345. U.S. Government Printing Office, Washington, D.C., 1875)

Oscar Loew visited the Jemez area with the U.S. Army Corps of Engineers in 1875. He visited several ruins in the area with Francisco Hosta, including Patokwa, Astialakwa, and Giusewa. He recounts the legend of the appearance of the spirit Guadalupe, who protected the Jemez who threw themselves off the cliffs during the Battle of Astialakwa. Loew also mentions that he was told of 25 or 30 pueblo ruins, and five large church ruins nearby.

REPORT ON THE RUINS IN NEW MEXICO.*

BY DR. OSCAR LOEW.

AMONG the few regions that were found, on the discovery of this continent, inhabited by people far advanced towards civilization, New Mexico, no doubt, occupies a leading place. The first notices of these people were published by Cabeza de Vaca (1536), who, during his adventurous and most remarkable wanderings from Florida to the Gulf of California, traversed New Mexico from east to west. All the Spanish records, though sometimes very untrustworthy, agree in one point—the large number of inhabited towns. If the statements of the Spanish writers are founded on truth, the number of these towns was ten times that of the present pueblos, or Indian towns, while, by a close examination, we arrive at a number only about four times as great. Some Spanish writers estimated the whole pueblo population at about 50,000; others, however, that of a single province at 25,000. As a proof of Spanish exaggeration, however, I may mention Castaneda's description of Acoma, a town which, according to his estimate, was inhabited by 5,000 persons, and was built in three parallel rows of houses. Now, I have visited this town and found the three rows of houses still existing; they extend from one side of a steep precipice to the other, occupying the entire width of the precipitous bluffs about 300 feet above the plain. But these rows of houses, which could never have been any longer, could not have held more than about 1,000 people. At present the population of the town is 800. Still it is an undeniable fact that New

* Abstract from the Annual Report of the Chief of Engineers for 1875, Appendix III.

Mexico had a much greater Indian population formerly than now—a fact clear to any one on viewing the numerous ruins. If asked how this reduction was brought about, we can give but three reasons, viz: First, the change of climate that prompted emigration from certain parts of the country; second, the wars with the Spaniards, whereby wholesale slaughter was often ordered by the Spanish generals; and, third, a gradual mixture of Spanish and Indian blood, whereby the Indians lost their customs and language; Abiquiu, for instance, is such a town, where the characteristic Indian type still prevails, although they call themselves Mexicans. Such Mexicanized towns often received the name of a saint. The names of other pueblos, in which the inhabitants were not a mixed people, were, in a number of cases, also abolished, and those of saints substituted through the pious zeal of Spanish priests.

Looking over the names of towns mentioned in the Spanish reports, we found ourselves in many cases unable to locate them, not even ruins were found where, from the description, we would suppose they existed. Not only was this the case with the towns, but we often encountered the same difficulty with the provinces, as the name of each town in a province seems to have been used to designate the latter; often the province is named after valleys or after mountains. The truth is, the pueblos had no provinces, each town having its own government; the *mair*e being elected every year. But if we would distinguish provinces, the language alone should be used as a criterion.

Marata, Acus, Totonteal, Acha, Tabasas, Sumas, Jumanes, Conchos, Pasaguates, Jerez, Piros, are names of provinces, the positions of which are difficult to determine; most of them were in Southern New Mexico. At present there is no pueblo existing there, except, perhaps, Isleta, below El Paso, which now belongs to Texas. But ruins are found here and there on the Rio Grande, Rio Gila, Rio Francisco, Rio Blanco, Rio Bonito, &c.

Hubates and *Tanos*, comprise the region of the Placer and Zandia Mountains and a portion of the Rio Grande Valley below Albuquerque. Ruins are quite numerous in these regions; for instance, those of Shi-na-na, San Lazaro, Guika, San Marcos, San José, Los Tanques, Guia, and of some buildings in the cañon of the Rio de Santa Fé near Cieneguilla.

Cicuye, *Querez*, *Cunames*, seem to signify one and the same region between the Rio Jemez and Rio Grande. At present five pueblos still exist here, but ruins of extinct towns are also seen near Silla and San Felipe. Diego de Vargas also applies the name *Querez* to Acoma.

Taos and *Picuris*. These two provinces are represented by two pueblos at the present day.

Tutahaco. Castaneda mentions (1542) eight cities of this province, the position of which is southeast of Mount Taylor. At present there still exist five pueblos, also several towns in ruins on the Rio San José, west of Laguna. The Mexican town Cebolleta was probably formerly an Indian pueblo. Mr. G. Marmon, school teacher at Laguna, informed me that ruins of a fortified place exist on the foot-hills of Mount Taylor near the pueblo of Pojuate, or Povate. The name *Tutahaco*, used by the Spaniards for this province, is not known there by the Indians, nor are the names *Tiguex*, *Cunames*, and *Cicuye*. They call themselves Tse-mo-é or Si-tsi-mé; the pueblo of Laguna, however, uses the name Kanayko to signify the inhabitants of their town (Ko-stété), while the pueblo of Acoma is called A-ko. I may mention here that there are two parties in this town (Laguna) the Ka-paits, who cling to their old rites and ceremonies, and the Kayo-masho, who have progressive, liberal, Protestant ideas. They are antagonistic to each other, and would once have come together in battle had not Mr. Marmon interfered at the right moment. The four other pueblos all belong to the Ka-paits.

Tiguex was a province in the valley of the Rio Puerco, northeast of the former, and was twice used by Coronado's army (1540-1542) as winter-quarters. At present, no pueblo exists in this region; ruins only—Pobla-zon, for instance—are seen here and there. Castaneda reports twelve cities in this province, and that it was rich and fertile, and full of fine grass. At present the valley of the Rio Puerco looks poor and barren.

Tehua, or *Tegua*, is a province which, if the Spanish reports are correct, must have been situated in the Rio Grande Valley, about eighty miles south of the present seat of this tribe. A Tehua town, *Puara*, is often mentioned, but of which nothing is known at the present day; some old ruins near San Felipe might be related to it. There are still seven villages belonging to

this tribe—six in the Rio Grande Valley and its vicinity, and one upon the Moqui mesas in Arizona. How this emigration was brought about was explained to me by Hosta, the former gobernador (*maire*) of Jemez. These Tehuas had inhabited San Cristobal, in the vicinity of the Placer Mountains, but were driven off by Mexicans some hundred years ago, whereupon they, the Tehuas, were invited by the Moquis to live with them. Three miles above the Tehua town Tesuque is a town buried 3 feet below the present surface of the river bank. This stream, usually but a small rill, was once, several years ago, increased to a tremendous torrent by a cloud-burst, whereby much of the former river bank was carried off, and exposed a number of buried houses in the vertical wall of about 20 feet in height. The houses were of two stories, built of adobe, with walls double the thickness used nowadays. The fire-places were easily recognized. All the wood found was charred, and it would appear as though the houses were burned before they were gradually covered with sand. It may be that a neighboring hill had fallen in and thus covered the houses. In the vicinity, about two miles northeast, I discovered a mass of charcoal 6 feet below the ground, in a narrow gorge.

Quivira.—This province occupies the territory adjacent to the Manzana Mountains. Here we find the ruins of *Abo*, *Quivira* and *Quarro*; also several Mexican towns, which, according to Spanish writers, were probably once pueblos (*Manzana*, *Chilili*, *Toreon*). At Quivira, also, are seen the ruins of a Jesuit mission and of habitations of Spanish miners. When Coronado visited this province, it was, as he described it, very fertile; at present it resembles a desert.

Cibola.—This province embraces the Zuñi towns, of which seven once existed; at present there are four in ruins.

Tusayan embraces the six Moqui towns in Eastern Arizona. No ruins of towns are seen here.*

Aztlan.—This province embraces a portion of Northwestern New Mexico, the valley of the Rio San Juan and its tributaries. No pueblos exist there at the present day, but ruins of former fortified towns are quite numerous. The discoverer of the ruins in the Cañon de Chaco is Lieuten-

* Mr. Thompson states that there is a ruin on a mesa near the Moqui towns. See p. 324.—F. W. P.

ant Simpson, who made a reconnaissance in 1849, while we are indebted to Lieutenants Whipple and Rogers Birnie, both of the survey west of the 100th meridian, for the discovery of a number of interesting ruins on the Rio Mancos, Rio de las Animas, Rio San Juan, Cañon Largo, and Cañon del Gobernador. Some of the fortified structures had as many as five hundred rooms. Over the surrounding plain, solitary round buildings were profusely scattered. Lieutenant Whipple describes one of these ruins as being fifteen miles distant from any water; the climate, then, appears to have changed and become drier. Among the pueblos of New Mexico there exists a tradition in regard to these ruins Hosta,* a very kind, intelligent old Indian, denies that these ruins were the result of Spanish wars, remarking that, the rain falling less and less, these people emigrated to the southward long before the Spaniards arrived in the country, being led by Montezuma, a powerful man, who was born in Pecos, and had settled with the Pueblos on the Rio San Juan. Montezuma was to return and lead the rest of the Pueblos also to the south, but he failed to come back.

During the expedition of 1874 I had occasion to visit the ruins of Pueblo Bonito,† at the head of Cañon de Chaco. The ruins consist of one large building with a yard surrounded by a wall, which forms a square, the sides of which are nearly 200 feet long; the doors of the building open on this yard. The walls are $1\frac{1}{2}$ to 2 feet thick, and are built of plates of sandstone, like those found in the immediate vicinity. The south and west sides of the square are formed by a three-story building, which descends in terraces toward the interior of the square. The lowest story is 7 feet high, the middle one 9, and the uppermost 6. The exterior row has ten rooms in length; these rooms are 20 feet long by 6 feet wide. Into some of the apartments no ray of light could enter, and they were probably rooms for

* Hosta informed Lieutenant Simpson, in 1849, that the Pueblo Pintado "was built by Montezuma and his people when they were on their way from the north towards the south; that, after living here and in the vicinity for a while, they dispersed, some of them going east and settling on the Rio Grande and others south into Old Mexico."—Simpson, p. 77 (Senate document). This tradition seems to me simply of value in expressing the belief held by some of the pueblo tribes, that the many ruined towns were once the homes of the ancestors of the present pueblo tribes.—F. W. P.

† This description does not agree at all with the Pueblo Bonito of Lieutenant Simpson, and it is very likely that Dr. Loew has followed Mr. Gregg in retaining the name of Bonito for the large ruin at the head of the cañon, described by Lieutenant Simpson under the name of Pueblo Pintado, and by the latter name it is generally known. In this connection see the notice of the Pueblo Pintado by Lieutenant Morrison, on page 366.—F. W. P.

provisions. The interior, or front, rooms of the first story were 20 feet long by 9 wide. We made out altogether one hundred habitable rooms in the building, forming two sides of the square. If we take it as probable that every room was inhabited by a family of four persons, the former population would have been 400. The rooms were all connected by openings in the walls, 3 feet by 2; the window-openings were about 2 feet square. The wood used for the construction of the doors and windows was juniper, which grows profusely on the sandy mesas, requiring but little moisture; it is in a good state of preservation. As no steps were found leading to the upper story, the ascent was probably made by ladders, as is still the custom among the Pueblos of New Mexico. In the southern corner of the yard are the walls of two cylindrical buildings, 20 and 30 feet in diameter, having six pillars on the periphery, equidistant, most likely remnants of the *estufas*. The bottoms of these buildings were about 3 feet lower than the surrounding yard. Pieces of painted pottery, an article seen in many localities in New Mexico, were found scattered about profusely. Similar fragments were also found by the survey parties on the heights of the Sierra Blanca in Arizona, on the Mogollon mesa, in the San Francisco Mountains, on Mount Taylor, in the Cañon de Chelle, and, in short, everywhere, in deserts as well as on the forest-covered peaks.

I searched the surrounding ground for the former burial-place, but in vain. No trace of former irrigating-ditches can be found in the neighboring valley of the Chaco, but there are traces of a former road to Abiquiu, sixty miles off, where ruins have also been found, two in the immediate vicinity and three between Abiquiu and El Rito. Dr. Yarrow made excavations in these ruins, and in the old burying-ground about four miles below Abiquiu, on the Chama.

The province of Jemez.—One of the most interesting pueblos is Jemez, on the river of that name, sixty miles southwest of Santa Fé. This town has a language of its own, and one which is unintelligible to any other tribe. About forty years ago the then existing pueblo of Pecos, on the Rio Pecos, used the same dialect, but the inhabitants, becoming reduced in numbers, joined the pueblo of Jemez, which is one of the most prosperous in New Mexico, having fine fields, large irrigating-ditches, and extensive

flocks of sheep. "If you wish to see," said the kind old Hosta, ex-governador of the town, "what a great people we once were (*que gran pueblo los Jemez eran*), you must go upon the mesas and into the cañons of the vicinity, where ruins of our forefathers are numerous. Our people were a warlike race, and had many fights not only with the Spaniards but also with other Indian tribes, the Navajos and Taos for instance, and were thus reduced to this pueblo of Jemez, which now forms the last remnant." Hosta's son led me to some ruins in the vicinity. A ride of six miles up the river brought us to the junction of the two great cañons, Guadalupe and San Diego. Where the mesa between these cañons narrows itself to a point are the ruins of two pueblos, one upon the lower prominence of the mesa, named *Batokvá*, the other upon the mesa proper, called *Ateyala-keokvá*, and only approachable by two narrow, steep trails, the mesa everywhere else being nearly perpendicular and 750 feet high. The view from the mesa is picturesque and imposing in the extreme; far beneath, to the right and left, a stream makes its way between the colossal walls of sandstone, which are penetrated by trachytic dikes; upon the narrow width of the mesa, near frightful precipices, are the ruins of a town of eighty houses, partly in parallel rows, partly in squares and partly perched between the overhanging rocks, the rim and surfaces of which formed the walls of rooms, the gaps and interstices being filled in artificially. Nearly every house had one story and two rooms; the building material was trachytic rock, as found upon the mesa. Broken pottery, charred corn, and millstones for grinding corn, were found in some of the rooms. The roofs had all fallen in, and so also had many of the sidewalls, in the construction of which wood was but little used. Piñon-trees have taken root within many of the former rooms. Upon asking my Indian guide whether the former inhabitants of this town were obliged to descend the steep and dangerous pathway every day to the creek to procure water, he replied that there were cisterns on the mesa, in which rain, formerly plentiful, was caught. He then called my attention to some conical heaps of stone along the rim of the precipice, which was the material for defense. Although the position upon this mesa appears impregnable, the Spaniards succeeded in taking it, probably forcing the inhabitants to surrender by cutting off water and

provisions. "When the Spaniards came up," said this Indian, "the despair of the people was great; many threw themselves headlong into the frightful depths below, preferring suicide to humiliating death at the hands of their conquerors. Suddenly the Spirit Guadalupe, who is the custodian of the cañon, made his appearance, and from this moment the people could jump down without any danger, and since this remarkable episode the image of Guadalupe has been upon the rocks." On descending, I viewed this image, which is a white figure, about ten feet in length, painted high up on the vertical bluffs, apparently a difficult task for the unknown artist. The only place from which the spot could be reached is a narrow prominence 30 to 40 feet below the picture. As there is a sort of halo around the head, such as we are accustomed to see in pictures of saints, I believe this image to be the work of a Spanish priest who desired to impose upon the people, for which purpose he might have secretly made this picture, which to them is a miracle. Again, in the valley, the Indian called my attention to a number of peach trees along the river-margin, which he said were planted by the former inhabitants of Atéyala-keokvá, but, from the fact that these trees still bear fruit, it would seem that the impositions on the credulity of these people by the Spanish priests are not of a very remote period.

The reports of the Spaniards frequently mention Jemez. Castañada, who accompanied Coronado on his marches through New Mexico, as early as 1541-'43, speaks of two great provinces in that vicinity, *Jemez*, and north of it *Juke-yunke*. He also speaks of strongly-fortified places difficult of access, and of a town, *Braba*, that was called by the Spaniards *Valladolid* on account of the resemblance of its situation with that of this Spanish town. I think that from this word is derived the name *Vallatoa*, used at the present day by the inhabitants of Jemez to signify their town. In the years 1692 and 1693 two war expeditions took place, under General Diego de Vargas, against the Jemez, who had destroyed the churches, murdered the priests, and declared themselves free from the Spanish yoke. In the Spanish account of these occurrences, it is mentioned that the Indians fled to a high mesa and there bombarded the Spaniards with a shower of stones. Trustworthy Mexicans told me that there are ruins of twenty-five or thirty towns upon the neighboring mesas and in the cañons, and

those of five large churches. In the vicinity of the Hot Springs (*Ojos Calientes*), twelve miles above Jemez, in the Cañon de San Diego, are the ruins of one of them. The walls are fully 7 feet thick, and the interior space 100 feet long by 35 feet wide, with a tower attached on the north side. The destruction of this church probably took place in 1680, at the time of the great Pueblo revolution against the Spanish priests and soldiers.

It may be added, with regard to the Pueblo people of the present day, who hardly number more than 8,000 souls, that, taking difference of language as a base, there are eight tribes, which occupy the following towns:

Zuñi.—Zuñi, Nutrias, Ojo de Pescado.

Moqui.—Hualvi, Tsitsumevi, Mushangenevi, Shongobavi, Shebaulavi, Orayvi.

Tanos.—Isleta, below Albuquerque; Isleta, below El Paso; Zandia.

Taos.—Taos (Indian name, Takhe), Picoris.

Querez.—Santa Ana (Indian name, Tomia), San Felipe, San Domingo, Silla (Indian name, Tsia), Cochiti.

Kan-ayko or *Sis-stsi-mé*.—Acoma (Indian name, Ako), Laguna (Indian name, Kanayko), Povate (Indian name, Kvishti), Moguino, Hasatch.

Tehua.—Nambé, Tesuque, Ildefonso, Pajoaque, San Juan, Santa Clara, Tehua (with the Moqui Pueblos in Arizona).

Jemez.—Jemos (Pecos, extinct).

The language of the Kanayko tribe resembles closely that of the Querez tribe; and, on the other hand, the languages of the Tanos and Taos tribes are closely allied to each other. With these two exceptions the languages of these tribes differ so much that, in order to understand each other, those speaking them have recourse to the Spanish language.

The Country of the Jemez by Adolph Bandelier (*Final Report of Investigations among the Indians of the Southwestern United States, Carried on Mainly in the Years from 1880 to 1885*, 2 vols., pp. 200-217. Papers of the Archaeological Institute of America, American Series 3 and 4, 1890-1892).

Bandelier's chapter is the first published account of Jemez ethnohistory, documentary history, and archaeology. As the first, some extra credence must be lent to his assertions. Subsequent investigations could never be sure if what they were told was from Bandelier or from true oral traditions. As more and more accounts of Jemez ethnohistory have appeared, issues such as the Towa names for the various pueblo ruins in the area have become completely muddled. Bandelier was definitely told that LA 481 was Amoxiumqua, despite what others have implied.

V.

THE COUNTRY OF THE JEMEZ.

THE Valles Mountains separate the northern section of the Queres district from that claimed by the Jemez tribe. Against the chain of gently sloping summits which forms the main range from the peak of Abiquiu to the Sierra de la Palisada in the south abuts in the west an elevated plateau, containing a series of grassy basins to which the name of "Los Valles" (the valleys) has been applied. Permanent streams water it, and contribute to make an excellent grazing region of this plateau. But the seasons are short, for snow fills the passes sometimes till June, and may be expected again as early as September. During the three months of summer that the Valles enjoy, however, their appearance is very lovely. Heavy dews fall daily, and rains are common. The high summits are seldom completely shrouded for more than a few hours at a time, and as soon as the sun breaks through the mist, the grassy basins shine like sheets of malachite. Flocks of sheep dot their surface, and on the heights around the deep blue tops of the regal pines mingle with the white trunks and light verdure of the tall mountain aspens. It is also the country of the bear and the panther, and the brooks teem with mountain trout.

But for agriculture the Valles offer little inducement; for although the soil is fertile, ingress and egress are so difficult that even potatoes, which grow there with remarkable facility, cannot be cultivated profitably. The descent to the east

towards Santa Clara is through a long and rugged gorge, over a trail which beasts of burden must tread with caution, while towards Cochiti the paths are still more difficult. On the west a huge mountain mass, the Sierra de la Jara, interposes itself between the principal valley, that of Toledo, and the Jemez country. Both north and south of this mountain the heights are much less considerable; still the clefts by which they are traversed are none the less narrow, and the traveller is compelled to make long détours in order to reach the Jemez River.

The country inhabited by the Jemez tribe lies west of the Valles, and its upper portions might be described as similar to the region about the Rito de los Frijoles and south of it, were it not that its principal cañons run from north to south, or parallel to the mountain chains, instead of transversely, as in the Queres district. The deep clefts through which the Rio de San Diego, and west of it the Rio de Nuestra Señora de Guadalupe, converge to form the Jemez, are gorges exceeding in depth any of those on the eastern flank of the Valles chain; there is barely room for the trail beside the roaring torrent. Dense forests and shrubbery fill the bottom and line the streams. On both sides the variously colored walls rise to appalling heights; sometimes in crags, pinnacles, and towers, but mostly in huge steps, the highest of which terminate with the long sharp edge characteristic of the flat-topped mesa formation.

While the mountainous parts of the Queres range are dry, the Valles constitute a water supply for the Jemez country. Two streams rise in it, the San Antonio on the eastern flank of the Jara mountain, and the Jara at the foot of the divide, over which crosses the trail from Santa Clara. These unite soon to form the San Antonio "river," which meanders through the Valles de Santa Rosa and San

Antonio for seven miles in a northwesterly direction, and enters a picturesque gorge bearing the same name, and then gradually curves around through groves until, at La Cueva, it assumes an almost due southerly direction. One or two more brooks increase its volume on the way, descending directly from the mesa pedestal of the Jara Mountain, and its name is changed from San Antonio to the Rio de San Diego.¹

I have not seen the head-waters of the Guadalupe Creek, which rises in what is called the Nacimiento district, farther west. Its volume, however, is inferior to that of the San Diego, which may be considered as the main artery of the Jemez country.

The water is clear, limpid, and cool. This is the more remarkable, since all along the eastern rim of the Valles, in the gorges traversing it, on the banks of the San Diego, and even in the very bed of that river, thermal springs rise in great numbers. The Jemez district is filled with medicinal sources, hot as well as cold. In the gorge of San Antonio rises a spring, the temperature of which is 110° F.² About five miles south of it are mud-baths, on the heights that separate the Valles from the San Diego gorge. In that gorge, ice-cold soda springs issue near the river bed, and a short distance above the bathing establishment a huge cylindrical dam traverses the stream, in which steaming currents and cold

¹ The average elevation of the Valies is 8,000 feet, but they rise as high as 8,500. The springs of San Antonio lie at an altitude of 8,586 feet; the Jara Mountain, called also Cerro Pelado, is 11,260 feet high, and the hot springs of San Diego are a little over 6,000. These figures are taken from the topographical map of the United States Geographical Survey. The fall from San Antonio amounts to at least 2,000 feet in seventeen miles.

² The volume of water is very considerable, issuing from the slope on the south side of the gorge at an elevation of perhaps 200 feet. It is considered as of great value for rheumatic complaints, and although no accommodations are to be had there, it is frequently visited by the people of the country.

streams flow parallel to each other, neither affecting the temperature of the others, although only a few inches of rock separate them. At the baths cold sulphur waters lie close to the hot springs. The value of the Jemez springs is abundantly proved in cases of rheumatism and eczema. The principal springs contain lithia, but are not arsenical, like those at the Ojo Caliente of Joseph. Their temperature rises as high as 168°. Chloride of sodium is the prevalent mineral ingredient.¹

Four miles above the hot springs of Archuleta the character of the San Diego Cañon changes. It widens and the forests disappear. Huge deposits of native sulphur are seen above the river banks. The soil is covered with yucca, cacti, and other plants characteristic of the flora of New Mexico. The change is striking, from the picturesque wooded wilderness through which the stream leaps and rushes, to a bleak channel between walls of enormous height, where it flows quietly, while above tower the gigantic mesas with bare walls of light yellow, ashy gray, and red. It continues to maintain this character for twelve miles farther, narrowing towards the end. Five miles north of the present pueblo of Jemez, or Ual-to-hua, the mesas terminate in a sharp point over five hundred feet in height. Below this point the Guadalupe unites its waters with those of the San Diego, forming the Jemez River. The country opens to the south, becoming sandy and barren-looking, resembling the Rio Grande valley in bleakness. The gigantic mesas recede to the eastward, where they loom up like solemn monuments behind the arid hills that separate Jemez from Peña Blanca on the Rio Grande.

Thus the Jemez country is divided into two sections, — the

¹ In 100 parts of water, chloride of sodium, 0.1622; sulphate of soda, 0.0035; carbonate of lime, 0.0641; carbonate of magnesia, 0.0103; potassa, lithia, silicic acid, sulphate of lime, traces. Analysis by Oscar Loew.

northern a series of plateaux intersected by deep clefts, and the southern constituting the low lands. This geographical division is in part also historical, since the Jemez tribe, when first discovered by the Spaniards, clustered around the hot springs, although at present they dwell in the sandy valley of the Jemez River above Cia.

I have made but two short visits to the Jemez country, and had neither time nor opportunity for examining its ruins, except superficially. The first vestiges which I noticed, when coming from the Valles, were at La Cueva, five miles below San Antonio. I was informed by various persons that pottery had been found at that place; also the remains of small houses of stone. Lower down, the cañon becomes too narrow and rugged for habitation; there is no space for cultivation as far as the cold soda springs. On the mesas right and left there are said to be traces of ruins; but the extensive ones only begin about the springs. In the bottom, about half a mile to the north of the baths, on a gentle slope descending to the river's edge from the east, lie the ruins of the old pueblo of Gin-se-ua, with the stately old church of San Diego de Jemez.

The pueblo was built of broken stone, and formed several hollow quadrangles at least two stories high. It contained about eight hundred inhabitants. The church is a solid edifice, the walls of which are erect to the height of ten or fifteen feet, and in places nearly eight feet thick. It is not as large as the one at Pecos, and behind it, connected with the choir by a passage, rises an octagonal tower, manifestly erected for safety and defence. Nothing is left of the so called "convent" but foundations. The eastern houses of the pueblo nearly touch the western walls of the church, and from this structure the village and a portion of the valley could be overlooked, and the sides of the mesas easily scanned.

Ginseua is an historical pueblo. It first appears under the name of Guimzique in 1626.¹ It seems that it was abandoned in 1622, on account of the persistent hostility of the Navajos, who had succeeded in scattering the Jemez tribe. In 1627 Fray Martin de Arvide obtained permission from his superior, the Custodian Fray Alonzo de Benavides, to attempt to gather the tribe again in its old home. The efforts of the monk were successful, and the Jemez Indians settled in two of their former pueblos, — at Ginseua and at Amoxiumqua. Chapels had probably been built at both these places previous to 1617, and the Jemez tribe reoccupied both sites in place of the numerous pueblos of small extent which it had inhabited previous to 1627.² Amoxiumqua lies on the

¹ Fray Gerónimo de Zárate-Salmeron, *Relaciones de todas las cosas que en el Nuevo México se han visto y sabido*, MS., par. 11: "Hice esta diligencia con los capitanes de la nacion Henex, y llamando al capitan mayor del pueblo de Amoxiumqua, llamado Dn Francisco Guaxiunzi y al capitan mayor del pueblo de Quiunzique, llamado Dn Alonzo Pistazondi y Dn Gabriel Zanou su hermano y otros viejos." Fray Zárate lived as missionary among the Jemez in 1618. Introductory letter: "Habrá 8 años que no sacrifique al Señor entre los Yndios Hemeos adonde compuse la Doctrina Cristiana." It seems that Ginseua and Amoxiumqua were then the principal pueblos of the Jemez tribe.

² Benavides, who came as Custodian to New Mexico in 1822, says in his *Memorial*, p. 29: "Passando este rio á la parte del Occidente á siete leguas se topa con la nacion Hemes, la qual quando entré por Custodio, se auía despararrado por todo el Reino, y estava ya casi despeblada, por hambre y guerra, que la iban acabando, adonde los mas estauan ya bautizados, y con sus Iglesias, con harto trabajo, y cuidado de algunos religiosos, y assi procuré luego reduciria, y congregarla en la misma Provincia, y puse religioso, que con cuidado acudió á ello, y lo auemos congregados en dos pueblos, que es en el de San Joseph, que todavia estava en pié, con una muy suntuosa y curiosa iglesia, y conuento, y en el de San Diego, de la Congregacion, que para este efecto fundamos de nuevo, trayendo allí los Indios que auía de aquella nacion, que andauan descarriados." The words "de la Congregacion" seem to indicate that the first mission at San Diego de Jemez was due to the Capuchins! It results also from this that the old church at San Diego was built *after* 1622, and probably after 1626. Comparing the above statement of Benavides with that of Fray Zárate, it seems probable that Amoxiumqua was San Joseph de los Jemez, and was never completely abandoned until later on. Vetancurt (*Menologio*, p. 76), speaking of Fray

mesa that rises west of the springs. South of it is another ruin, and still another called Ash-tyal-a-qua.¹ The ascent to the mesas is very steep and long.

At the present stage of our historical knowledge it is impossible to establish with any degree of certainty the number and location of the Jemez pueblos that were inhabited in the early days of Spanish colonization. At the time of Coronado it is stated that there were seven villages of Jemez and three at the hot springs.² Oñate, who visited Jemez and its thermal sources on the 3d, 4th, and 5th of August, 1598, says there were eleven villages in all, of which he saw eight.³ In two of

Martin de Arvide says: "Viviendo en el convento de San Lorenzo de los Pecurios oyó decir que en los Hemes se habían ido los Indios á los montes y andaban vagos por aquellas sierras, y llevado del fervor de su espíritu, con licencia del reverendo Padre Fran Alonso de Benavides, Custodio, y facultad del Gobernador Don Felipe Zotilo, subió entre los fugitivos y con la benignidad de Padre los exhortó y los congregó á sus pueblos." San Diego de los Emex is mentioned also in 1643, in the *Carta de Justicia, Autos y Comisson, cometida al Sargento Mayor Franco Gomez* (MS.).

¹ I am still in doubt about the true location of Ashtyalaqua, but I believe it was situated on the mesa. As to San Joseph de los Jemez I incline to the belief, as above stated, that it was Amoxiumqua. For the statement ascribing the first establishment of churches among the Jemez to the years preceding 1617 I refer to Zárate, *Relaciones*, Introductory letter to Benavides, *Memorial* (p. 29), and to the *Cédula Real* of May 20, 1625 (MS.), in which the King says: "El cabildo de Santa Fé del Nuevo México en carta que me escribió en 3 de Octubre del año pasado de 617, refiere lo que sus vecinos han trabajado para el asiento de aquella nueva poblacion, y lo que han gastado en ella, y que han venido en conocimiento de nuestra Santa Fé, mas de catorce mil almas siendo otras tantas las que estan para recibir el Santo Baptismo, y que hay once yglesias fundadas con pocos ministros." It is difficult to locate these eleven churches without including two among the Jemez.

² Castañeda, *Cibola*, p. 137. Francisco de Barrionuevo is the name of the Spanish officer who first visited the Jemez in the fall of 1541. "Cet officier visita deux provinces; l'une se nommait Hemes, et renfermait sept villages." Further on (p. 182), he assigns seven villages to Jemez and three to Aguas Calientes.

³ I do not mention Espejo, who also visited the "Emeas" in 1582, (*Relacion del Viage*, p. 116,) since he made but a short stay there. The dates for Oñate are taken from *Discurso de las Jornadas*, p. 261: "A quatro, bajamos á otros pueblos de los Emmes, que por todos son honce, vimos los ocho, . . . á cinco, ba-

the "Acts of Obedience and Vassalage" of the same year, nine and eight pueblos respectively are mentioned. Nearly all the names are unrecognizable.¹ In my conversations with the Jemez Indians I noted the names of seventeen of their old pueblos, but was unable to ascertain their location, except that they lie in the mountains north, northeast, and northwest of their present village.²

The few fragments of Jemez traditions I was able to gather are confused, and somewhat conflicting. They speak of a lagune lying in the north, to which the soul travels after death in four days, which they call Ua-buna-tota. There, they claim, the Jemez had their origin. But they also say that the people of Amoxiumqua dwelt first at the lagune of San José, seventy-five miles to the northwest of Jemez, and that they removed thence to the pueblo of Añu-quil-i-jui, between the Salado and Jemez. In both of these places there are said to be ruins of former villages. All these bits of tradition indicate a migration from the north. There are also tales about a remarkable man whom the Jemez call Pest-ya So-de, who

jamos al último pueblo de la dicha provincia, y vimos los maravillosos baños calientes que manan en muchas partes y tienen singulares maravillas de naturaleza, en aguas frias y muy calientes; y muchas minas de azufre y de piedra alumbré, que cierto es, mucho de ver." This is the first description, to my knowledge, that was ever given of the San Diego hot springs, and of the mineral springs and other wonders of the Cañon.

¹ *Obediencia, etc. de Santo Domingo*, p. 102: "Yxcaguayo, Quiamera, Fia, Quiusta, Leeca, Poze, Fiapuzi, Triviti, Caatri." *Obediencia de San Juan Baptista*, p. 114: "Yjar, Guayogua, Mecastra, Quiusta, Ceca, Potre, Trea, Guatituti, Catroo." The misspelling is manifest, and has certainly contributed more than anything else to render the names unrecognizable.

² The following are the names of these seventeen pueblos, as given to me by an Indian at the pueblo of Jemez: Ginseua (San Diego), Amoxiumqua on the mesa between the two streams of San Diego and Guadalupe, Asht-yalaqua or Patoqua (stated to me as having been San Joseph, which I doubt), Quia-tzoqua, Ham-a-qua, Tya-juin-den-a, To-ua-qua, Quia-shi-dshi, Pe-cuil-a-gui, Se-to-qua, Añu-quil-i-gui, Osht-yal-a, No-cum-tzil-e-ta, Pem-bul-e-gua, Bul-it-z-e-qua, Uä-hä-tza-e, Zo-lat-ese-djil, and Se-shiu-qua. Añu-quil-i-gui lies north of Jemez; of the others I can only fix the site of the first three.

derived his "medicine" from the sacred lagune of Ua-buna To-ta, and who introduced the various "customs," as the rites of the secret societies are called in the tribe. He was a famous hunter, and may be the equivalent of Pose-ueve and Pusha-iankia.¹

To return to solid historical ground, it is certain that the numerous small villages of the Jemez were, soon after the establishment of Spanish rule, gradually consolidated into two, and finally into one, larger pueblo.² Amoxiumqua was abandoned previous to 1680; but I incline to the belief that a village of which the ruins are visible on the delta formed by the junction of the San Diego and Gaadalupe, was San Juan de los Jemez, and inhabited at that time.³ The Jemez tribe

¹ And of the Push-a-ya of the Querés. I intend to return to this important mythical personage at the close of this Report.

² Vetancurt (*Crónica*, p. 319) says: "De cinco pueblos se hizo uno."

³ I infer the existence of two villages in 1680 from the fact of there being two priests among the Jemez at that time. This is by no means sufficient evidence, still it seems to imply the existence of a "Visita," besides the mission proper of San Diego. San Juan de los Jemez, in the documents relative to the reconquest by Diego de Vargas, appears as an abandoned pueblo, but the fact that a patron saint had been assigned to it shows that it had been occupied during the times anterior to 1680, and that a church or chapel had been erected in it. One of my informants at Jemez assured me that there were ruins on the delta of a pueblo and church, and that these were those of San Joseph. The Indians, however, were positive in locating San Joseph de los Jemez, much higher up on the mesas proper. I have carefully examined all the records of Vargas at Santa Fé, and incline to the belief that San Juan lay on the delta, and not on the heights. In the *Autos de Guerra* of 1696 (MS.) are three letters written to Vargas, giving an account of the bloody action with the Jemez Indians of June 29th, 1696, fought partly in the San Diego Cañon and partly at its mouth, by a Spanish detachment under command of the Captain Miguel de Lara and the Alcalde Mayor Fernando Duran de Chavez, and Indian auxiliaries of Cia. The date of these letters is July 1. The Alcalde Mayor says, *Carta al Gobernador Don Diego de Vargas*, that they attacked the Indians on the mesas, and that they resisted fiercely: "I nos fuimos retirando asta el pueblo de S. Jua, i como nos uian retirar gusgaben ellos qe ibamos guiendo i asi qe salimos á lo escondrado gunto al mesmo pueblo rebolvimos la rienda i les dimos vn apretton." This shows that San Juan was on a site where a cavalry charge was possible. The Captain Miguel de Lara, *Carta*: "Saliendo por la Siera que está de los Jemes á la parte

was always much exposed to incursions of the Navajos, but, as is often the case with Indians, they sometimes sided with their enemies against the Spaniards, to whom they really owed their safety. In the middle of the seventeenth century a conspiracy on the part of the Jemez was detected, in which they had joined the Navajos. It was repressed with just severity, the Governor, Don Fernando de Arguello, causing twenty-nine Indians to be hung, as they had already killed one Spaniard by the name of Diego Martinez Naramjo, and an outbreak on a larger scale was imminent.¹ A few years

del poniente emboscados con determinasion de ver si podiamos cojer en las milpas alguna jente, quisó nuestra fortuna que adonde fuimos á dormir aquella noche topamos los rastros que abian crusado jente en cantida para centro, dejamos el rumbo y los seguimos entendiendo que estarían en el pueblo de San Juan y no estaban si no que crusaron para la mesa, de allí determiné yr á reconoser el peñol donde estaba la xente y luego que llegamos nos resibieron con polbora y balas . . . de allí salí asta el pueblo de San Diego lidiando con ellos sin poder matar un Indio. . . . Salí de allí para San Juan y como dos tiros de arcabus de allí nos salió una emboscada y viendo la imposibilidad me bine por todo el camino paso á paso con la xente y mas abaxo nos salió otra y al llano." Bartolomé de Ojeda, *Carta*: "Fueron á dar á la mesa adonde estaban esos enemigos, luego tratamos de ir saliendo porque crusaban muchísimos rastros al pueblo de San Juan y biniendo que beniamos, nos binieron coqueando y rostros retirandonos á tierra llana dandoles lugar a que salieran." This indicates: 1. That the pueblo of San Juan was below San Diego; 2. That it lay near or in front of the mouth of the cañon. But the following passage in the *Auto* of Miguel de Lara of August 5, 1696, implies the contrary: "En el pueblo de San Juan de los Jemes que está en la mesa de arriba." Still this is obscure, since it may signify a village on the mesa above that of San Juan, and not San Juan proper. In the *Autos de Guerra* of 1694, Vargas, when speaking of the pueblos on the high mesas which he stormed, nowhere applies to them the name of San Juan (fol. 60 to 84). Escalante (*Relacion*, p. 159) remarks that, when Vargas made the desperate assault upon the formidable mesa on July 24, 1694, he ascended with the main body by a trail "que cae al Sudueste, y es la mas inmediata al pueblo antiguo de Gemex." This would indicate that that ancient village lay at the foot of the point, and between the two rivers. On page 173, concerning the uprising of 1696, he states: "Los Gemex de San Diego y San Juan se internaron y aseguraron en la sierra de Gemex." But, after all the testimony quoted, I must leave the final settlement of the location of the pueblo of San Juan to future investigations.

¹ *Ynterrogatorio de Preguntas*, 1681, MS. The Maestro de Campo Juan Dominguez de Mendoza testified: "Y en particular en el tiempo de D. Fernando

later Governor Hernando de Ugarte y la Concha put down another attempt at uprising, in which the Jemez were confederated with the Navajos and some of the Tigua villages.¹ During those occasional efforts against the Spaniards in which the Jemez and the Navajos were allies, the latter frequently made themselves a terrible scourge to the former, thus proving the fickleness of Indian alliances.

It is probable that the two pueblos were still inhabited in 1680, for there were two missionaries among the Jemez when the great rebellion broke out in that year,² besides a few Spaniards as an escort with the priests. One of the missionaries, Fray Juan de Jesus Maria, was probably one of the first victims in that terrible massacre. He was killed at Ginseua or San Diego de Jemez, near the hot springs, and buried by the Indians close to the wall of an estufa in the first square of the pueblo.³ The other missionary, Fray Francisco Muñoz,

de Arguello, que en el pueblo de Xemes ahorcó por traidores confederados con los Apaches veinte y nueve Xemes, depositando cantidad de ellos por el mismo delito, y haber muerto á Diego Martinez Naranjo." The Sargento Mayor Diego Lopez Zambrano states: "Desde el Gobernador D. Fernando de Arguello, que ahorcó, azotó, y despositó mas de quarenta Yndios." Don Fernando de Arguello was Governor of New Mexico between the years 1643 and 1646.

¹ *Interrogatorio, etc.* Testimony of Mendoza: "Y en el tiempo del Señor General Hernando de Ugarte y la Concha, se ahorcaron por traidores nueve de los dichos pueblos, confederados con los Apaches, Yndios Tiguas de la Ysleta, y del pueblo de la Alameda, San Felipe, Cochiti, y Xemes." The copy in my possession has "Tiguas de la Ysleta," but it should be "Tiguas." This affair of the time of Governor Ugarte took place in 1650, and the conspiracy, according to the statements of the Indians themselves, was intended to embrace all the pueblos, although not all entered into the plot. *Interrogatorios de varios Indios*, 1681, fol. 135.

² The priests were Fray Juan de Jesús and Fray Francisco Muñoz.

³ Vetancurt (*Crónica*, p. 319) describes the murder of this missionary as follows: "Aquí, con sentimiento de muchos del pueblo que defendían á su ministro, que veneraban por padre y lo procuraron defender, sacaron á la plaza al reverendo Padre Fray Juan de Jesús. . . Hincado de rodillas, con actos de amor de Dios, esperaba su santa voluntad con un Cristo en la mano, en interin que altercaban en su defensa; cuando uno de los que le asistían, con una espada le pasó los pechos." Also *Menologio*, p. 275. Fray Francisco de Ayeta, *Nombres, Pa-*

with the Alcalde Mayor, Luis Granillo, and three soldiers, succeeded in escaping in the direction of Cia, hotly pursued by the Indians. But the Lieutenant-General, Alonzo Garcia, with a few mounted men, rescued them at midnight.¹

trias, y Provincias, de donde son Hijos los veinte y un Religiosos que han muerto los Indios Apostatas del Nuevo Mexico, MS., in his letter to the Viceroy, dated Sept. 11, 1680. The remains of Fray Juan de Jesús were exhumed by Diego de Vargas on the 8th of August, 1694. They were found in the first square of the pueblo close to an estufa, and showed that the body had been pierced by an arrow. The shaft of the arrow was found with the skeleton. *Certificación de los Huesos del Venerable Pe Fray Juan de Jesús*, August 11, 1694, MS.: "Entrando en la primera plaza donde se hallaba la estufa, que señalan á un lado de ella los dichos Indio é India, se halla enterado dicho cuerpo, . . . se halló al levantarlo por las espaldas y parte del espinazo, tener una punta de jara del tamaño de poco mas de un jeme, cuyo palo estaba al parecer en su mero color del que usan y traen los Indios para herir y matar, de dicho genero de flechas."

¹ I have already alluded to this in the previous chapter. The Alcalde Mayor Granillo says of it (*Diario de la Retirada*, fol. 50): "Asistiendo en el pueblo de Indios Xemes tuvo noticia y aviso cierto de un Indio llamado Lorenzo Muza que había entrado un embajador de los enemigos de nacion Xemes, el qual entró en dicho pueblo cantando la victoria, y diciendo, ya matamos al Gobernador de los Españoles, y á otros muchisimos Españoles, y no ha de quedar ninguno vivo, porque es muchisima la cantidad de enemigos así Apaches infieles, como todos los Christianos en general, y así coged las armas y matad Estos Españoles y Frayles que hay aquí, y así con efecto lo hicieron los dichos Indios Xemes, pues viendo el religioso, dicho Alcalde Mayor, y tres soldados que tenía en compañía, montarnos á caballo para retirarnos, envistieron los Indios Xemes con nosotros con tal osadía que nos vinieron siguiendo mas de dos leguas así ellos peleando como nosotros resistiendo, en cuya ocasion, fué Dios nuestro Señor seruido que nos encontrase el dicho Teniente General." The Lieutenant-General Garcia states (fol. 42), that the Jemez pursued the fugitives: "Hasta el pueblo de Cia." On folio 39, he says he met them "en el campo como una legua del pueblo."

The above statements have a bearing upon the question whether there were two Jemez pueblos inhabited in August, 1680, and where they were located. Of one of them we are certain, — San Diego, in the Cañon and about twenty miles north of Cia. Had Fray Juan de Jesús been in the same village as the Alcalde Mayor and his three men, the Indians could not have taken him quietly out of the convent and held a long discussion over his fate. Luis Granillo was not to be trifled with in such a manner. He would have defended the priest at all hazards, and could have done it, and would have mentioned it in his testimony. On the contrary, he says that a messenger from the "Jemez enemies" entered the pueblo, shouting victory and bringing the news of the success of the out-

When Otermin made his unsuccessful campaign into New Mexico in the fall and winter of 1681, the Jemez retreated to the mesas.¹ They soon returned, however, to retire again to the heights, — possibly upon the approach of Don Domingo Gironza Petriz de Cruzate in 1688. In 1692 Vargas found them in a large pueblo on the top of one of the mesas, and he succeeded after long parleyings in entering their village. The people displayed marked hostility, however, and it required all the tact and courage of the Spanish commander to prevent an outbreak while he was there. He succeeded in conciliating them at last, as well as the Querés of Santo Domingo, who were in their company, and one hundred and seventeen children were baptized on the spot. The Jemez gave the usual promises to behave well in the future, while firmly determined, as the sequel proved, to resist the Spaniards to the utmost.²

I have already stated that the southern neighbors of the Jemez, the Querés of Cia, Santa Ana, and San Felipe, remained true to the Spanish cause, and that the Jemez therefore began to threaten, and finally to make war upon

break. Hence there was still another pueblo of the Jemez besides the one in which Granillo was stationed. The distance of that pueblo from Cia did not exceed four leagues, that is, at most, twelve miles, which corresponds to the interval separating Cia from the ruin on the delta between the Guadalupe and San Diego streams. Escalante (*Relacion*, p. 173) says of the outbreak of 1696: "Los Gemex de San Diego y San Juan se internaron, y aseguraron en la sierra de Gemex." I therefore believe that San Juan de los Jemez was inhabited in 1680, as well as San Diego, and that it lay on the delta below the point where the high mesas terminate.

¹ *Interrogatorio de Preguntas*, and *Interrogatorios*, MS.

² *Autos de Guerra*, 1692, fol. 145. On the evening of the 24th of October he went from the Cerro Colorado to the foot of the mesa where the Jemez dwelt, estimating the distance at two long leagues. On the day following he ascended the mesa "cuya suvida es muy mala," and he describes the pueblo on its top as follows: "Reconozí tiene dos plazas y en cada vna quatro quartteles qe vienen á estar guarnezidas y zerradas teniendo vna entrada la vna de ellas qe passa á la otra."

them. This occurred in the fall of 1693 and the spring of 1694.

Diego de Vargas visited the Jemez on their mesa a second time on November 26, 1693.¹ They reiterated their false promises of fidelity, and as soon as the Spaniards turned their backs sent threatening messages to Cia and Santa Ana, and began to molest the inhabitants by driving off their stock. Vargas at last, after having chastised the northern Pueblos and made several unsuccessful attempts to storm the Black Mesa of San Ildefonso, turned against the Jemez also. On his way thither he received a message to the effect that, on the 21st of July, (1694,) the Jemez and Navajos had attempted to surprise Cia, killing four of its inhabitants, but had been finally repulsed.²

Vargas, as soon as he reached the friendly Pueblos of Santa Ana and Cia, held a council with the leading men of both villages, and then marched with his force, said to have numbered one hundred and twenty Spaniards and some auxiliary natives, for the mesas above the San Diego Cañon. He left Cia at eight o'clock at night, on the 23d of July, and at a distance of four leagues, near the junction of the two streams, divided his men into two bodies. One of these, consisting of twenty-five Spanish soldiers under command of Eusebio de Vargas and the Indian allies, was to enter the gorge of San Diego and climb the mesa on a dizzy trail, so as to reach the rear of the highest plateau, while the main body, led by Vargas himself, ascended from the southwest. The Spanish commander had ascertained that the Jemez had evacuated their village on the

¹ *Autos de Guerra*, 1693, fol. 50. He went from the mesa of the Cias to "la Cañada de los Xemes en cuya messa tienen su pueblo." It seems, therefore, that the Jemez, after having abandoned their villages below, probably after 1688, remained on the mesas until 1694.

² Bartolomé de Ojeda, *Carta á Don Diego de Vargas*, MS., in *Autos de Guerra* of 1694, fol. 58. He says that the men of Cia killed one of the captains of the Jemez.

mesas, and retired to a still higher location north of it.¹ The operations were completely successful, and the Indians were taken between two fires; but they offered a desperate resistance. The total number killed on this occasion amounted to eighty-four, five of whom perished in the flames, and seven threw themselves down the cliffs rather than surrender.² Vargas remained on the mesas until the 8th of August, removing gradually the considerable stores found in the villages, and the prisoners, who numbered three hundred and sixty-one. Then, setting fire to both villages, he withdrew to San Diego, and thence to Santa Fé.³ During his stay on the mesas he discovered a third pueblo, recently built there by the people of Santo Domingo, who had joined the Jemez tribe upon the approach of the Spaniards. That village is said to have been situated three leagues farther north, so that, within a distance of about twelve miles from the southern extremity, three pueblos had been constructed between 1688 and 1694, all of which were abandoned after the latter year.⁴

¹ *Autos de Guerra*, July 23, 1694, fol. 60: "Dijeron haver por las espaldas del peñol donde se han mudado los reveldes Xemes dejando su pueo de la messa vn camino qe por el sin ser sentida la gente yndiana puede suvir y que para hazerlo y yr resguardada es prezisso mançe con ella yr veynte y zinco soldados con vn cauo y que el resto de dho campo podía yr y suvir por la qe tienen dhos Yndios para bajar á sus milpas como al dho pueo de la messa qe han dejado qe será su distanzia de poco mas de vna legua desde la dha messa y suvida para dho peñol." He marched (fol. 62) "para el peñol poblado de los Xemes reveldes por las espaldas cuya trabesia seria de los leguas largas para tomar el rumbo y suvida de el . . . y hauido andado al parecer de quatro leguas largas serian la vna de la noche quando se diuidió la dha gente qe hauia de hazer dha yerbazon por dho rumbo yendo el dho Capitan Evseuio de Vargas y ella la gente y campo que quedaua conmigo la haria por la suvida priuzipal de la messa del pueo despoblado." Escalante, *Relacion*, says that Vargas ascended from the southwest.

² *Autos de Guerra*, fol. 63, 64: "Á las quatro de la tarde todo estaba terminado."

³ *Ibid.*, fol. 81 to 84.

⁴ *Ibid.*, fol. 70 to 77.

These historical facts warn the investigator not to take all the ruins in the Jemez region for those of pre-historic settlements. At least ten of them are those of villages that were abandoned only between 1598 and 1680, and three, perhaps four, those of pueblos built, occupied, and forsaken between 1688 and 1694. It is possible that some ruin may be a reconstruction of an ancient pueblo, or, it may be, built with material taken from some ancient ruin, so that the original character of the remains has become transformed by modern intrusion, especially in manufactured articles. These are points which the archæologist should not lose sight of when, as I sincerely hope, the ruins of the Jemez region may be made the object of a thorough study.

For the sake of completeness I will add here that San Diego de Jemez was reoccupied after 1694, and inhabited until June, 1696. Again a priest took up his residence at the pueblo, Fray Francisco de Casaus, otherwise known as Fray Francisco de Jesús. He soon noticed the evil designs of his Indian parishioners, and gave repeated warning to his superiors.¹ Vargas, however, paid no heed to them, and on the 4th of June of that year the last important insurrection of the Pueblos broke out. The priest of Jemez was murdered, and the tribe again fled to the mountains.² They had not time, however, to construct a new village on the mesas, but only to rear temporary shelter. Their first step was to secure assistance from the Navajos, from Acoma, and from Zuñi, and to make hostile demonstrations against Cia, Santa Ana, and San Felipe. There was a small Spanish detachment, commanded by the Captain Miguel de Lara, stationed at Cia, and that officer, together with the Alcalde Mayor of

¹ *Peticion del Definitorio del Nuevo México á Don Diego de Vargas*, March 13, 1696. *Representacion del Definitorio*, March 22, 1696, MS.

² This event is too well known to require special authorities to be quoted.

Bernalillo, Don Fernando Duran y Chavez, took the field against the superior numbers of the insurgents on the 29th of June. A fierce conflict took place, partly in the San Diego Cañon, partly at the ruins of the pueblo of San Juan, in which the Jemez and their allies were routed with the loss of thirty men.¹ This defeat broke up the confederacy with Acoma and Zuñi, and caused the Jemez to flee to the Navajo country. When Lara reconnoitred the mesas in August following,² they were deserted. For several years the Jemez remained among the Navajos, until they finally returned to their old range, establishing themselves at or near the site of their present village.

In regard to the artificial objects found at the Jemez ruins, I refer to the splendid collections made for the Smithsonian Institution by the indefatigable Mr. Stevenson, and to his description of them.³ On the site of Ginseua I noticed a coarsely glazed pottery, obsidian, and flint.

In conclusion, I would call attention to the name of one of the old Jemez pueblos, given to me by the Indians as "Pe-cuil-a-gui." "Pä-cuil-a" is the name for the tribe of Pecos, and the Pecos spoke the Jemez language. It would be well to investigate whether Pe-cuil-a-gui designates a Jemez pueblo inhabited previously to the secession of the Pecos. The division of the Jemez into two branches, separated from

¹ *Autos de Guerra*, 1696, fol. 70 to 94. The letters of the Alcalde, of Miguel de Lara, and of Bartolomé de Ojeda. The last states the loss of the enemy at forty killed; Lara, at only twenty-eight. It is singular that Escalante, who had access to the official papers at Santa Fé, makes no mention of this engagement, which was the most bloody one of the war, and at the same time the most important, since it broke up the Jemez tribe and frightened the Acomas and Zuñis to such a degree as to cause them to withdraw their warriors. Of the Acomas eight were killed, of the Zuñis none.

² *Autos de Guerra*, fol. 14. Lara captured an Indian, who, in his deposition, stated that the Jemez had mostly fled to the Navajos, and that only a few families were with the fugitive Queres from Cochiti.

³ *Report of the Bureau of Ethnology*, 1880-81, p. 417.

each other by the ranges of two distinct and different linguistic stocks, is an interesting phenomenon, though not unique in the ethnography of New Mexico. It occurred long before the sixteenth century. Nor should it be overlooked, that, according to the investigations of Mr. Gatschet, the Jemez and Pecos language belongs to the same group as the Tehua, Tigua, and Piro idioms, while the Queres, which intervened between the Jemez, Tanos, and Pecos, has not yet been classified with any of the former.¹

¹ *Classification into Seven Linguistic Stocks of Western Indian Dialects*, U. S. Geographical Survey west of 100th Meridian, vol. vii. p. 416. In his former publication, *Zwölf Sprachen aus dem Südwesten Nord-Amerikas* (p. 47), the same authority says that the Jemez and Tigua are only dialectically differentiated: "Bau und Wortvorrath dieser Sprache gleicht durchaus dem des bloss dialektisch verschiedenen Isleta."

Notes on the Antiquities of the Jemez Valley by W. H. Holmes (*American Anthropologist* 7:198-212). 1905. Also in Bureau of American Ethnology Bulletin 30, entitled Antiquities of the Jemez Plateau, New Mexico, pp. 44-53, edited by Edgar L. Hewett, 1906.

Holmes visited the Jemez area in 1889 while accompanying a field party of the U.S. Geological Survey. He visited several of the larger pueblo ruins in the area, and made special note of the small sites, which he termed lodges, and which most archaeologists now call fieldhouses. Holmes discussed the artifacts he observed at these sites, and made sketch maps of several of them. This paper was republished virtually in its entirety in Hewett's 1906 publication "Antiquities of the Jemez Plateau." Hewett is probably cited more often as the author of this paper than is Holmes.

NOTES ON THE ANTIQUITIES OF JEMEZ VALLEY, NEW MEXICO

By W. H. HOLMES

During the summer of 1889 I had the good fortune to accompany a field party of the United States Geological Survey, under the immediate direction of Major J. W. Powell, to northern central New Mexico, and was able to make somewhat extended studies among the antiquities of the Jemez valley. The Jemez river is tributary to the Rio Grande on the west, and its two branches, the San Diego and the Guadalupe, descend from the Jemez mountains through cañons of considerable depth, coming together as they emerge from the cañons 25 miles above the junction with the Rio Grande at Bernalillo. In 1875 I had studied the ancient ruins of southern Colorado and northwestern New Mexico, and had carried my investigations as far to the southeast as the valley of the Rio Chama, which drains the northern slope of the Jemez mountains. The work of 1889 therefore enabled me in a measure to complete a chain of observations connecting the ancient remains of San Juan valley with those of the region now occupied by the Pueblo tribes, and to reach at least tentative conclusions concerning the relations of the people and culture of the extreme northern portions of the Pueblo province with those of the middle and south.

The publication of these notes was delayed in the hope that I might be able to visit the region again and complete my studies, and they are now prepared for publication because of the desirability of placing them on record for convenience of reference in connection with the preparation of measures for the preservation of antiquities by the departments of the Government having control of the public lands.

In the lower Jemez valley there are three inhabited pueblos, Jemez, Sia, and Santa Ana, and there are perhaps as many as twenty or thirty deserted sites, situated mostly in the upper valleys, some of which must have been villages of considerable importance.

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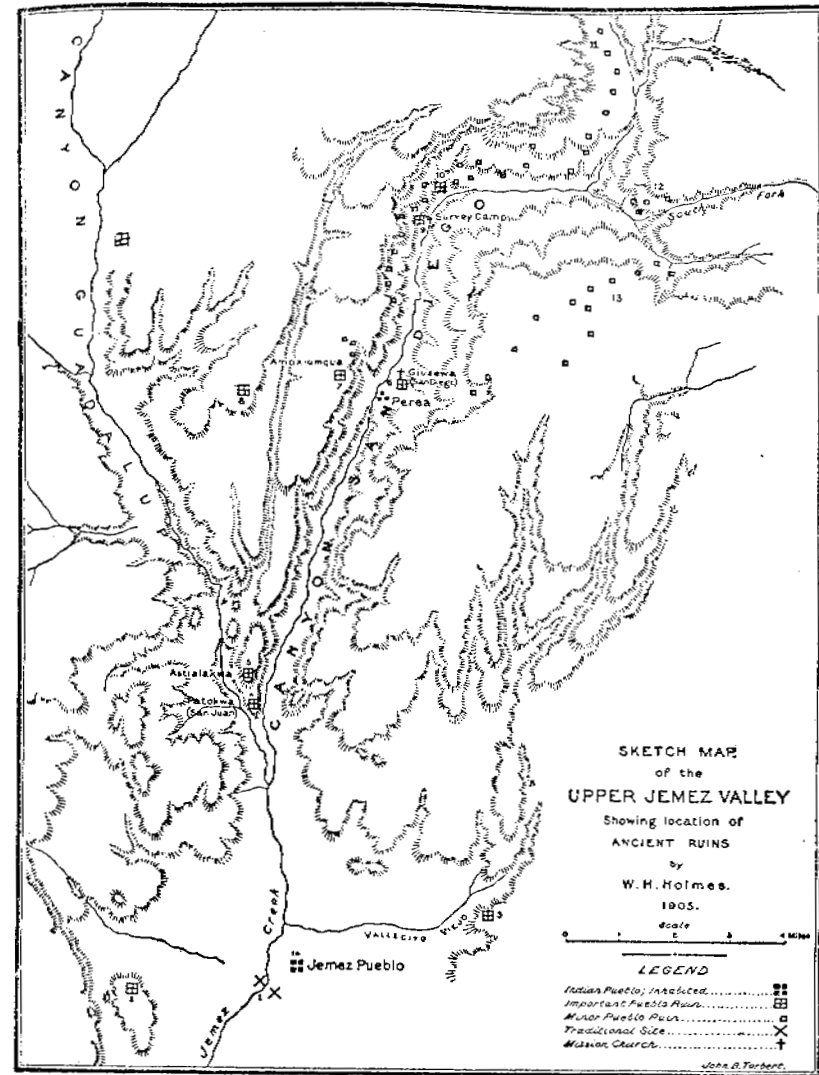


FIGURE 6.

All are of the usual pueblo type, differing somewhat from the more northern villages of like situation, but typical of the middle region, to which they belong.

The early days of Spanish occupancy of the Jemez country, 1540 to 1700, witnessed many stirring events of conquest, revolt and

reconquest, and numerous interesting details culled from the Spanish chronicles are given by Bandelier in his *Final Report*. The Jemez pueblos were first visited by the Spaniards under Francisco de Barriónuevo in 1541. Oñate, in 1598, saw eight villages, and others were mentioned to him. Bandelier says that at the time of his visits in 1880-85 the Jemez gave him the names of seventeen of the old pueblos. He believes that the numerous small villages were gradually consolidated into two, and finally into one, the present pueblo.¹

Ancient dwelling sites. — About half a mile below the village of Jemez (see map, figure 6) are two anciently inhabited sites that show no distinctly marked architectural remains, but the ground is strewn with various minor relics. No specimen was found that suggested Spanish influence, and all varieties could be duplicated from the more northern sites where Spanish influence was never felt. All other sites visited in the valley exhibit in different degrees traces of modern Pueblo influence if not of the presence of the Spaniard. Fragments of coiled ware and of the delicate white pottery with decorations in black were plentiful, and bits of obsidian and agate and small implements of these materials were found. One of the sites is on the low east bank of the creek near the water's edge, and the other on the western side nearly opposite. Similar traces marking other ancient sites are found in various parts of the valley, and probably represent the exclusively prehistoric occupancy.

Ruined pueblo three miles west of Jemez. — On a partially isolated bit of mesa about three miles west of Jemez is a considerable ruin, which does not bear evidence, however, of long continued occupancy. The summit of the mesa is without trees and almost without soil, and water must have been obtained from far below. The walls of the ruin are well defined, and stand in places five or six feet in height; but they are formed of rough, loosely laid stones, and are extremely thin and unstable. They could not have been high at any time, as there is a marked absence of debris, and the dearth of pottery and kitchen refuse would seem to stamp the place as a temporary or emergency abode. The site is favorable

¹ A. F. Bandelier, in *Papers of the Archaeological Institute of America*, Amer. ser., IV, *Final Report*, part II, 1892, p. 208.

for defense, and there are traces of defensive walls along the margin of the summit. The buildings are irregular in plan and comprise three groups, the full length of the groups being about 450 feet and the width 350 feet.¹ A sketch plan is given in figure 7. The pottery of this site is partly archaic, while traces of later Pueblo

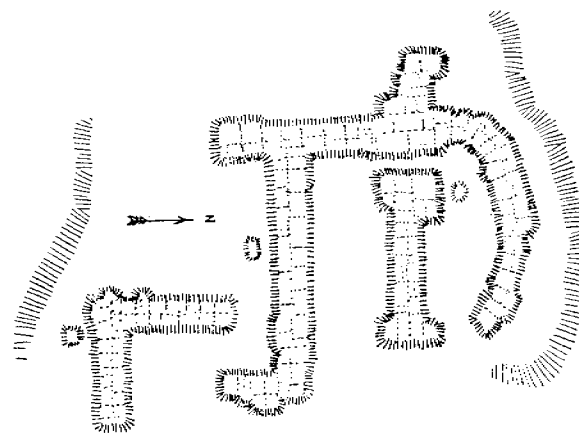


FIG. 7. — Sketch plan of ruined pueblo three miles west of Jemez.

work are common, and the presence of bits of porcelain would seem to indicate post-Spanish occupancy. Fragments of metates and mullers of usual type occur, as well as numerous minor relics of obsidian, agate, and other varieties of stone. There appears to be no definite historic reference to this site.

Vallecito Viejo pueblo. — Two unimportant ruined structures occur three and a half miles northeast of Jemez pueblo, on a bluff overlooking Vallecito creek (figure 8). They are rather unpretentious piles, and by their advanced state of decay would seem to have been long deserted. There are no positive indications of occupancy by post-Spanish inhabitants, although a few pieces of pottery are apparently allied to the later Pueblo forms. Few relics of any kind were observed. Fragments of the archaic varieties of pottery occur, and the usual forms of stone implements. The lower ruin, A, about 150 feet above the creek level, is squarish in outline, and

¹ The measurements given in this paper are all mere estimates, and the orientations are only approximate.

is about 175 by 180 feet in extent. It encloses a court in which a shallow circular depression occurs. The ridges of debris are four or five feet in height and two or three rooms in width. The upper structure, *B*, is about 150 by 200 feet in extent, and embodies two courts. The walls are very much reduced.

Ruins of Patokwa (San Juan de Jemez).—Two ruined pueblos, extremely interesting on account of their connection with the events of the Spanish conquest, are found at the confluence of the two main branches of Jemez creek, six miles above the present Jemez

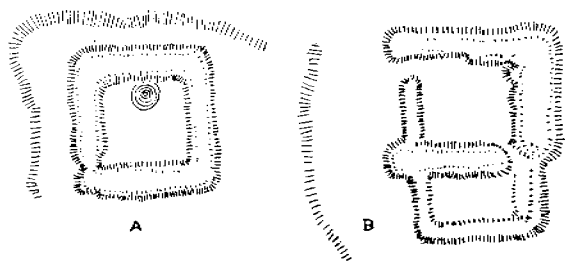


FIG. 8. — Sketch plan of ruined pueblo on Vallecito creek.

pueblo. One is on a low mesa point between the two streams, and the other occupies the end of the great mesa several hundred feet above. The lower site (figure 8, *A*) is one that would naturally be selected for residence by primitive peoples, and may well have been a principal pueblo of the valley in pre-Spanish times. One portion of the ruin is a large mound of debris from which the larger stones have been removed. This represents the prehistoric town. The other portion is in a much better state of preservation, and consists of lines of fallen house rows surrounding two great courts. That this structure is of late date is clearly indicated, not only by its state of preservation but by the presence at one corner of the ruins of a Catholic church. I had time for only a hasty review of these ruins, but found nearly all the usual varieties of artifacts of the valley—shallow metates, flattish mullers of cellular basalt, arrowpoints of obsidian and agate, and pottery of archaic as well as of later Pueblo times, the latter including a black polished ware, mica-finished ware, coarse reddish ollas with figures in black and red paint, and bowls with thickened upright rims and rude glazed decorations.

Ruins of Astialakwa.—An interesting group of ruined buildings is situated on the high and almost inaccessible promontory, a mesa remnant, overlooking the ruin at the confluence of the east and west branches of Jemez creek, just described. The ruins stand a short distance back from the front of the promontory and near the brink of the cliffs on the west side (figure 8, *B*). The walls are of unhewn stone, and bear evidence of hurried and apparently incomplete construction, there being a notable absence of debris of any kind. Traces of mortar occur in the walls, and a little plaster still remains on the interior surfaces. The walls are in no place more than five or six feet in height. The buildings are in a num-

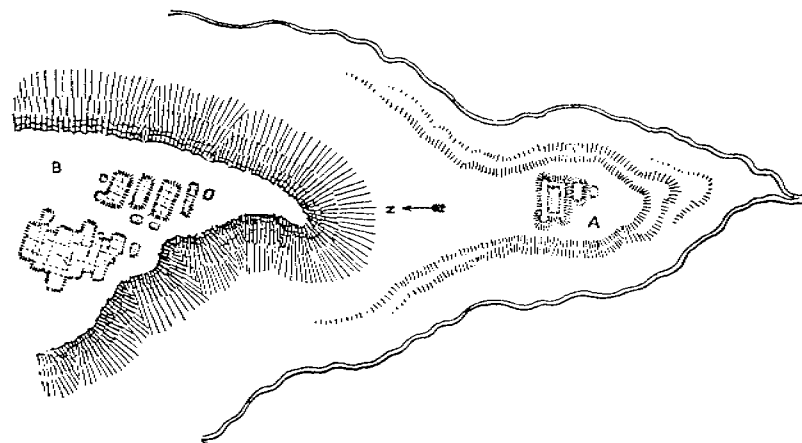


FIG. 9. — Sketch plan of ruined pueblos of Patokwa (San Juan de Jemez), *A*, and Astialakwa, *B*.

ber of groups, as indicated roughly in the sketch. There are few traces of household refuse on the almost naked rock surface of the site, but remnants of mortars and mullers of the usual type, as well as of pottery of several varieties, were found—the white ware with decorations in black, of the ancient type; numerous pieces of bowls and pots which show designs in greenish glaze; plain dark and gray cooking pots; and red and black decorated ware of modern type. There were also fragments of some large metates. There can be little doubt that this village was built at the period of Spanish encroachment by the people of the villages below as a place of refuge and defense, and it was here, according to historical

accounts, that they were defeated by the Spaniards and compelled to descend to the lowlands.

When Otermin made his unsuccessful campaign into New Mexico in the fall and winter of 1681, the Jemez retreated to the mesas. They soon returned, however, to retire again to the heights, — possibly upon the approach of Don Domingo Gironza Petriz de Cruzate in 1688. In 1692 Vargas found them in a large pueblo on the top of one of the mesas, and he succeeded after long parleyings in entering their village. The people displayed marked hostility, however, and it required all the tact and courage of the Spanish commander to prevent an outbreak while he was there. He succeeded in conciliating them at last, as well as the Querés of Santo Domingo, who were in their company, and one hundred and seventeen children were baptized on the spot. The Jemez gave the usual promises to behave well in the future, while firmly determined, as the sequel proved, to resist the Spaniards to the utmost. (Bandelier, *Final Report*, p. 212.)

Diego de Vargas visited the Jemez on their mesa a second time, on November 26, 1693.

Vargas, as soon as he reached the friendly Pueblos of Santa Ana and Cia, held a council with the leading men of both villages, and then marched with his force, said to have numbered one hundred and twenty Spaniards and some auxiliary natives, for the mesas above the San Diego Cañon. He left Cia at eight o'clock at night, on the 23d of July, and at a distance of four leagues, near the junction of the two streams, divided his men into two bodies. One of these, consisting of twenty-five Spanish soldiers under command of Eusebio de Vargas and the Indian allies, was to enter the gorge of San Diego and climb the mesa on a dizzy trail, so as to reach the rear of the highest plateau, while the main body, led by Vargas himself, ascended from the southwest. The Spanish commander had ascertained that the Jemez had evacuated their village on the mesa, and retired to a still higher location north of it. The operations were completely successful, and the Indians were taken between two fires; but they offered a desperate resistance. The total number killed on this occasion amounted to eighty-four, five of whom perished in the flames, and seven threw themselves down the cliffs rather than surrender. Vargas remained on the mesas until the 8th of August, removing gradually the considerable stores found in the villages, and the prisoners, who numbered three hundred and sixty-one. Then setting fire to both villages, he withdrew to San Diego, and thence to Santa Fé. During his stay on the

mesas he discovered a third pueblo, recently built there by the people of Santo Domingo, who had joined the Jemez tribe upon the approach of the Spaniards. That village is said to have been situated three leagues farther north, so that, within a distance of about twelve miles from the southern extremity, three pueblos had been constructed between 1688 and 1694, all of which were abandoned after the latter year. (*Ibid.*, pp. 213-214.)

It is an interesting fact that along the margins of the precipice are traces of defensive works built of stone.

Ruins of Guisecwa (San Diego de Jemez). — A ruined pueblo of considerable importance is situated at Jemez Hot Springs, twelve miles above Jemez pueblo. At present the chief feature of interest on this site is the ruin of a Spanish church, with its heavy walls and fortress-like tower. It has been constructed of materials derived from the immediate vicinity. The tower and upper parts are of the impure friable limestones of the promontory against which the foundations are built. The lower end of the church and the walled enclosure extend down to the border of the arroyo, and the latter has been built of heterogeneous materials. The adobe mortar has been made from the debris of ancient house sites and is full of fragments of pottery, obsidian chips, and charcoal. A careful examination developed the fact that the pottery contained in the mortar is chiefly of the white ware with black decorations; but there are also some black, slightly polished pieces, and much plain gray ware. A few fragments of coiled vases were also found. Sherds of glazed pottery were observed in the vicinity, but none were included in the walls of the buildings — and this is negative evidence, at least, that this ware was not made here in pre-Spanish times. Its presence about the ruin indicates that it was in use, however, during Spanish occupancy.

At the lower end of the ruin a road has been cut through the razed walls of the ancient village, and excavations have been made by householders here and there. In the course of this work many interesting things had been discovered, and some had been preserved by a local physician, Dr J. M. Shields. When the old houses were excavated many skeletons were found scattered about the floors, and numerous pieces of pottery, flutes of bone, and

domestic utensils were recovered. The pottery in these houses is mostly of the white variety with black decorations, the forms being of usual types. An iron knife occurred in the same connection. In one section examined I found all kinds of pottery to a depth of five feet. This site has been so much disturbed by cultivation and by building, in recent times, that the outlines of the old structures cannot be traced. Bandelier says that this pueblo "formed several hollow quadrangles at least two stories high. It contained about eight hundred inhabitants. The church is a solid edifice, the walls of which are erect to the height of ten or fifteen feet, and in places nearly eight feet thick. It is not as large as the one at Pecos, and behind it, connected with the choir by a passage, rises an octagonal tower, manifestly erected for safety and defense. Nothing is left of the so-called 'convent' but foundations. The eastern houses of the pueblo nearly touch the western walls of the church, and from this structure the village and a portion of the valley could be overlooked, and the sides of the mesas easily scanned. Ginsewa [Giusewa] is an historical pueblo. It first appears under the name of Guimzique in 1626. It seems that it was abandoned in 1622, on account of the persistent hostility of the Navajos, who had succeeded in scattering the Jemez tribes. In 1627 Fray Martin de Arvide obtained permission from his superior, the custodian Fray Alonzo de Benavides, to attempt to gather the tribe again in its old home. The efforts of the monk were successful, and the Jemez Indians settled in two of their former pueblos — at Ginsewa and at Amoxiumqua."¹

Ruins of Amoxiumqua. — On the high mesa overlooking Jemez Hot Springs on the west are the remains of another large and ancient pueblo, which is reached by a tedious and very precipitous trail. The ruin, a sketch plan of which is given in figure 10, stands in an open space in the forest, about a quarter of a mile from the brink of the cañon, and from its walls a glimpse can be had of the lower valley of Jemez creek. It is larger than any of the ruins in the valley below, and appears to represent two periods of occupancy, an ancient or pre-Spanish one, and a more modern one, probably of the Spanish period, the later village having been built upon the ruins of the earlier. Bandelier states² that Amoxiumqua was abandoned

¹Final Report, pp. 204-205.

²Ibid., p. 208.

previous to 1680. In the accompanying sketch plan (figure 10) the old town, which is a mere heap of debris and quite limited in extent, is indicated by a stippled or dotted surface. The newer construction consists of a series of connected ridges, two or three rooms in width and from a few feet to eight or ten feet in height. Some of the room interiors are exposed and still retain the coatings of plaster, and the ceilings are of logs with transverse layers of brush or splinters to support the earthen covering. The stones of the walls, which have been derived from the cliffs in the vicinity, are rather even in size, and have been in cases slightly dressed on the outer surface. The length of the ruin from northeast to southwest is about 350 yards, and the greatest width is some 200 yards. The rows of ruined buildings have a width of from 20 to 30 feet. Seven circular kiva-like depressions are associated with the ruin. Six of these are approximately 20 feet in diameter, and the sixth, a part of the encircling wall of which is intact, is 32 feet in diameter. On the side opposite the cañon is a large depression, 150 feet in diameter and five or six feet deep, which contains a pool of water, and was undoubtedly used as a reservoir. The potsherds are very numerous on this site, and cover the ground for many hundreds of feet around the ruin, extending far down the slope into the timber on the south and west. In the older ruin none but the archaic varieties were observed, and these predominate over the entire site. They include the coiled ware, the white ware with decorations in black, thin black ware, and red ware. The white archaic ware comprises nine-tenths of the fragments, and is uniform in nearly every respect with the prevailing variety of the San Juan valley. The more recent varieties include, especially, the glazed ware, which is uniform in character with that from many other sites of the general region. Metates

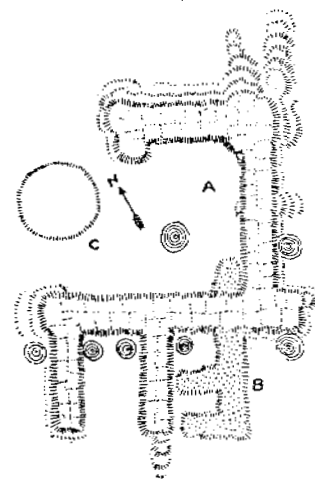


FIG. 10.—Sketch plan of the ruined pueblo of Amoxiumqua.

On the side opposite the cañon is a large depression, 150 feet in diameter and five or six feet deep, which contains a pool of water, and was undoubtedly used as a reservoir. The potsherds are very numerous on this site, and cover the ground for many hundreds of feet around the ruin, extending far down the slope into the timber on the south and west. In the older ruin none but the archaic varieties were observed, and these predominate over the entire site. They include the coiled ware, the white ware with decorations in black, thin black ware, and red ware. The white archaic ware comprises nine-tenths of the fragments, and is uniform in nearly every respect with the prevailing variety of the San Juan valley. The more recent varieties include, especially, the glazed ware, which is uniform in character with that from many other sites of the general region. Metates

and mullers of usual form were observed, and arrowpoints and other flaked objects of obsidian and agate are common. A few scraper-like forms were collected.

Ruined pueblo on the plateau three miles west of Jemez springs.—Another ruined pueblo of large size and comparatively well preserved is situated in an open space in the forest on the summit of a spur of the plateau overlooking the cañon of the first northern tributary of the west fork of Jemez creek and some two miles west of the great ruin (Amoxiumqua) overlooking Jemez Hot Springs. This ruin was seen from the opposite side of the cañon, but lack of time forbade an attempt to visit it.

Ruined pueblo 15 miles above Jemez pueblo.—A ruin of more than usual interest is situated on the west bank of San Diego creek, about 15 miles above Jemez pueblo. At the base of the low terrace on which this ruin stands, and between its base and the creek, the Survey camp was established. Two ravines rising close together in the plateau, face to the west, separate as they approach the creek bed, leaving a somewhat triangular terrace remnant with gently sloping surface, on which the ruin is situated. This terrace at the lower margin is about 50 feet in height and 150 yards long, and is perhaps 100 yards deep to the base of the steep slope on the west. The ruin includes one principal centrally-placed group of structures and four or five inferior structures, as indicated on the ground plan (figure 11). The central group, *A*, consists of two wings of unequal length and from 30 to 60 feet in width, connected at the upper end by a transverse group of razed chambers. The length of the longer wing is about 320 feet, and of the other about 150 feet. The mass of debris indicates the outline of the buildings with perfect clearness and is in places 10 feet in height. The chambers were numerous and irregular in arrangement, but the state of the ruin is such as to make the details of the plan difficult to trace. At the upper end of the intramural space is a kiva depression 20 feet in diameter and two or three feet deep; and at the lower end, near the edge of the terrace and next the wall of the longer wing, is another of like diameter and about four feet in depth. On the opposite side, against the wall of the shorter wing, is a stone heap some 10 feet in diameter and a few feet in height. North of the longer wing of

the central structure, 40 feet distant, and extending along the northern margin of the terrace, is a ruin, *B*, some 30 feet wide and 150 feet in length, and in places six feet in height, presenting characters in the main identical with those of the central structure. In the space between the two clusters is a third circular depression, corresponding in size with those previously mentioned.

Higher up the sloping terrace on the northern margin is a small ruin mass, *C*, very much reduced. On the south, separated from

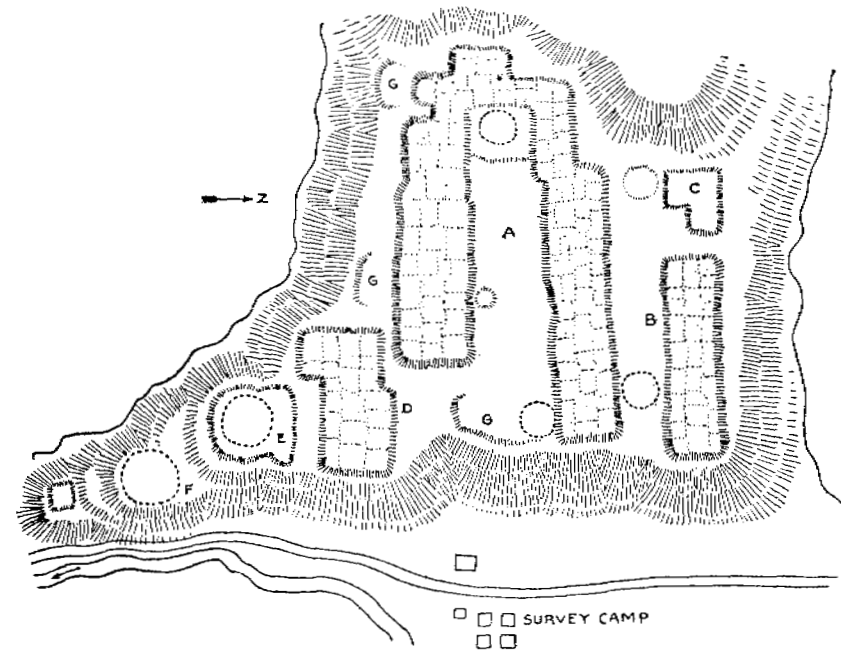


FIG. 11.—Sketch plan of ruined pueblo 15 miles above Jemez.

the corner of the shorter wing of the main building by a space about 10 feet in width, is a fourth ruin mass, *D*, about 40 feet in width by 120 feet in length, the lower end of which extends well down to the margin of the terrace. Its features correspond closely with those of the other structures. South of this again, and 20 feet away on the narrow point of the terrace, are the remains of a minor structure, enclosing a kiva depression 30 feet in diameter and about 4 feet in depth; and below this, again, is another circular

depression 36 feet in diameter and five feet in depth, with which no ruins are connected. Still lower down and at the extreme point of the terrace, 80 feet from the depression just described, is a small ruin mass about 12 feet square and of no considerable height.

An interesting feature of this pueblo is the occurrence of three or four refuse middens, lying on the slope of the terrace near the walls of the buildings. These consist of blackish earth with many impurities, including bones of animals, fragments of pottery, and various implements of stone. On these heaps were growing dwarfish wild potato plants, the tubers, although ripe, not being more than half an inch in diameter. This ruin presents every appearance of antiquity, and, so far as observed, contains no definite trace of the presence of the white man. The fallen roof timbers, which still remain among the debris in some of the chambers, had been cut with primitive tools. The pottery, of which many fragments were collected, is varied and interesting, the several types apparently grading one into the other. There are bits of plain black polished ware, much like the modern domestic black ware of the Rio Grande pueblos; many fragments of small bowls, with enlarged, thickened, or flaring rims, and rude designs in brown, greenish, and blackish glaze.¹ Other specimens have incurved rims and somewhat reddish designs; pieces also of orange and red ware were found, and of the typical white ware with black decoration, the bowls being ornamented both inside and out. There are also handled vessels, mugs and bowls, the handles being simple loops vertically placed; also bowls with wide mouths, and a large percentage of pots that appear to have been used over the fire.

The stone implements collected include a black polished discoidal stone, apparently of hematite, about an inch in diameter and an eighth of an inch in thickness, and handsome polished axes of mottled actinolite rock. Thousands of flakes of black obsidian occur a few miles farther up the cañon and on the slopes of Pelado mountain. Numerous arrowpoints of white quartz and of white and red agate were collected.

Upper pueblo ruin.—About a mile above the Survey camp and 16 miles above Jemez pueblo, occupying a low sloping terrace on

¹ This ware is especially referred to by Bandelier, *Final Report*, p. 185.

the west side of the valley and 30 or 40 yards from the creek, is a small pueblo group, of usual type (figure 12). It is about 40 feet above the creek bed, and covers a space some 50 yards long facing the stream, and 50 yards deep reaching back to the steeper ground. The low crumbling walls of small irregular stones indicate a squarish structure of numerous rooms, including an open space or court, in which are two circular depressions, probably the remains of kivas. A third depression occurs in the midst of the ruined walls on the north side.

The pottery on this site is wholly, or mainly at least, of the archaic varieties, including the coiled ware and the white ware with decorations in black. The stone implements collected include a grooved ax of usual Pueblo type.

Scattered stone lodges.—A unique feature of the antiquities of Jemez valley are the ruins of small stone houses that are encountered by the explorer at every turn in the tributary valleys, on the steep slopes of the plateaus, and scattered over the upper surfaces of the wooded tablelands. In the foothills they are seen sometimes occupying very precipitous sites, and in riding through the deep forests of the uplands they may be counted by the score. They consist generally of a single room, rarely of two or more rooms, and the dimensions of the apartments seldom exceed ten or twelve feet. The walls are thin and loosely laid up, and to-day are rarely more than three or four feet in height, the dearth of debris indicating that they could not have been more than one story in height at any time. A few potsherds of the white ware with black decoration are about all that could be found in the way of artifacts around these structures. The presence of this ware, however, is good evidence of the considerable antiquity of the work. These houses occur in considerable numbers in the valley of the San Diego near the great bend, twenty miles above Jemez pueblo; in the vicinity of the

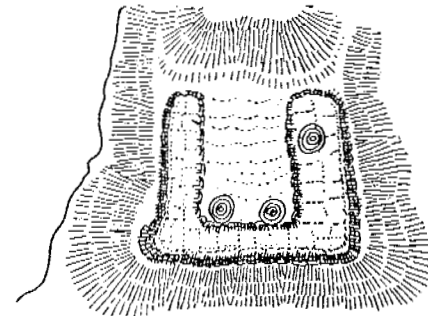


FIG. 12.—Sketch plan of ruined pueblo 16 miles above Jemez.

warm springs a few miles above the bend ; on the plateau east of Jemez springs ; and along the terrace-like projections of the western slope of the cañon wall. The use of these small structures can only be surmised. They were hardly permanent abodes for families, but seem rather to have been designed for some temporary purpose, as lodges for watchers, hunters, herders (if within the Spanish period), shrines, or places of resort on special occasions connected with religious observances. Some of these structures, as well as the more important ruins, are located on the accompanying map (figure 6).

BUREAU OF AMERICAN ETHNOLOGY,
WASHINGTON, D. C.

The Jemez Indians by Albert B. Reagan (*El Palacio* 4:25-72. 1917.)

Albert Reagan became an agricultural agent at Jemez Pueblo in 1899. He was evidently well accepted into Jemez society. He attended virtually all of the ceremonial events of the pueblo. He visited the kivas and made sketches of the wall murals inside. The amount of information he recorded is staggering. In many respects, this paper is more useful than Parson's 1925 ethnography of the pueblo because of the priority of the information.

THE JEMEZ INDIANS

By ALBERT B. REAGAN.

INTRODUCTION.

SOON after the writer became United States Farmer at Jemez, New Mexico, in 1899, the Jemez Indians had a masked dance. As the dance occurred on mail day, they stopped the mail carrier and would not permit him to proceed on his journey. This they did in accordance with their custom not to permit a white man to enter or pass through the village while they were thus occupied. The stopping of the mail led to the arrest of the Indian governor, Jose Romero. He, as a result of the preliminary examination, was bound over to the United States grand jury which was to meet the next March, six months after the crime was committed. Taking pity on the Indian, the writer bailed him out and took him back to the village. From that time on throughout the winter months, the Jemez were very friendly to him. They permitted him to visit their performances at will, though they did not send him special invitations to do so.

At the trial in March, the governor was found guilty and was fined the full extent of the law for interfering with the carrying of the mail. As soon as the sentence was handed down, the writer went to the judge, and after a great deal of argument, persuaded him to suspend the sentence upon the promise of good behavior. So the writer returned to the village with the governor a second time. In the evening, after their return, the "principals" of the place met, and, as the greatest favor they could bestow upon the writer, they invited him in the name of the tribe to visit any and all of their ceremonies, both open and secret. They stated further that they would let him know

whenever they had any special ceremony. This, with but one exception, they carried out to the letter.

Acting upon the invitation, the writer visited each *estufa* at will. He was often with the Indians in them six nights in a week. He also examined the "blind closets" and secret rooms in their dwellings. Furthermore, night after night he listened to the legends told around their firesides. Thus was he enabled to see and hear many things of interest. These he gives below, believing that they will be of interest to the readers of *El Palacio*.

* * * * *

ANTIQUITIES OF JEMEZ VALLEY.

The Jemez Indians told the writer that they had had thirteen villages, now in ruins in the Jemez valley, besides several temporary summer abodes. They further stated that the villages from the confluence of the Salado and Jemez were pueblos of the Sia Indians as well as the village on Red Mesa (Mesa Colorado) three miles west of the present village of Jemez. The writer visited nine of these ruins, as well as many of the ancient summer lodges. He also visited the ruins from Jemez pueblo to the Rio Grande.

The ruins of the Jemez valley have been described by Edgar L. Hewett⁽¹⁾ and the writer has used his village numbers in indicating same on the map presented with this paper; the lettered ruins were not described by him. Barring a short description of the ruins, with the exception of the ruin marked No. 41, the writer begs to refer the reader to Dr. Hewett's descriptions. Below are the writer's notes:

(1) Antiquities of the Jemez Plateau, New Mexico, Bull. 32, Bureau of American Ethnology, pp. 44-53 and plate XVII.

Jemez Pueblo.—The present pueblo appears to be built in part on the ruin of another pueblo, as is shown by broken pottery not of the pattern used at the present time.

T.—This is the site of the present Mexican village of San Ysidro and appears to have been a pueblo in the long ago. It appears that the present village is built on an old ruin.

R.—Red Rock, a rock jutting up out of the surrounding Tertiary about one-half mile north of the present Jemez village, is surrounded by debris containing much pottery of ancient type, which also covers a part of the upper surface of the rock. It was the writer's opinion that a small village and watch tower had been built here. This rock is also of interest because on its top along the west and north and along its sides are numerous pictographs, some of which are recent but some showing extreme age. One of the paintings on the east face under a projecting rock-roof was the picture of a deer painted in black. On the upper face of the cliff at the north and west were chipped pictographs, representing various deities of the Jemez. One of these, a drawing of the sun, is produced herewith.

The writer learned that the young often courted by this rock. The rock was also a shrine where feathered prayer sticks were frequently placed. According to tradition as related to the writer by Ignacio Toledo, it was here that the Jemez braves first encountered the Spanish allies under De Vargas, July 21, 1694.

A.—South of the confluence of the Rio Salado and the Jemez is a ruin now covered with shifting sand. The writer could find no tradition concerning this site. He, however, has placed it as a Sia ruin from the fact that the Jemez declare that all the valley below San Ysidro was held by the Sias.

AB.—This is a small ruin with

indications of a corral. It undoubtedly is recent.

C.—This is quite an extensive ruin some three miles west of the present Sia village and was probably one of the five Sia villages mentioned in the Spanish records.

Other Sia Ruins.—The Sias and Jemez were granted a pasture land grant west of Mesa Blanca, ten miles west of Sia pueblo, which was annulled by the Court of Private Land Claims. Could the Indians have held on to it they would have been rich, as the area is underlaid with coal of the Mesa Verde age; seventy feet of coal in seams drifting back into the mesa walls are shown in one view. When the Sias thought they owned this land they used to farm a small strip west of Mesa Blanca. The Indians say that there were ruined villages in that section, but none were visited by the writer.

Just north of the present Sia is a ruin which has been built of volcanic *mal pais* rock, known to the Sias as Kolasaya, while opposite the village are the remains of another village which they call Kakanatzatia.

Ruins at the Foot of the Nacimiento Range.—The Jemez stated to the writer that they had villages on the limestone formation between Jemez-Guadalupe creek and the Nacimiento Range, but only two were visited. They were small and were likely lodges where the men stopped when eagle or bear hunting. Annual trips are still made to the mountains for this purpose, and no doubt hunting lodges are still used, though likely not so large and complete as those used formerly.

The Small Lodges above the Soda Dam and at the Headwaters of Vallecito Creek.—The writer spent considerable time examining the ruins in this section (marked on the map by squares.) These lodges were of stone and were not of large dimensions, usually of a single room and not often more than four rooms. The debris shows that the walls were thin, loosely laid up and not

more than one story high. Some of these ruins seem to have been used since the coming of the Spaniards. It is likely that some of them were merely hunting lodges. But at least one of them showed signs of there having been a clearing and the cultivation of a considerable area about it. Ignacio Toledo, one of the leading "principals" in 1900, related the following concerning these ruins:

"In the days of the long ago, when we owned the whole valley of our river and were free from enemies, our people separated into little groups in the spring and made summer homes where it was best for hunting and farming. But in winter and in time of danger they returned to the main pueblos here and about the Jemez and San Antonio Hot Springs. Some of the Indians also remained in their small lodges throughout the year, while others were used only as hunting lodges. After the Spaniards came and our wars with them were over, we moved to this village. We then became sheep herders and herded sheep all over these mountains. At this time we built shepherd lodges in the hills and on the mesas. Some of the houses you saw were these lodges. After many years, the Navajos made raids on us and the sheep ranges had to be abandoned. This happened in my own time. I used to herd sheep at the foot of Pelado and made headquarters in temporary stone houses. But when the Navajos came in 1866, I was at the village and it was lucky I was. The Navajos came over the Plateau and attacked the sheep camp in the night, killed one of the shepherds and shot another in the knee with an arrow, but this one managed to reach the pueblo in the night. At sunrise other lurking Navajos attacked our village and we had a terrible fight. Our men had been warned or we would have been annihilated. I stood by the corner of that house yonder (pointing to one of the oldest looking houses) and

shot thirteen Navajos as they tried to rush the place.

"As soon as we had defeated the raiders, we went to aid the Sias and had we not done so, they would have all perished. Unwarned, they were attacked while at work in their fields and nearly every one on the ranches was killed and the enemy were carrying the village when our braves arrived. The next day we hauled sixty-six dead Sias from the fields in Mexican carts."

No. 40.—On each side of a small creek on the east side of the farm lands east of the river and about a half mile south of Jemez are the remains of either two villages or of one very large one. It is noted that Mr. Bandelier and Mr. Holmes both considered the ruins as consisting of two villages, stating that "one of the sites is on the low east bank of the creek near the water's edge, and the other on the western side nearly opposite."⁽³⁾ These sites did not show any distinctly marked architectural remains, but the ground was strewn with pieces of pottery and bones, which made it look as though at least a part of it was a graveyard. It is quite possible that the ruins are the remains of a single village and that the present creek (which is dry most of the year) has changed its course so as to cut through it in the years since the village was abandoned.

No. 41.—The writer will quote Mr. Hewett's description in full:⁽⁴⁾

"On a partially isolated bit of mesa about three miles west of Jemez is a considerable ruin, which does not bear evidence, however, of long continued occupancy. The summit of the mesa is without trees and almost without soil, and water must have been obtained from far below. The walls of the ruin are well defined, and stand in places five or six feet in height; but they are formed from rough, loosely laid

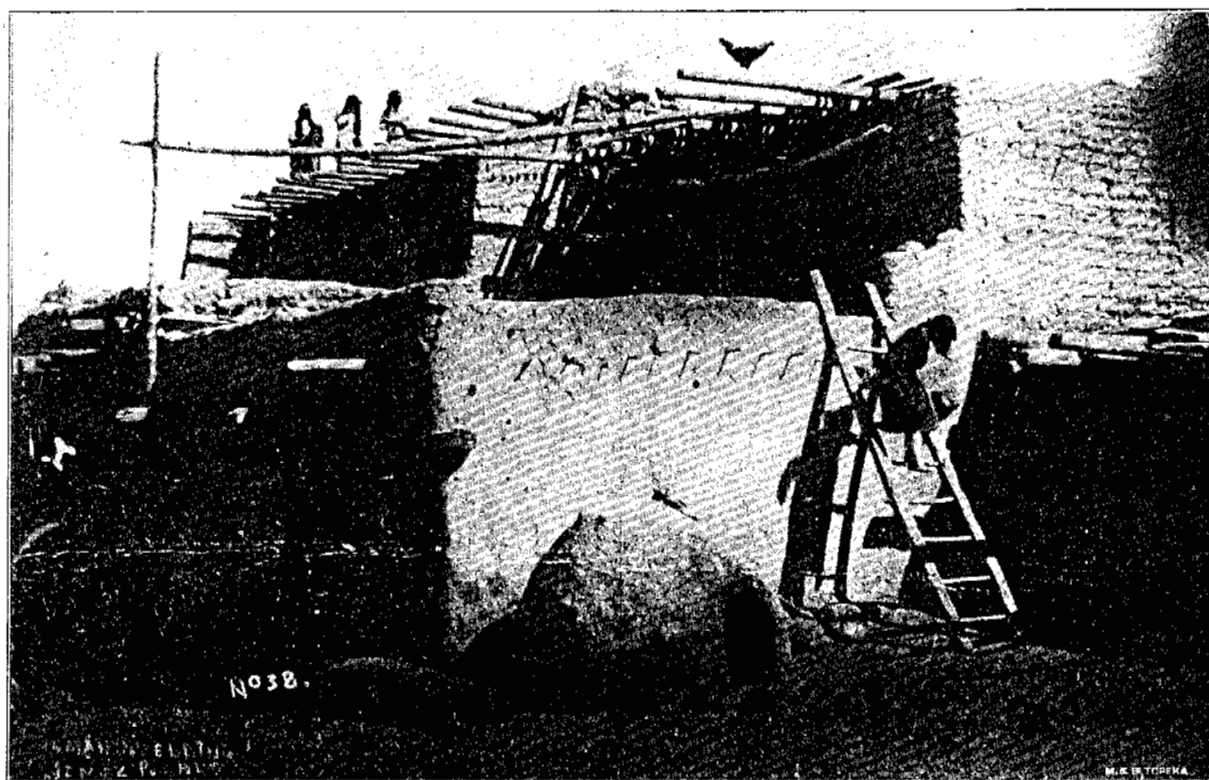
(3) Hewett—A. F. Bandelier; *Loc. cit.*, p. 45.

(4) *Loc. cit.*, p. 45.



JEMEZ TABLITA DANCE.

Photo by Schwenberger



IN JEMEZ PUEBLO.

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stones, and are extremely thin and unstable. They could not have been high at any time as there is a marked absence of debris and the dearth of pottery and kitchen refuse would seem to stamp the place as a temporary or emergency abode. The site is favorable for defense, and there are traces of defensive walls along the margin of the summit. The buildings are irregular in plan and comprise three groups, the full length of the groups being 450 feet and the width 350 feet. . . . There appears to be no historic reference to this site."

The writer visited this ruin often and did considerable digging in it. Moreover, he noted the Jemez remarks about this village when they were talking among themselves concerning it; and from this and from historic data, he is led to the conclusion that Mr. Holmes, who furnished the description used by Dr. Hewett, is in error with reference to his statement: "There appears to be no definite historic reference to this site." The Jemez asserted that this mesa was a Sia pueblo and that the Jemez had once attacked it and were defeated. The Sias also asserted that it was once their home and that they had fought the Jemez while living there. Furthermore, both the Jemez and the Sias call the mesa on which this village is located "Mesa Colorado." Moreover, it is the reddest mesa in the region. In fact, it is so red that though it is three miles west of Jemez, the reflected light of the morning sun shining in at the west windows of the writer's office at Jemez made everything have a peculiar reddish tint. To turn to the Spanish records, there can be no doubt that the Mesa Colorado mentioned in them is this very mesa.

When Governor De Vargas visited the pueblos in 1692, he found that the Sias and Santa Annas had together built a village on Mesa Colorado and that the Jemez, Santo Domingo and a few Apaches were fortified on a mesa at the forks of the

river in the village of Astialakwa. The Sias readily submitted, but the Jemez were hostile, finally submitting, however, October 26, 1692.

When Governor De Vargas and Ojeda marched against Jemez in July, 1694, the Jemez attacked the Sias on Mesa Colorado, July 21, and were defeated with the loss of five braves. Then on July 24, with the Santa Anna and Sia allies, Governor De Vargas took the Jemez mesa by storm, killed 81 Jemez and captured 371 prisoners; the village was sacked and burned and 300 fanegas of corn were captured.

The Mesa Colorado and the Sia Mesa is undoubtedly the "Red Mesa" and ruin three miles west of the present village of Jemez.⁽⁵⁾

The writer wishes to mention other works in this vicinity not previously noted. Back of the white buttes west of Jemez are small ruins which probably were simple stone houses. Also, between these buttes and the Red Mesa, are lines of stones which resemble crude house-foundation outlines, and others, wall-enclosure foundations. All seem to indicate that possibly a village was laid out here and then abandoned before work was really begun on it. There are also some indications that a reservoir was once started west of these buttes.

The remains of an ancient irrigating ditch 25 feet above the present ditch can be traced east of the Jemez river, the water apparently having been taken out of Vallecito creek.

No. 42.—On a bluff east of Vallecito creek, some three miles northeast of Jemez pueblo, occur two small ruins. They seem to be very old and show archaic varieties of pottery.

No. 43. *Potokwa*.—This is the ancient ruin in the valley of San Diego creek, just above the present Mexican village of Cañon. The

(5) See Reagan, *The Zia Mesa and Ruin*, Science, Vol. XXX, pp. 713-714; also Chillocco Journal, Feb., 1914, pp. 244-245.

ruin shows that there were at least two periods of occupancy, a large pile which was probably the village in pre-Spanish times and a smaller, recent village; many of the larger rocks seem to have been taken from the larger ruin to build the more recent one. The latter is in a much better state of preservation and consists of long rows of fallen houses surrounding two large courts. The remains of one of the Catholic churches of the region is also found in this ruin, said to be that of the Church of San José de los Jemez.

No. 44. *Astialakwa*.—This village crowns the mesa above Potokwa. The ruins stand a short distance from the rim of the almost inaccessible mesa-promontory. They are in several parallel rows, with outlying buildings. The walls, like those on Mesa Colorado (No. 41) are of unhewn stone, and like that ruin, bear evidence of hurried and incomplete construction. Mortar showed on some of the walls. This ruin is of interest as it was the Jemez village that Governor De Vargas and his Sia and Santa Anna allies carried by storm July 24, 1694.

45. *Giusewa*.—This is the ruin in San Diego cañon, just above Jemez Springs postoffice, twelve miles above Jemez pueblo. The adobe mortar of the walls has been made from debris of ancient house sites and is full of fragments of pottery, charcoal and obsidian chips, thus showing that the village was built on the site of a former village. This village, besides being quite large, is of interest as at its north terminus, abutting against a limestone promontory, is the ruin of the Catholic church of San Juan de los Jemez, with its heavy walls and fortress tower. The ruin has been constructed of materials derived from the immediate neighborhood. The tower and upper parts of the church wall are constructed of impure, friable, upper-Carboniferous limestone in which the writer found *Spirifer striatus*, *Productus punctatus* and *Seminula argentea*.

This pueblo is a historic site. In 1626, it is mentioned under the name of Guinzique and seems to have been abandoned four years before, on account of the hostility of the Navajos. In the year 1627, Fray Martin de Arvide, under permission of Custodian Alonzo de Benavides, gathered the Jemez again at this village and at Amoxiumqua, on the mesa adjacent.

46. *Amoxiumqua*.—This village is on the mesa overlooking Giusewa on the west, about a fourth of a mile from the rim of the mesa. The ruin shows an ancient structure which was quite extensive and a newer village which was the village probably built by the returning Jemez under Arvide. There also are the remains of seven kivas and a reservoir at this site.

47.—This ruin is in an open space in the forest on the top of a mesa-spur overlooking the cañon of a tributary of Guadalupe creek, about two miles west of Jemez Springs. It was visited by the writer on a hurried trip. Another trip was planned, but he was transferred to Fort Apache before it could be made.

48.—This village is a huge pile some three miles above Jemez Springs on the west bank of the creek. There are also the remains of two kivas at this place and what appears to have been a watch tower.

49.—A mile or so above the last ruin (No. 48) is a ruin in the shape of an open square facing the creek from the west. The plaza has two kiva ruins and there is a kiva ruin in one of the wings of the pueblo.

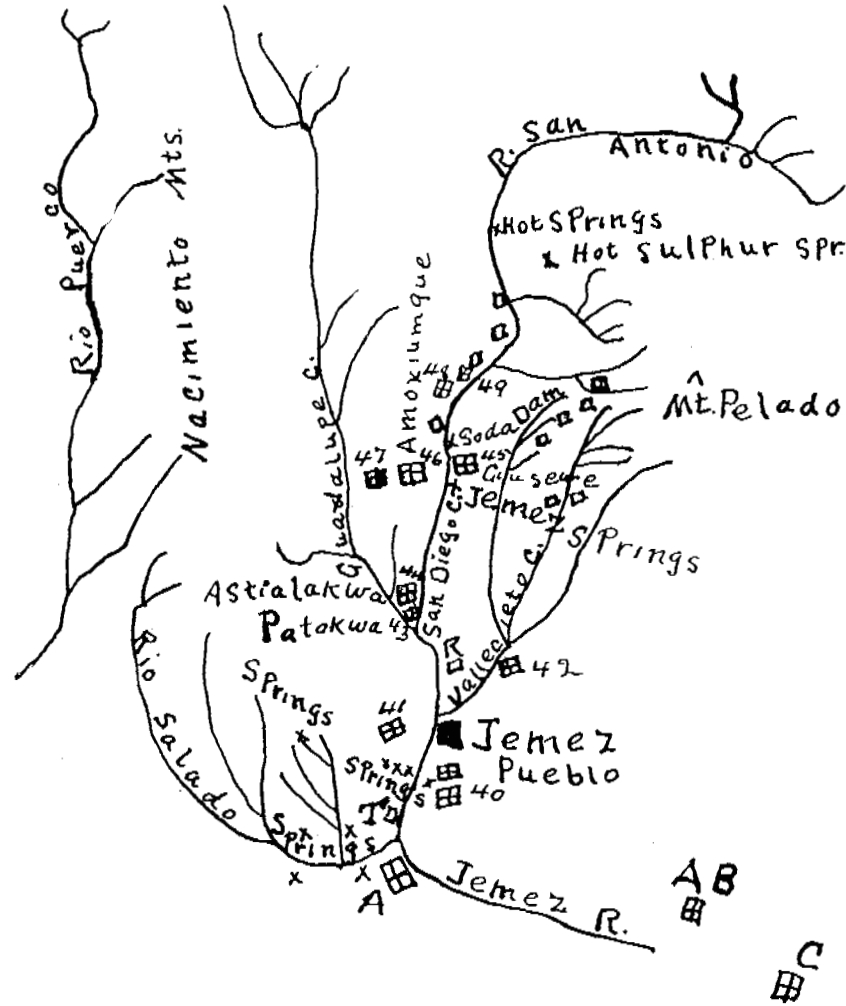
MANNERS AND CUSTOMS.

In appearance, the Jemez represent the true Indian type. Like most Pueblos, they prefer to wear their hair long: the medicine men saying that they can not take part in the medicine dances unless their hair is long. The men wear a suit resembling but of a different pattern from a white man's suit. The

women also wear a peculiar dress. Both men and women wear moccasins.

Care of the Hair.—The men's hair is worn in a doubled-back queue at the back of the head, or is worn loose, a band being tied around the head to keep the hair in place. The women wear their hair similar to the men, except the band is usually wanting, while they bang their hair in front; the men also often bang their hair in front. Both men and women are very proud of their jet-black hair and at least once a week and before each special ceremony, they wash it in soap-weed (amole) suds, prepared by pound-

ing up the root of the aloe (a cousin of the century plant), that grows in the region. The powdered product is put in water and a lathersuds is soon prepared. It seems to be quite efficacious in making the hair glossy black. A shampoo with it is considered a good cure for dandruff and falling hair. After the Indian has washed his hair, he dries it by holding it out over his arm in the sun. He then takes an Indian comb, made of a wisp of coarse, stiff grass which is firmly tied with sinew to keep it in place, the stiffened ends being used as the comb. After the hair is combed, it is done up as previously mentioned. The



ARCHAEOLOGICAL MAP OF JEMEZ VALLEY.

women usually do the combing of the hair for both the men and the women. The newly married wife always does up her husband's hair as a part of the marriage ceremony.

Men's Dress.—The Jemez man usually wears no hat, but a band of some kind of bright cloth is tied around the head to keep the hair out of the face. He wears a "geestring" and breech cloth under his other clothes, even if he dresses in white man's clothing. His pantaloons are loose and open before and behind, the opening being covered by the extended ends of the breech cloth. He wears a tunic-like waist garment, the tail part extending outside his pantaloons; (if he wears a white man's shirt, it likewise is worn over the pantaloons.) The clothes are usually light weight, light colored goods and their looseness tends to keep the wearer cool. The Indian man also wears a moccasin of a simple pattern, with laced tops, or with tops that are wrapped around the legs. Some of the tops are high, like leggings; others, short, reaching only above the ankles. The moccasins are made of cloth or buckskin, with a cowhide, home-made tanned sole. The buckskin is usually tinged with red; a little bead work often surrounds the heel part and is placed over the toes. A bunch of leather strings is usually suspended from the heel and leggings at the back. All the Jemez, both men and women, wear a cross and a string or more of beads suspended in front from the neck, and often a medicine bag. All wear wristlets; some, anklets; and a few, ear pendants. This is the ordinary wearing apparel; but on special occasions, regalia and paraphernalia are worn by each as their rank in the ceremony demands.

Dress of the Women.—The women wear short, black "manta" dress skirts with a wide band extending over the left shoulder, covering their chests but leaving their arms bare. In the old times, this was all the wearing apparel worn,

except moccasins. With the exception of the old women, this old-time dress is usually worn only on special occasions; and then modern dress is usually worn under it. The younger women dress more or less after the white woman's mode of attire. The moccasins worn by the women are larger than their feet, and the leggings are made very large. The feet and legs are wrapped with cloth to fill up the moccasins and leggings. The legging is a long, loose, wide strip of buckskin (or cloth) fastened to the top end of the moccasin. This is wrapped and re-wrapped around the leg with a gradual upward lap. At the top of the piece a long buckskin cord extends from the upper corner as the legging is wrapped. This is rewound around the legging downward to the ankle, where it is ingeniously and securely tied. The moccasins (leggings) reach to the knees; and these, together with the short, peculiar dress, give the Pueblo woman an odd but picturesque appearance. The women, like the men, are variously toggled out on special occasions, according to the part they are to play in the ceremony.

Man's Sphere and Work.—The Jemez man is not the head of the household in the same sense that the Anglo-Teuton is the head of the family. He is simply tolerated; and at any time the woman of the house wishes herself rid of him, all she needs to do is to put his accoutrements without the house and a divorce is effected. No court, no lawyer, no judge. Her will is supreme, and from it there is no appeal. The writer is glad to say, however, that the Jemez man and wife are joined together by ties of love and affection and these, together with the good influence of the Catholic Church, prevent separations and divorces. In the writer's stay at Jemez he knew of but one family quarrel and no separation.

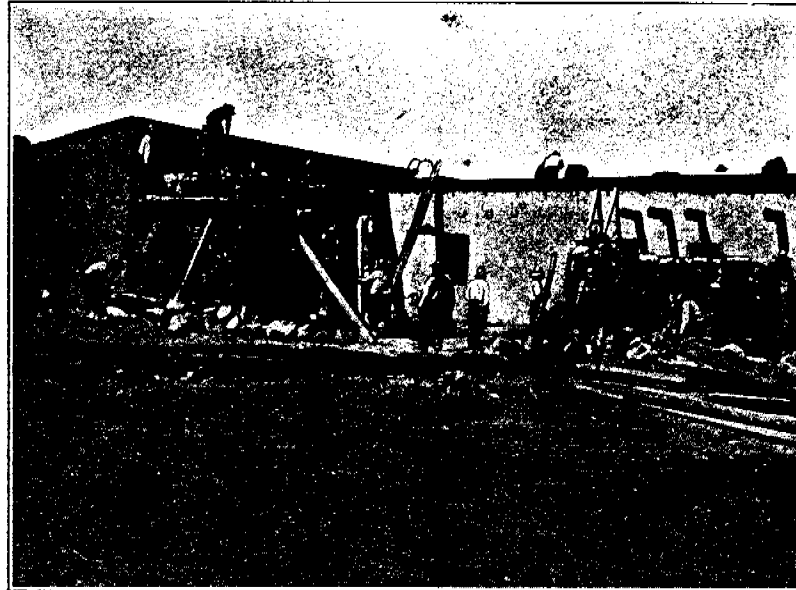
The writer will add here that it is considered that the man owns and

has the disposal of the growing crops; but when the crop is gathered and stored, it is the property of the wife and its disposal is subject only to her wishes and needs. As an illustration, the writer once tried to buy some stored grain of Juan Lope Chinninah and his wife refused to sell it. At another time the writer also tried to buy grain of José Romero, who was then the governor of the village, and his wife likewise refused to let her husband sell it.

As has been previously stated, the man tends the fields and does the other outside work generally; but his wife can help him if she wishes, and often does. Also, in the gathering of the crops and in the threshing of the grain, the women invariably all lend a helping hand.

In the preparing of the ground and the tending of the crop, the first thing is keeping the irrigating ditch in proper shape to carry the water where it is needed. This is done by the community at large, as will be mentioned later. The Jemez irrigates his ground thoroughly and as soon as sufficiently dry, if he is to

put small grain in the ground, he sows it, plows the ground with a single-horse pony plow, then levels the ground with a pole or a brush, with the aid of much hoeing. If it is corn or other rowed seed to be planted, he plows the ground and drops the seed in every third furrow, after which he levels the ground as above. If the crop is small grain, it is irrigated when it is about four inches high; again when it begins to head; and again when the grain is filling. When ripe the grain is cut with the old-fashioned hook-hand sickle. When at Jemez the writer tried to have the grain cut with a cradle or by horse machinery; but a council of the "principals" ruled that the grain had to be cut with hand sickles, as their fathers had cut it; it would be sacrilege to cut it otherwise. After the grain is cut (and sometimes bound into bundles), it is hauled to the threshing floor—a leveled circular spot of ground some fifty feet in diameter—and piled in the center. Around this threshing floor a rope-coral is made, and into this the horses of the village are



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PUEBLO MEN ERECTING BUILDINGS AT JEMEZ.

driven over the grain and straw in circular movement, as the women and men separate the grain from the straw by a tossing process with forks (modern forks or forked sticks.) When the straw has all been removed, the horses are freed, and by a winnowing process the chaff is separated from the grain. The women take the grain to the river or irrigating ditch and wash it, drying it on blankets or canvas. It is then ready for use or for sale.

If it is corn or other rowed crops, it is irrigated when about a foot high and then hoed. If corn, it is irrigated again when it is about knee high; other crops are hoed and irrigated as needed. The writer persuaded the Jemez Governor Augustin Pecos to cultivate his corn with a double-shovel plow one year; but hardly had he finished when a council of the "principals" forbade the use of anything but a hoe in tending crops, saying it would bring a calamity upon their race to do different than their fathers had done.

In the gathering of the crops, the corn is jerked and thrown in piles in the field. All the stalks are cut, hauled to the village and safely piled on the roofs of their corrals for winter feed. The ripe corn is husked and piled on the house roofs to dry thoroughly, after which it is stored in a bin in the house; in the old times one-seventh of the crop was stored separately and kept against a time of scarcity. Also the unripe corn, and there is usually considerable, is either boiled and eaten at the time, or is put in the Indian oven and baked with the husks on. When roasted till done (the roasting period covering a whole night in the oven—a fireless-cooking process), the ears are removed. The husks of each are stripped down and tied together and the ear hung on a pole in the sun to dry. When properly dried, the corn is shelled and stored in earthen jars for future use. The Indian woman has dried corn without cutting it from the cob.

Pumpkins, squash, melons, both green and ripe, are gathered and stored in the house for future use. Ripe peppers are gathered and hung on strings in the sun to dry. The dried peppers are tied in *wristas* (strings of peppers about five feet in length with the ends of each string tied together.) The peppers are then ready for sale. Everything possible of a crop at Jemez is stored for use.

The getting of the wood belongs to the man, not to the squaw, as among many Indian tribes. The wood is cut and hauled (packed) to the village on the backs of *burros*. It is a picturesque sight to see a burro coming down the mesa with a pack of wood bigger than he is, tied over his back.

In building a house, both men and women work at it. The plan of the house generally includes a living room, eating room and sleeping room. If not included as a part of the living room, there is a meal-grinding room. A baking room for making cornmeal paper bread (corn flakes in sheet form) and broiling meat is also built. This room is often narrow and ten or more feet in length. A store-room forms a part of the house, as well as blind closets and a small secret religious room. Only a part of the houses have a complete set of rooms as given here; some have only two rooms and a few have but one room for a family to use. The oven is a conc-shaped affair, built just outside the house or on the roof. The outer structure of the house, except the supporting logs for the roof, is built of adobe clay blocks which have been dried in the sun. The suitable clay is dug and piled near the building site. A mortar box or a hole in the ground is made. Into this the clay, water and straw in sufficient proportions are placed. The Indian mixes the mass by a bare-foot tramping process. When properly mixed the clay is moulded into blocks about two feet in length, one foot in width

and four to eight inches in thickness, and carefully placed on straw to dry. When a sufficient number of blocks are dried, the building is begun. The blocks are put down with adobe mortar. When the roof layer of the wall is reached, cedar logs are placed horizontally to support the flat dirt roof. On top of the cedar logs are placed poles, crosswise. On these are placed brush and straw carefully fit together and matted down. On these are placed foot of carefully kneaded adobe mortar, with the top having a slight slope in some certain direction. Around the whole roof is placed a raised adobe border a foot or so in height, through which a small wooden or clay trough is inserted on the lowest side of the roof to drain off the water when it rains. A thin layer of loose adobe is often placed over the mortared roof to prevent cracking. In the old times, the roof-mortar was carried from the mortar pit to the roof in a passing-from-hand-to-hand process by a line of Indians extending from the pit to the roof.

The walls were then made by the puddling process. At one time at Zia the writer saw Indians roofing a house this way. A small fireplace is built in one corner of the living room and one in the room where the paper corn bread is baked. The fireplace in the paper-bread room is large; its chimney extends at the back of the room its entire length. After the building is completed, the floor is laid. It is of adobe mortar, from six inches to a foot in thickness, case-hardened at the top by an inch layer of adobe mortar mixed with ashes, salt and blood. The building being completed, it is whitewashed with gypsum within and without by the women; the brush used is often the bare palm of the woman's right hand.

In making the corrals, an adobe or stockade-like enclosure, some seven feet in height is constructed. In one corner of this a stable is built of adobe; and adjacent to this an arbor-like affair, covered with brush. On this the hay and fodder are piled each year for win-



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PLAZA DANCE AT JEMEZ.

ter use. The stock is fairly well taken care of at Jemez.

The Woman's Sphere and Work.—The woman is usually the head of the family, so far as the house is concerned. Relationship is also reckoned on her side of the house. In work, she cares for the house, makes the pottery and baskets and helps her husband as occasion demands; the husband weaves the belts and usually makes the moc-casins.

In her housework, the woman sweeps the floor of the living room every morning, and brushes it after meals. This she does with the stiff ends of a wisp-like bundle of coarse grass or brush, though modern brooms are now used more or less. In cooking, she stews most things in an earthen jar over the fire in the fireplace. In stewing meat, the bones are broken up so that all the good will be boiled into the broth, or can be readily eaten. Lean meat is broiled over live coals in the fireplace, or over a fire that has been kindled outside the house. An iron tripod is used to set kettles and earthen jars over the fire when used in cooking. Formerly, the kettle was swung from above over the fire, or was set on a flat rock over it, or was set right in among the hot coals and blaze. In stewing meats, in fact, in stewing any dish, chile peppers form one of the ingredients of the stew. The stews are usually made so hot with pepper that it is said that should a Pueblo die in the woods, the wolves would not touch his body. The Indian begins to use the peppers when green: after the frost kills the peppers they use the ripe peppers till the green ones come again. In using them, they place them on a grinding slab and crush or grind them up fine, husks and all. The ground product, a cupful or more, is cooked with each kettle of stew. Meat is jerked and dried in the sun in summer; and this, when used, is also pounded up on the grinding slabs or by finely chipping

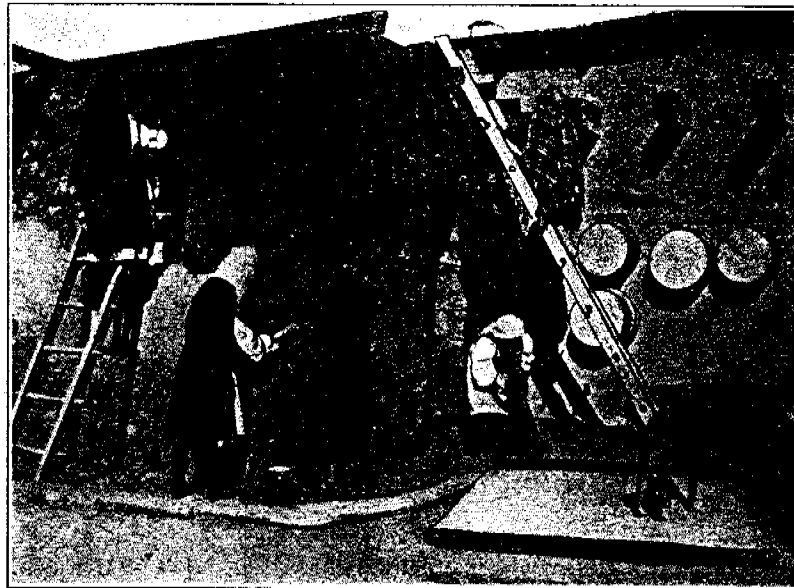
it with a pointed instrument. It is made into a gravy-stew with chile. Squashes and pumpkins are usually baked whole, the seeds not even being removed. Carrots, turnips and rutabagas are often eaten raw. Green corn is cut up with meat and chile; it is then *chile-con-carne*. Whole wheat is boiled and eaten with a relish. Wheat is gathered just as it leaves the milk stage and boiled with green chile; it is considered one of their best dishes. Wheat of this class is parched and eaten. Piñon nuts are parched in a basket by placing hot stones or live coals among them. The woman keeps tossing the basket to keep the nuts from scorching and the wicker basket from burning. Corn is parched in the same way.

In each house there is usually a grinding room. In this room there is a grinding box about ten feet long by three feet in width, with a border board of about a foot in height, the wall furnishing the border at the rear. In this box, inclined from the front margin toward the rear, are three grinding slabs, mortared in place with adobe mortar. They are usually of vesicular basalt (lava), with slightly beveled face. The front stone in the box is of coarse texture; the next finer grained and the last a still finer grained rock. Also, for each grinding slab there is a corresponding hand-piece of the same material, a long, rather roundish, cylindrical rock of convenient size for a hand-grip on each end. In grinding, the women crush the grain on the coarse slab first by throwing the grain on the slab and rubbing the hand-piece over it in a downward and draw-back movement, not unlike a woman rubs clothes on a washboard. In a similar way the crushed product is ground on the middle slab and finished on the last. Wheat is sometimes ground on these slabs, but is more usually taken to some Mexican water-wheel flour mill in the vicinity, or the wheat is sold and

flour bought in return. Corn is always ground on the grinding slabs, it being parched before grinding. The meal, when ground on the third slab, is almost as fine as flour. It should be added that the women have certain days (or nights) to grind meal or flour, and usually three grind at a time, the meal being divided at the close of the grinding period. If one or more of the operators are unmarried, a suitor or more come and sing and beat the drum while the grinding is in process. The women also have their grinding songs, which they always sing while grinding; they keep the grinding process moving in unison with the time of the song.

Wheat flour is made into bread and various delicacies. A sour dough bread is made, the dough rising as yeast bread. It is made into loaves and baked in the conical Indian oven, in which wood is placed and burned until the oven is a proper heat; the Jemez woman knows just how much wood to burn to get the proper temperature. When the wood is burned, she rakes out the coals and sprinkles the floor

of the oven with flour or salt to test the temperature. Then she puts the loaves in and seals up the oven, letting them bake over night. The bread when taken from the oven, though not comparable with our light bread, is light and wholesome. Pie made from various fruits and vegetables, with piecrust wrapping incased in corn-husks, is also baked in the oven. The loaves and pies are placed in the oven on a wooden paddle and removed from the oven on these. A stiff wheat pancake ("tortilla") is baked on a flat rock over the fireplace fire. The pancake is simply flour mixed with water and salt and kneaded till stiff. A chunk of the dough about a biscuit size is flattened into a pancake by pressing it between the palms and flapping it backward and forward between the hands. Baking powder is added, if at hand. It is laid on the heated, ungreased rock and baked until one side is done; it is then turned over and the other side is baked. When baking powder is used, a fairly good bread is obtained. A wheat bread loaf is also often baked in the ashes.



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PUEBLO WOMEN PLASTERING BUILDINGS AT JEMEZ.

Several foods are made from corn meal. A corn cake is baked in the ashes; another cake is wrapped in corn shucks and baked in the oven. Mush is made about the same way as white women make it, except it is usually stirred with two sticks. From the finest meal, mush is made and when cool a pot of this is taken to the "paper bread" baking room, where the squaw proceeds to bake "paper bread," called "wvava" by the Indians. She has a large flat rock or piece of sheet iron heated over the fire to the proper temperature; she tests the temperature by placing her fingers in water and tapping the rock with them. When all is ready, she dips a handful of the mush from the pot and spreads it over the flat rock with her bare hand to a thinness of less than the ordinary writing paper. When baked, the paper sheet curls itself off, and another sheet is spread; the first sheet is held over it a moment to keep in the heat, to facilitate the baking. It is quickly baked and is removed and another one is spread; and so on, till a whole "volume" of paper bread is made. The paper bread is then stored in an earthen jar for use when needed. It resembles our corn-flakes very much and is the best and most wholesome bread of the Jemez.

Pottery.—In the making of pottery, a suitable fine-grained clay pit is sought. A sufficient amount of clay is hauled or carried to the location where it is wished to burn the prepared pots. The clay is properly mixed, only water and clay being used. The pot-maker takes a handful of the mortar and makes the bottom of the pot, flattening it to suit her taste and the size of the desired jar. Onto this she adds a ring of the stiffened mortar and smoothes it with a piece of gourd rind. Ring after ring is added until the pot is completed. It is carefully placed in the sun to dry. Thus pot after pot is added, and when they are sufficiently dry to handle they are painted in designs to suit

the whims of the designer. The paints used are mineral, pulverized, crushed and mixed with the juice of the century plant. After the pots are painted, they are carefully piled and over them a slow burning fire is massed, a foot or more in thickness (cow chips is the fuel often used.) Fire is added and permitted to burn slowly for about twenty-four hours, when the pots are removed and are ready for market.

Basket-making.—Only wicker baskets are made by the Jemez Pueblos. The willow limbs are gathered, peeled and heated. They are then split with the teeth and fingers and afterwards pared to the proper thickness. From these the baskets are woven in mat-weaving style, but fashioned into the desired shape. The Jemez baskets are strong and serviceable.

Eating.—In eating at meal time, the viands are placed in dishes on the floor of the living room. Around it all the members of the family (and any visitors that are present) gather, and squatting on the floor, each helps himself with his fingers to whatever he wishes; forks and knives, except a butcher knife, are seldom used. Sometimes bowls of soup are passed to each person, but usually all sop their bread in the same bowl of soup. They also pick the meat out of the same bowl with their fingers. In eating, there seems to be no ceremony, and, as indicated, the women of the house eat at the same time as the men and share equally with them. This is contrary to the usual custom of Indians. The squaw often sits back and waits until her lord eats; then, if there is anything left, she eats, and if not, she does without. Not so with the Pueblo Indian!

More vegetables are eaten raw by these people than by white people. They also dig and eat the tuber of a certain sensitive plant that grows in the region. The tuber is sweet and edible and should be cultivated.

It should be added that in eating

a melon, the Jemez Indian takes it (either a slice, or the whole melon if not large) in his hands and eats it rind and all, as we do an apple. He also apparently eats a green melon with as much relish as a ripe one.

Hitching Up Teams.—When hitching up a team, the Jemez, as most of the Indians of the Southwest, hitch the tugs first, then take down the lines and snap the checks in place and put up the neck-yoke and tongue last. Runaways often occur as a result of this backward mode of procedure.

BIRTH CEREMONIES.

The child is born with its mother sitting on her knees. The child is washed by one of its grandmothers; the oldest woman living on the mother's side is preferred. In this washing, the grandmother warms the water in her mouth and blows it over the child. After the bath, corn pollen is sprinkled over the child's body as a drying powder and as a blessing of the gods. A cradle is made by the mother and the child is prepared to be strapped in it. At about this time a feast is prepared and the chiefs of ceremony in the village are called and perform a

special ritual over the child to make it have a successful, healthy, long and happy life. In many cases, the "gee-string" is placed around the child's waist-line. This is sometimes done on the house-top, the child being held to the view of the public while the ceremony is performed. A short speech is sometimes delivered, eulogizing the parents and setting forth the good the child may do in the world.

CEREMONIES OF ADOLESCENCE.

The adolescence ceremonies divide themselves into two classes, those performed over the males and those performed over the females. The boys, when entering the period of manhood, go off singly or in groups by themselves and fast and pray and perform certain ceremonies prescribed by the medicine men to make them strong, courageous men, to secure them a suitable life partner and healthy offspring. They are prayed over and sprinkled with sacred meal and corn pollen by the medicine men at certain stated times. The ceremony is kept up till in their dreams their guiding totem (token or guiding spirit) appears to them; it is usually a bear, or some other animal, or the thun-

♩ = 116. ♩ SONG TO THE GODS MUSIC TRANSCRIBED BY
Albert Gale

HO HO-WA HO-WA HO HO-WA HO-WA HO, HO HO-WA HO-WA HO HO-WA HO-WA HO.
HO-WA WAM-ME HO-WA WAM-ME HO-WA HO-WA MOR-TA-ZU-MA WAM-ME.
MOR-TA-ZU-MA MOR-TA-ZU-MA MOR-TA-ZU-MA WAM-ME.
WAM-ME WAM-ME WAM-ME WAM-ME WAM-ME WAM-ME MOR-TA-ZU-MA WAM-ME.
HO-WA MOR-TA-ZU-MA HO-WA MOR-TA-ZU-MA HO-WA MOR-TA-ZU-MA MOR-TA-ZU-MA WAM-ME.
D.C. AL.

SONG TO THE GODS, JEMEZ, N. M.

der bird. Having seen his guiding spirit, the seeker for knowledge and protection makes an effigy of it; and this, amid special ceremonies, is suspended from the neck over his chest by a buckskin string. A medicine bag is given him at this time, to ward off sickness.

When a girl arrives at the threshold of womanhood, she, too, goes through certain ceremonies. She is taken to some secluded place and there she fasts and prays four days, while medicine men and medicine women pray over her and perform ceremonial contortions to drive away the evil spirits that may attack her, or bestow upon her an undesirable husband, or cause her to be sterile or have diseased children. As one Indian told the writer, the whole ceremony is a prayer for a husband for the debutante and for her to have many and strong children. A feast and dance close the ceremony. The whole performance is the girl's "coming-out" into society. After this ceremony she is eligible for marriage and suitors are welcomed.

MARRIAGE CEREMONY.

Usually, in marriage ceremonies, the suitor places the dress-blanket over his fiancée. She bakes him ceremonial cakes, which he eats, and combs and does up his long hair. They are then husband and wife, and he takes her to his own house or goes to her house to live with her.

DEATH CEREMONIES.

When a Jemez Indian dies he is buried at once, usually with his personal belongings. At a few funerals the writer attended, the women wept, screamed and rolled in the dust of the street, and in one case some of them shredded their clothes and tore their hair. After the burial, the women rush back to the house of the deceased (his home), take whatever of his clothes and ac-

couterments that were not buried and burn them so that, in the form of flame, smoke and steam, the belongings of the departed may accompany him through the air in his four days' journey to the happy hunting ground. The women of the family, aided by the medicine men, draw on the adobe floor in the living room of the house of the departed a large sun-circle, with four projecting darts of protection, one extending in each of the four cardinal directions. Within this circle they place a small crudely carved wooden effigy of the dead one. Over this they throw a new piece of cloth. On one side of this effigy is placed a new earthen jar filled with water; on the other side, a basket of eatables. These things they furnish so that neither hunger nor thirst shall cause the traveling spirit to suffer. Furthermore, as the road the soul has to travel is long, dangerous and beset with evil spirits lying in wait to capture the defunct or hamper his ultimate fealty, they lay beside the image a small war-club and a bow and some arrows within the representative circle of the god of day to protect the deceased from harm in transit. Moreover, to render the journey safe beyond doubt, they draw within the circle the foot-prints of the great Pest-ya-sode, the "road-runner," who protects the souls on their journey to the abode of the good dead.

As soon as these things are done, the women gather in a circle around the image and drawings and weep, sob, scream, yell, dance, sprinkle sacred meal and corn pollen toward the abode of those on high, and pray loudly to the gods for the safe journey of the departed soul and its arrival in the land of bliss. This performance is continued for four days. At about three o'clock in the afternoon of the last day the man annually appointed for the purpose goes to the house of the deceased, obliterates the sun drawing encircling the image of the dead, carries the effigy, basket of eatables and

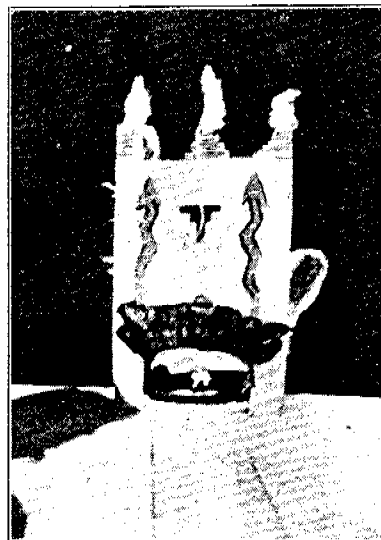
water jar and everything that pertained to the departed to the edge of a canyada to the east of the low mesa east of the village and hurls them to the valley below, being sure that everything is broken or destroyed beyond use. Over them he then sprinkles sacred meal and pollen for a moment. This completes the ceremonies; the journeying soul has reached the Indian heaven.

MEDICINE CEREMONIES.

These Indians, like most Indians, have medicine dances to cure the sick. They also use the sweat bath of purification for the same purpose, but not to the extent that some of the other Indians do. During the dances for the benefit of the sick, the chief medicine man sprinkles the patient with corn pollen and sacred meal, prays to his gods, contorts and otherwise mortifies his own body, doctors the patient by a crude process of massage, and occasionally gives him root tea to drink. All this is done to drive "sick" away. Most Indians believe that sickness is caused by evil spirits entering the body, often that the sickness is wished on them by some medicine man whom the patient, or some member of his family, has



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JEMEZ PLAZA DANCER.



Copyrighted by Albert B. Reagan
HEAD ORNAMENT WORN IN
GHOST DANCE AT JEMEZ.

caused to be offended, and the ceremony is to overcome the supposed evil influence of this medicine man or the evil spirit's hypnotic or witch power. While the medicine man is performing over the patient, a houseful of nude men often chant and dance around the couch of the sick one. They dance and chant with doors and windows of the room closed till the air in the room is so foul as to take a civilized man's breath. When they have performed as long as they can stand it in the ill-ventilated room, they rush out into the streets and plaza and run hither and thither, uttering shriek after shriek that would make any white man's blood run cold. The shrieking is done to drive away the evil spirit, "sick." The patient, if really sick, usually dies.

GATHERING SACRED CORN POLLEN.

The Jemez use corn pollen in much the same way as incense is used in some of our Christian churches and as it is used by the Jews in their worship, except it is not burned, but simply sprinkled

over people and objects, as a part of their worship and as a blessing and consecration ceremony. This corn pollen is also carried in the medicine bags as medicine. The gathering of this sacred meal (pollen) is a part of worship and is preceded and followed by elaborate ceremonies.

The gathering is done by virgins. These are consecrated to the work by fasting and praying in the *estufas*. When consecrated, they go out into the corn-fields with new, tray-like baskets and, as they pass down along the rows of corn, they pull down the cornstalks and shake the pollen off into the baskets. This work is begun early in the morning and is kept up till the sun reaches a certain designated point in the heavens, when they return to the *estufa* with the gathered pollen.

From leaving the *estufa* to gather the pollen, the virgins are forbidden to speak to any person, no matter who it may be, till their return. On re-entering the *estufa*, other elaborate ceremonies consecrate the pollen to the various uses to which the Jemez apply it.

WORSHIP AT STONE ALTARS.

The stone altars of the Jemez are usually made of heterogeneously piled petrified wood, of which there is much scattered throughout the region. On approaching one of these altars, a Jemez takes out of his medicine bag a pinch of corn pollen. This he sprinkles on the altar. He takes two small sticks from somewhere about his clothing and, wrapping each with sinew and feathering the end as wrapped, he gently lifts a stone of the altar and places them under it as an offering to his deities. He may leave offerings of tobacco, also. He sprinkles some of his incense—meal medicine and pollen—over the altar again and to each of the semi-cardinal directions as he blows his breath gently toward each of these points. He leaves the altar in the same direction he came.

SUPERSTITION, WITCHCRAFT.

Like most Indians, the Jemez are very superstitious and also believe in the power of the medicine man to do them harm if he wishes. This, of course, leads to the belief in witchcraft. They believe that a witch, usually a woman, has power to harm or kill anyone she wishes, or can bring any calamity on the tribe by having owl feathers in her possession and by making black corn "talk." Having owl feathers and black corn in one's possession is *prima facie* evidence that the possessor is a dealer in the "black art," and she or he were formerly summarily put to death. So far as there is record, the Jemez have not put anyone to death for witchcraft in the last century. But in 1856 the Sias, their neighbors, stoned a man and his wife to death for practicing witchcraft.

GOVERNMENT.

The Jemez have what might be termed in many respects a republican form of government. A governor (mayor) and thirty-one other officers are elected annually. The cacique and his aide, who hold office in a sense as religious advisors and judges, have life tenure, and some of the offices are said to be hereditary. The retired governors and the caciques form what might be termed a law-giving group, and they have judicial powers. They are called "principals" and act as such for life. The Jemez Indians, in council assembled, have a voice in the business of the village.

In the election of a governor, the candidate is nominated the night before the election by the caciques in secret session by the "counting of yellow corn" (casting lots.) The election is proclaimed in the night and guards are stationed to keep everyone in the village. About noon of the following day every adult male is compelled to go to the north *estufa* to vote; a delinquent is ar-

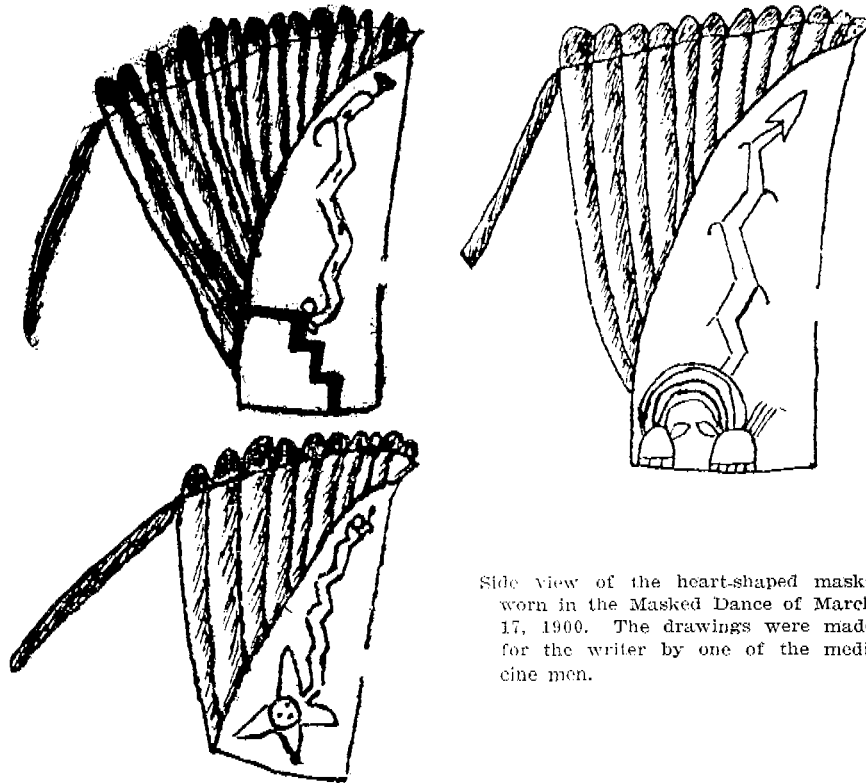
rested and dragged to the *estufa* and is fined. When all are assembled, the retiring governor makes his farewell address and delivers up to the presiding cacique his two canes of authority. The cacique declares the nominee elected in a long speech. The voting immediately follows. It is usually by acclamation and must be unanimous. One dissenting vote would disqualify the candidate for election and would call for another nominee. As soon as declared elected, the governor is inaugurated there and then beneath the great arches of the Rain Bow in the West and the Rain Bow in the East. The election of the other officers follows immediately, the retiring officer nominating his successor in office, who is usually elected by the assembly.

An elective officer is eligible for but one term at a time in any one office and must serve without compensation, and, if elected, he must serve whether he wishes or not. The

writer was told that José Romero, who was governor when he went to Jemez, refused to serve and that he was locked in the stocks five days before he would accept the office.

In the Jemez council, anything proposed must have the unanimous consent of all present before it becomes a "law" of the place. This accounts for the slow progress made in breaking away from old customs and the inculcating of new ideas and ways. There is always some old person who will object to most new things proposed.

Everything at Jemez is arranged beforehand by the council ("principals"), even the planting of crops, work on irrigating ditches, harvesting, feasts, fasts, etc. The decision is proclaimed by heralds, usually the governor and his aides, who go about the village at evening and morning and in loud, strident bass voices proclaim to the people what they shall do during the day, and they must do as ordered. If they



Side view of the heart-shaped masks worn in the Masked Dance of March 17, 1900. The drawings were made for the writer by one of the medicine men.

disobey, they are severely punished.

The Jemez were granted their village site—a Spanish township—by the King of Spain, and, though they have been transferred from one government to another several times, they still hold legal title to the site and surroundings. By the Treaty of Guadalupe Hidalgo with Mexico the United States government took over the Pueblos and agreed to grant them the same rights and privileges that were accorded them under the Mexican government. By this treaty the Pueblos are full-fledged citizens of the United States and their pueblos are incorporated villages, as they were so recognized under the Mexican government. The Indians, however, have never demanded all their rights under our government. They prefer to be let alone and not to pay taxes.

HABITS.

The Jemez have their own vineyards, which they cultivate with much care. The vineyards are enclosed with adobe fences. The grape vines are regularly pruned in the fall and are coiled up around the stock-root on the ground and deeply covered with dirt to keep them from freezing in winter. In the spring, the dirt is removed and the vines put up on arbors. The grapes are mostly raised for the wine they will produce. The wine is pressed out of the grapes with bare feet and is fermented in barrels.

The two winters the author was at Jemez several families had a barrel or more of wine in their store-rooms, yet only one Indian became drunk to his knowledge. The village officers see to it that drunkenness does not occur, and are alleged to be very severe in their measures to prevent inebriety. The author was told that one of the former Indian governors got a notion that, being the chief officer, he could indulge as much as he wished.

But they arrested him and put him in the stocks and pillory for five days. It is also related that one night, while the governor was in the stocks, a dog attacked him and by some means he seized the dog and choked him to death; it was kill the dog or be killed by him. At any rate, this ex-governor was one of the soberest men in the village at the time the author was there.

SCHOOLS.

The Jemez schools have been varied. In the '70s, of the last century, or thereabouts, both the Catholic and Presbyterian churches had mission schools in the village. The Catholic school was abandoned and the Presbyterian school was finally swallowed up by the government school; this, in turn, has been abandoned, and a Catholic mission school has been established by the Franciscans.

Only half of the Jemez children attended school in 1902, but now the percentage is much better. Of the children who attended school, most of them learned rapidly, and the parents appreciated the schooling advantages accorded.

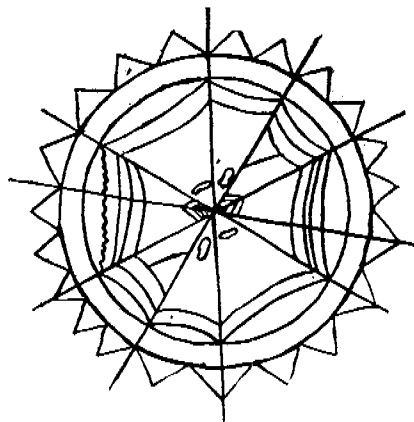
FOLK LORE.

The Jemez tell many stories around their firesides. Many of these relate to the Spanish *entradas* in the region, the Pueblo Insurrection of 1680, and the storming and capture of the Jemez village of Don Diego (Astialakwa) by the Spaniards on July 21, 1694; also, legends (myths) about the Moon Mother and the Great Bear and the traditional origin of their race, together with the teachings of their mythical First Brother, Pest-yasode. The myths about the capture of Jemez are given in the author's "Don Diego" (published by the Alice Harriman Company of New York) and the reader is referred to that work for them. Only two of the leading myths can be given here.

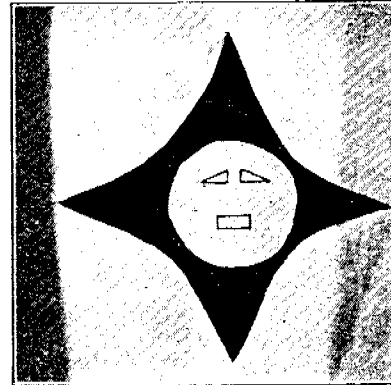
MYTH OF THE MOTHER MOON AND
THE GREAT BEAR.

"The bear is the earthly representative of one of the enemies of our race," said the aged medicine man. "He is the representative of the Great Bear in the northern heavens that wronged the mother of our race in the long ago. Long, long ago our Mother, the moon, went down to the river in the early morning to get water to use in cooking breakfast for our father, the sun. She dipped the water jar into the flowing water and dipped it nearly full. Then to complete the filling, she took the gourd cup, as the women all do, and commenced dipping up cups of water to put into the jar. Once as she leaned over to fill the cup, a bear, which had approached her undetected, seized her from behind and carried her to his great cave in the mountains. In the entrance way he rolled a big rock and there he kept her, bringing her food each day.

"After she had been there a great while, she gave birth to a male child, the son of the god of day. This child grew to his full maturity in this cave. He could not get out, because, on leaving each morning in search of food, the bear always rolled the rock into the en-



A drawing of the Sun on "Red Rock," one mile north of the present village of Jemez. It also represents the "Spider Woman." Copyrighted with "San Diego," 1914.



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STAR DRAWING IN SECRET DARK
CHAMBER AT JEMEZ.

trance, and, on his returning, he closed it behind him at all times with the same rock. But after obtaining his full powers, this offspring of the parents of all things was able to roll the stone away and go where and whenever he pleased. He always continued, however, to go after the bear had departed in pursuit of game and to return before that animal came back at the close of day.

"At first, this son of the moon-mother thought that he was the offspring of the bear, but, at length, his mother told him who his true father was and related to him how it happened that she was in that miserable condition. From that time on the mother and son talked over plans of escape. At last they made up their minds what to do, and at the first opportunity they put their plans into execution.

"As soon as the bear was out of sight and hearing one morning, the son of our great mother rolled the stone from the cave entrance, put his mother on his back, and ran all day toward the place where the sun goes to rest at night; because he knew that at the sunset place the sun touches the earth on all sides of the great hole at his going down. Towards night they could hear the growling bear coming in the distance. Harder and harder our first brother ran with our mother.

Nearer and nearer the bear came. With open mouth he got so close to them that his breath blew in our mother's face. With a horrifying growl the animal sprang to seize her. At the same moment our brother, with one great leap, reached the palace of the sun. The great gate closed and shut the bear out.

"But the terrible beast charged upon the gate and would have broken it in pieces had not our brother left his mother and drove him from the palace front with his mighty war-club. Bent upon having his wife, as the bear styled our mother, he then attacked the palace in the rear. On this side, another of our brothers, a son of those above, defended the edifice and drove the infuriated animal away.

"To reward these defenders of the sun's wife and of his home, the Great Spirit made our first brother the morning star, and the other brother the evening star. The morning star still guards the entrance to the sun in the front, the evening star the entrance in the rear.

"Ever since the rescue, the bear and his descendants have been enemies of the moon, our mother-god, and we, her children, and ever since then it has been the women's privilege, the woman's duty to destroy the bear every chance she can, to avenge the wrong done the moon-mother in the long ago. Her sons capture or kill them, and she takes revenge on the living animal or upon its lifeless hide."

THE MYTH ABOUT THE ORIGIN OF
THE JEMEZ RACE AND THEIR
KNOWING BROTHER, PEST-YA-
SODE.

"This earth is flat and round like a pancake," said the war-captain, "and is known to possess four places of habitation, situated one above another. Each has for its roof the floor of the apartment above it, except this one, which has the sky. A long, long while ago our people

lived in the apartment beneath this one. For a long time they lived there. Finally, one day a man saw a hole which led up to this earth-shelf. This man climbed up through it and many of the people followed him, till a big fat woman got stuck in the hole and plugged it up. The mouth of the hole being in the far, far north, a council was called. At this meeting, the 'principals' decided to move toward the noon-day sun. Said they: 'The sun warmed the place from which we came; and therefore, by moving toward it this earth must become warmer.' So they began their march over mountains of ice and snow towards the boiling ocean. For a long, long time they journeyed; but the land of sunshine was not reached. On, on they marched till their food supply became scanty and their blankets became worn out. Then one by one they died of hunger. For a while those who survived kept up courage even under the adverse conditions, and continued their onward march. At last, however, their numbers being so depleted, they became despondent and wished all to die. At this juncture the mother god, the moon, prayed to her husband, the sun, to save the remnant of men, their children. So the sun took one of the survivors of our people, painted his body in transverse black-and-white bands, decorated his head with corn husks, suspended an eagle feather behind each ear. As soon as thus painted and decorated, this man became a 'funny man' (*koshare*—clown), and began to dance, cut capers, and make grimaces. So interested did the people become in his performance that they forgot their sorrows and became glad. Then they resumed their journey till they reached the confluence of the Rio Grande.

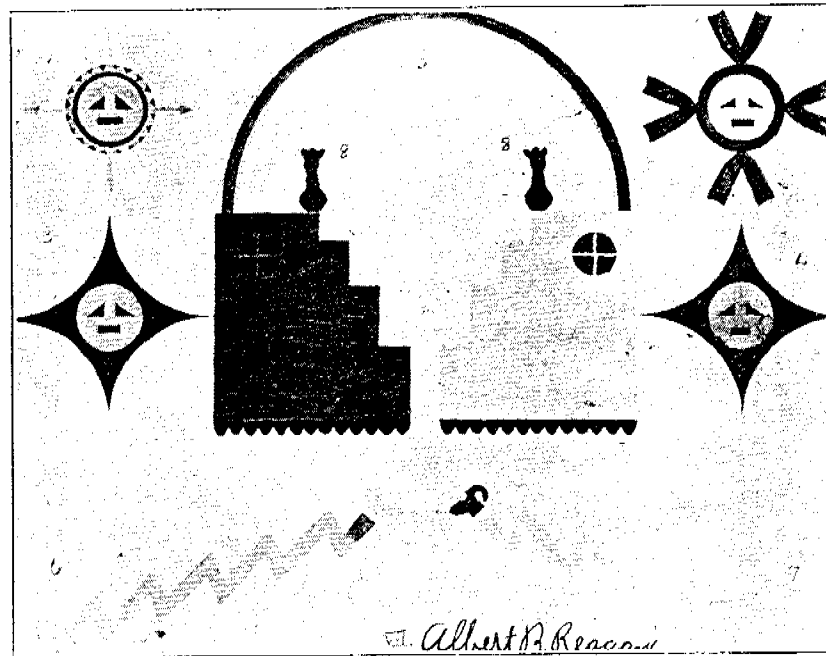
"Here in this valley they ceased their wanderings and took up places of abode. Being few in numbers and not being trained in the arts of war and defense, they were afraid

of the savage tribes, the Apache and Navajos, that dwelt in the region. So they established their places of habitation in narrow canyons, along cliffs, and in caves. In these they lived a great, great while, subsisting on the grain they raised in their fields and on the game so plentiful in the country at the time. Then the savage hordes began to make inroads into their territory. They killed all the game, or, by their presence, it was made unsafe to hunt. They took the fields one by one. They drove the people to the cliffs and caves; and then either captured these strongholds by storm or starved the people till they came out of their own accord and gave themselves over to be slaughtered or to be enslaved. Only a few places still held out, and these were reduced to such straits that their capture, followed by the massacre of the prisoners, was daily expected. Certain was their annihilation.

"Again the mother-god prayed to the sun to save their children, and a second time the great father came to the rescue. At this time he placed among them a 'knowing man,' whose name is Pest-ya-sode.

"Pest-ya-sode defeated the enemies, raised the siege of the caves and cliffs and drove the savages out of the narrow canyons. He trained the people in the art of war. He led them out into the open country. He routed the hostile tribes in encounter after encounter, and at last

Pest-ya-sode is confounded with Montezuma and Jesus. After mass at the Catholic Church, the chief Indian present explains the priest's talk to the Indians and in so doing he usually uses "Montezuma" (if he gives his explanation in the Mexican language) or, "Pest-ya-sode" (if the explanation is given in the Indian), as an interpretation of the name Jesus. In the Mexican, Jesus (pronounced "hay-sus") is also used. Montezuma (somewhat slurred) is also used for the interpretation of Jesus, even when the interpretation is given in the Indian language.



WALL PAINTING IN SECRET DARK ROOM AT JEMEZ.

1. Sun. 2. Moon. 3. Morning Star. 4. Evening Star. 5. Rainbow in the West, differing from the Rainbow in the East, in that it has the God of Flowers emerging from the water jars beneath the arch. 6. The Red Snake. 7. The Blue Snake, the rain symbol. 8. Flash Lightning, which produces flowers. Steps beneath the water jars are clouds from which rain is dropping.

expelled them from the region. He instructed the people to build villages in horse-shoe shape, with continuous outer walls, so that they both served as places of residence and as fortifications. He taught them their religious rites and ceremonies. He instituted the sacred hunts. He taught the people to paint their houses and edifices of worship in representative figures of the gods. He made the column dancers the sprouters of grain; the 'funny men' the maturers of grain and of everything that lives and grows upon the earth. To the god-down dancers he gave the power to represent men before the deities. To the medicine men he gave power over 'sick' and over death. To the sun priest and his aides he gave power to intercede between those above and men.

"For a long, long time he lived with them, extending their territory, building pueblos and erecting houses of worship to the sun. Finally, after he had made them a powerful and prosperous people, he called them all together and told them that there were many peoples that he must teach as he had taught them, and that he must go and instruct them. 'Then,' said he, 'when I am gone you will neglect to do the things that I have taught you. Therefore will my father, the sun, come in his wrath, destroy your pueblos, and give your fields to another race. After that you will return to do the things I have commanded you. Then when you have returned from your evil ways will I come on the wings of the morning, in the chariot of the sun, expel the intruder from the land, restore you your ancient possessions, and establish you in all your former glory.'

"After Pest-va-sode had departed the people did exactly what the great man said they would. They departed from keeping his sayings, quarreled among themselves, and finally became divided.

"Our division came to this val-

ley; the other went to Pecos, over the mountains towards the rising sun. In this valley our people builded village after village, only to have an earthquake throw them down or to have them razed to the ground by some of our many enemies. We have built villages on almost every foot of land in the valley of the Rio Grande to this place (present Jemez), a distance of a good day's walk; and, besides the ruins in the valleys, thirteen of our deserted villages dot the mesa to the northward between here and the boiling springs (Sulphur's.) Finally, only one village remained. It was situated on the isolated mesa yonder, at the junction of San Diego and Guadalupe canyons. Against this place the palefaces came with their cannon and, after a many days' battle, reduced it to the mass of ruins it is this day. Some of our people escaped to the Navajo country, but the greater part of them were captured and reduced to a state of servitude for a time. While thus under Spanish yoke the people built the village and church of San Juan de los Jemez, at the boiling springs (Perca, or Jemez Springs), and the village and church of San José de los Jemez at Cañon, the ruins of each of which still remain. Then the Indians rose against this race of intruders (1680) and killed them all in the two villages. But more palefaces came and took possession of the land again. This time they moved us all to the valley where we now live. Since then have we done penance and mortified our bodies to appease the wrath of the great father. And each morning at early dawn we send a man to the top of the mesa yonder to see if the great Pest-va-sode is coming on the wings of the morning to expel this race from our land and restore us our ancient possessions."

THE SACRED HUNTS.

There are several sacred hunts a

year at Jemez. Among these are the sacred rabbit hunts that are connected with the tending of the cacique's field, one of which is held at the planting time and the other at the gathering of the crops at corn-husking. Principal among the other religious hunts are the Eagle Hunt and the Bear Hunt.

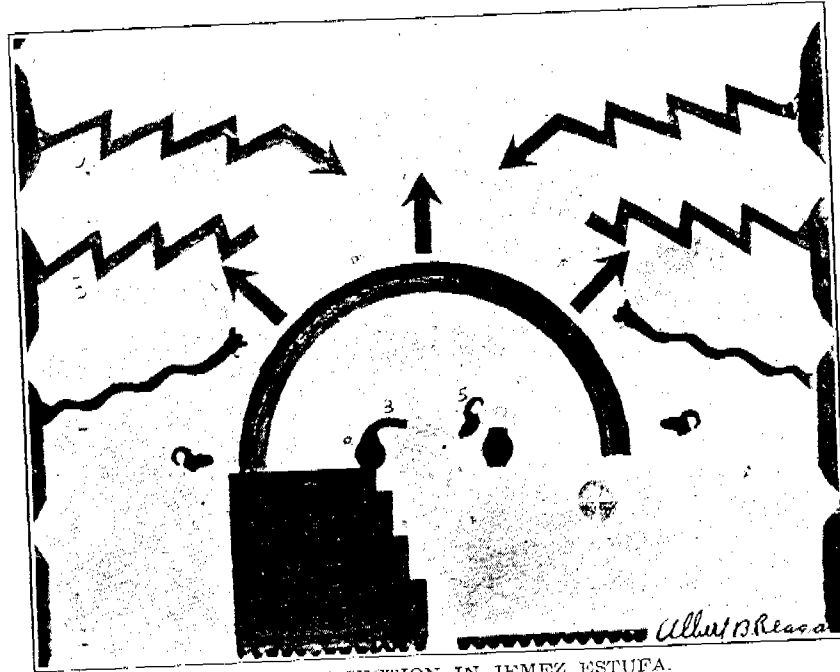
THE BEAR HUNT.

After elaborate ceremonies of preparation in the *estufas*, some twenty men go to the mountains each fall on a sacred bear hunt. A week is usually necessary for the trip and return. A bear is brought home alive, if possible; if not, the hide with the head on it is brought home. The return of the hunters is heralded from the house-tops and their entering the village with the bear (or his hide) is attended by elaborate and exciting ceremonies,

which are followed by the Bear Dance; practically the same ceremonies are had for any party returning with a bear, whether killed in a sacred hunt or not.

THE EAGLE HUNT.

A select group of hunters, when sent on an eagle hunt, usually go to the Nacimiento Range, west of Jemez. There they build a strong pen of logs which they roof with heavy logs, leaving only a small hatchway. Near this hatchway, they tie a live rabbit, deer, or lamb. Then the bravest hunter gets inside the pen out of sight and waits, sometimes for days, till an eagle comes and tries to seize the bait. At the proper moment, the secreted hunter seizes the eagle by its feet, bare-handed, and before the bird has time to make a fight it is dragged through the hatchway, which at the



RAINBOW SECTION IN JEMEZ ESTUFA.

1. Clouds. 2. Bolt Lightning that does not strike the ground. 3. Bolt Lightning that strikes the Earth-- the Power of Evil. 4. Flash Lightning, the producer of blossoms. 5. Blue Snake, the rain symbol. 6. Rainbow in the East. a. Water reservoir of the universe. b. Clouds, the steps to Heaven. c. Raindrops. d. Rainbow Arch. e. Dart heads to protect the rainbow. f. g. h. i. j. k. l. m. n. o. p. q. r. s. t. u. v. w. x. y. z. The Rain Snake and the Red Snake are in combat. The Rain Snake being defeated, retreats eastward, taking the clouds with him; hence the rain ceases.

same instant is closed. The hunter, often badly scratched, is let out of the pen by his companions and the bird pounds itself to exhaustion against the logs in its mad efforts to escape. It is then bound and taken to the village, where it is kept in a log cage for its feathers.

THE SACRED RABBIT HUNTS.

There are at least two rabbit hunts a year. These differ only in that in the ceremonies following the one, the cacique's field is planted, and in those following the other, the crop on that field is gathered and stored for future use.

The hunt in the fall of the year was witnessed by the writer and is described here.

In this hunt only rabbit clubs are used (clubs shaped like a shinny or golf club); no bows or arrows or white man's guns are ever taken on the sacred rabbit hunt. Men, women, boys, girls, all participate, some on horseback, some on foot. The war captain has charge of the hunt. His plan is to surround a certain area, usually a wooded ridge of a square mile or more in extent. In the hunt I witnessed, the hunters had surrounded such a ridge. On all sides of the ridge they advanced except at a point where a small dry ravine descended. Here a group lined up on either side, forming a chute-like pocket, closed at the bottom by Indians holding ready their clubs. As those on the other side of the ridge advanced, the game, expecting to escape down the apparently open ravine, entered the blind pocket and were at once at the mercy of the deftly handled clubs. A rabbit leaped down the chute. A dextrously hurled club broke its back or neck. Another and another rabbit met the same fate, as the commingling of human voices and the pounding of bushes and brush at all other places on the ridge drove the game hither where all was quiet. A coyote ran down the chute. Club after club passed

over it. Several hit it, but with little effect, except to make the tormented, scared beast run faster. Finally, however, just as it neared the blind point of the pocket, a club hit it on the back of its head and caused it to stagger. Instantly, forty clubs were beating it to death. At that moment there was a hue and din from all parts of the ridge; while thundering through the brush and over rocks came a male deer with antlers and head raised. Sniffing the air and scenting the danger, he bounded down the open space toward the coveted liberty. A club hit him—a hundred more. Higher he leaped and jumped. Swifter he bounded. He ran the chute, broke through its protected terminus and had leaped high into the air in free territory, when a forcibly hurled heavy club struck him at the base of the skull and he fell with a crash. Instantly the hurler of the club found himself being cheered and lauded by everyone. He had killed the big game of the day.

The hunt over, everyone returned to the village. On entering the plaza, the captured game was placed on the ground in a long line through the village, end to end, with the larger game heading the line—all with heads toward the evening sun. Then the hunters, headed by the one who had killed the deer, passed down the long line on one side of it and then back on the opposite side and stroked each animal's hide with the left hand, as they sprinkled it with sacred pollen and prayed to their gods.

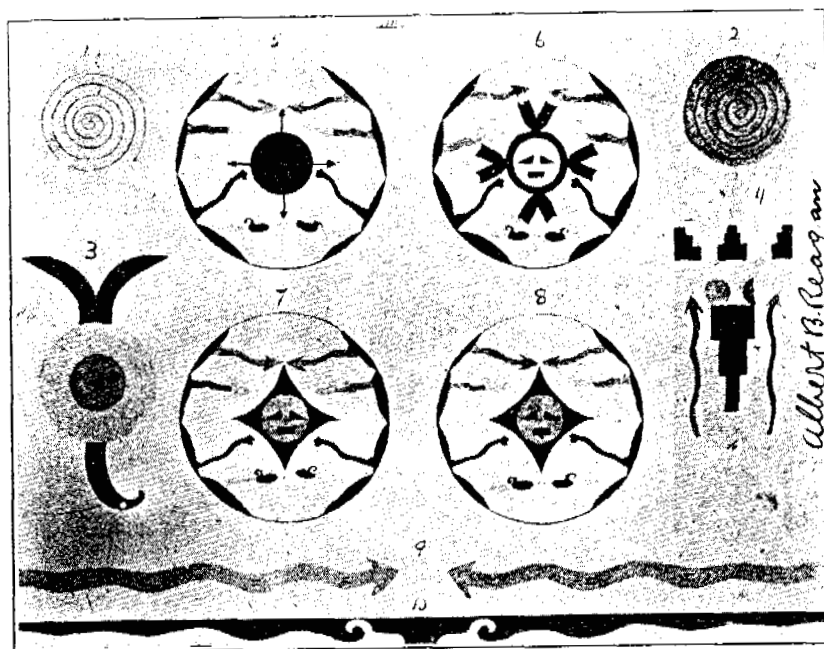
This praying, sprinkling, stroking process being completed, the populace lined up in two columns, facing each other, with the victims between them. In the presence of all, the cacique prayed that the cunningness, agility and strength of the animals stroked be imparted to the stroker. The animals were carried to the cacique's house and the people returned to their respective homes.

That night all slept, but the men

of the gods. These were at the cacique's, praying and doing penance, casting lots with yellow corn, sprinkling the now sacred animals, skinning them, and putting the skins of each kind by themselves: a part of the rabbit skins were to be used in the ceremonies the following day; the rest, together with the skins of the other animals obtained, were to be preserved for future religious ceremonies.

Morning came and each Indian washed out his stomach, bathed his body, and combed and arranged his long hair. Without eating a mouthful, the whole population repaired to the cacique's field (a field set apart by each pueblo village for the use of its gods is known as the cacique's field; everything raised in it is used in some of the various religious ceremonies of the place, or as food for the men of the gods while en-

gaged in religious ceremonies or put away for use in time of famine.) Reaching the field, the women set about grinding meal for bread for breakfast from parched corn previously prepared; they had brought their grinding slabs with them. The meal being ground, a stiff dough was made, rolled in corn husks and baked in the ashes of a huge fire that had been kindled on the margin of the field. Then rabbit meat was broiled on the live coals in sufficient quantity to satisfy all; no other meat is ever eaten on such occasions. As the catables were being prepared and cooked, the medicine-priest fraternity were rubbing rabbit fur with feathered sticks and praying to the gods of all rabbits. The meal being ready, these same people sprinkled all the rabbit fur used in the ceremony and all the people present with the sacred dust,



SYMBOLIC DRAWINGS BY JEMEZ PUEBLOS.

1. Sun symbol graven on boulder, Jemez, San Trill; also on rock near White-water, Ariz.
2. Sun drawing in Santa Ana kiva.
3. *Getu*, symbol of comet, used as hand piece in masked dance, March 17, 1900. (By permission of Bureau of American Ethnology.)
4. Head ornament worn by male column dancer in masked dance at Jemez.
5. Sun mask worn by sun clown in masked dance at Jemez.
6. Moon mask. 7. Morning Star mask. 8. Evening Star mask.
9. Bolt Lightning on beam at Santa Ana kiva entrance.
10. White Snakes on center beam in south kiva, Jemez.

as they prayed to their deities. Then all partook of the repast set before them. After the meal, all present went to gathering in the crops from the field of the gods.

The corn was jerked and piled for sorting. A great many women were employed in the sorting process. The ripe ears were husked and carried in baskets, supported on top of the carrier's head, to the *estufa* roofs, to be further cured in the sun. The green corn, unhusked, was carried in baskets to the village to the cacique's house, there to be baked in the *oveu*, after which the husks were to be stripped upward from the ear, tied together, and the ear hung upon a pole to dry; after the corn was dried it was to be shelled from the cob and put in *ollas* for future use. While these things were being done, some men were cutting the fodder and storing it on the roof of the cacique's corral. Other men were busy carrying melons, squashes and pumpkins to the cacique's store-room; (for with a Pueblo Indian, these are always gathered and put away for winter use, whether ripe or green; if not ripe, they will ripen; and, furthermore, a Pueblo will eat a green melon as quick as a ripe one, with apparently as much relish. He takes it up in both hands and eats it as we do a pie, rind and all; or, better, more like a monkey would eat it.) As the pumpkins were being carried away, some women were busy stringing "*wris-las*" of red peppers and hanging them on poles in front of the cacique's house to dry. Thus did the work go on till the cacique's field was cleared of its crop. Then the men of the gods lined up the people in two rows and prayed in thank-offering to their gods.

SECRET SOCIETIES.

The Jemez have many secret societies. Principal among these are the following: The Snake Society, the Knife Society, and the Giant Society.

DANCES.

The Masked Dance.—On March 17th, 1911, an "Aho, aho, aho, aho," broke the stillness of the early morning. A masked ghost dance was commencing. The "Aho, aho, aho" grew louder and louder and deeper and more hideous as sixteen strange-looking creatures issued, one after another, from the passageway in the roof of the north rectangular *estufa*. They were the clowns who, according to the Jemez religion, represent the principal gods—the sun, moon, evening star, morning star and the good and evil snakes—on all special religious occasions. The clowns were gaudily dressed. All had conspicuous head ornaments; all wore circular masks, some eight inches in diameter, on which were painted the gods they respectively represented, together with the paintings of lightnings, of clouds and of snakes. The Indians think that the gods in heaven (the sun, stars and moon) wear similarly decorated masks, so large that each hides the whole person of the god who wears it. The mask is all that is ever seen by human eyes.

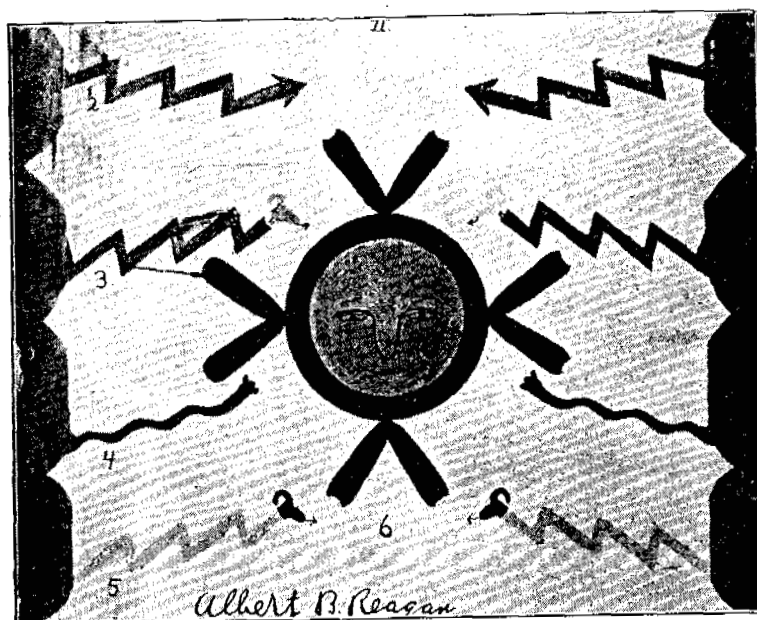
The arms of these clowns were naked. They wore red-tinged leggings and moccasins. Their bodies were painted yellow and were wrapped in richly colored blankets or robes, on which were embroidered, in characteristic bright colors, figures of the sun, of the moon, of the good and evil snakes, of the great stars, of the four pillars of clouds that reach from earth to heaven, and of the rainbow in the east and the rainbow in the west—all making a fantastic display.

The head ornament was of eagle feathers, so arranged on a buckskin covering as to represent the spread tail of the eagle, with reverse side presented to the front. Back of this fan of feathers were paintings of the greater gods, whose outlines were formed of tiny images, turquoises, and shells of various kinds.

The masks, with respect to the figures painted on them, were four of a kind. The symbol which the wearer represented occupied the central position of the mask. These central figures consisted of a disk surrounded by concentric bands in the moon and sun drawings and by points in the star symbols. The disk of the moon was white; those of all the other figures, red. The outer band of the sun was composed of rays of red alternating with outer spaces of yellow; the inner band was black; from the outer band there projected red darts, one to the left as the mask was worn, one to the right, one toward the earth and one toward the zenith.

The white disk of the moon was surrounded by a wide yellow ring. From this, four groups of peculiar looking figures projected, one toward each of the four cardinal points when the mask is laid on the ground with one of the groups extending in a cardinal direction. These groups are supposed to represent the rays of the moon. Each group consists of two yellow figures inclined at a small angle from

the perpendicular and from each other. Each of these terminated at its outer end in a blue disk. The whole looked like a half-burned cigar, the blue disk representing the ashy end. The stars were all four-pointed. The points of the evening star were yellow, those of the morning star black. The disks of all the central figures were god faces. The mouth of each was rectangular in shape, the eyes triangular. Both the mouth and the eyes were painted black. The outer figures on the masks were at the left and the right of the central figure. The drawings on one side were counterparts of those on the other. The four black-painted pillars of clouds, or steps from earth to heaven, as the Jemez believe them to be, projected out and extended as a succession of steps along the rim of the mask at most from its lower part, as worn, to its upper part. From these cloud pillars four figures, painted in striking and characteristic colors, extend, one from each cloud projection, toward the central figure. The lower figure was a zig-zag, blue-bodied snake, having a green head



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MOON GOD SECTION OF PAINTING IN KIVA AT JEMEZ.

with horn turned backward, much like a goat's horn curves. This snake is the representative of good and is considered by the Indians as the producer of rain—as being the genius of the water courses. The second figure from the bottom was a sinuously curved yellow figure which terminated in three green buds. It represents the heat or flash lightning, which the Jemez believe is the god of bloom. The third figure from the bottom was a red, zig-zag-bodied snake, having a blue head, with horn curving backwards, similar to that of the green-headed snake previously described. It is the representative of evil. It is the bolt lightning that strikes the ground. It is the Indian devil. The upper figures represented the bolt lightning that strikes through the air but never reaches the ground. It was zig-zag-bodied and terminated near the central figure in a dart-point.

As soon as these god clowns had descended from the roof of the *estufa*, they began to dance and crow-hop about, and for a considerable time they kept up their ear-grating "ahooing." Then they began to march around the village in a long, drawn-out column, if a march it can be called. Some jumped like a man; some crow-hopped it along; others leaped like a frog; some walked with a tri-colored red, yellow and green cane, mimicking an old man; some, leaning forward on short sticks, walked on all-fours; others strutted about like a turkey gobbler. Occasionally, all stopped a moment to pose. In this act they usually stood half erect, threw their hips forward, contorted their bodies, and brought their heads in a position so that the circular mask presented a full front to the sun if visible; or, if not, then to his place of rising. At the same time, they prolonged the "ahooing" and gave it an emphatic accent. In this manner did they march and pose till they had encircled the whole village and returned to the public square in

front of the *estufa*. From that time on they mingled with the populace in the street and plaza, feasted, danced, crow-hopped, frog-leaped, or posed, as the "spirit moved" each individual or the whole group collectively till the close of the dance.

Soon after the god representatives had begun their march around the village, twelve men, dressed or undressed, as each one's fancy dictated, their faces whitened with paint, issued from the *estufa* and began a rude rhythmic chant in a minor key; the time was beaten with a single stick on a drum made from a hollow log. The musicians advanced in a body through the plaza, keeping time with their feet and gesticulating in a manner intended to convey the meaning of their song.

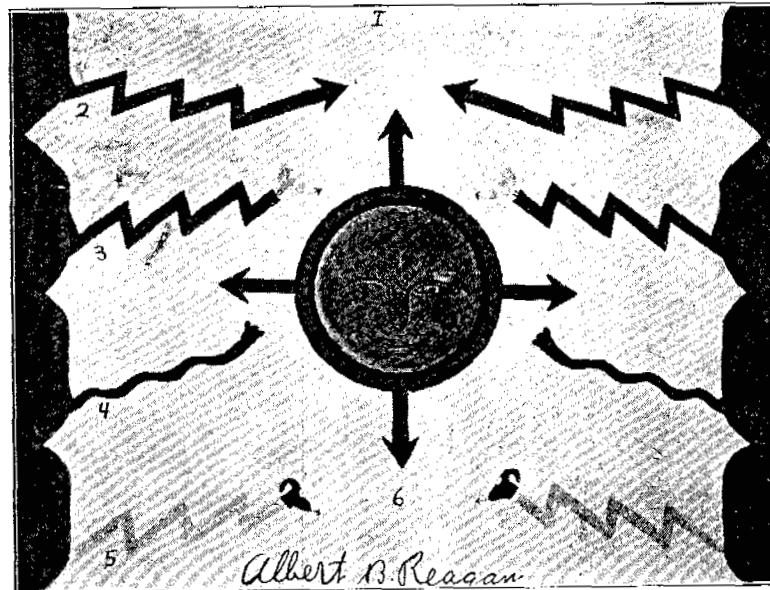
As soon as the musicians were far enough from the *estufa* to give room, the regular dancers issued from that house and formed in a fantastic procession in double column, two women abreast, then two men, and so alternating till the procession was completed.

The men vigorously stamped and the squaws tripped lightly, but all were keeping time. They presented a weird appearance, tricked out in their gaudy apparel and ornamented with flashy trinkets. The hair of the men was worn loosely; tufts of feathers fluttered over their foreheads, while around their necks and dangling over their chests were strings of shell beads, bright pebbles, feldspar, turquoises, obsidian—anything, in fact, that glitters and shines. Fastened about the waist and reaching nearly to the knee, a kilt-like dancing skirt hung and flapped. It was ornamented with embroidery of red and white threads. Below the knee, red, yellow and blue-stained buckskin garters formed a fringe, to which were attached tortoise shells and various rattles. The ankles were encased with strips of white and black fur. From the waist a fox-skin hung, fastened at the back and reaching

almost to the heel. Each man carried a tuft of hawk's feathers in his left hand, while the right grasped a rattle fashioned from a gourd, partly filled with pebbles. The women wore their ordinary black dresses, trimmed, however, with a profusion of necklaces, strings of beads, wristbands, silver badges and ear pendants, while in each hand was borne an ear of corn, which was wagged from side to side to the time of the music. Both the women and the men wore masks and striking head-dresses. The masks were heart-shaped, with the exception of the base, which was a straight line. They were made of buckskin, were painted blue or green, and like the circular masks, had a rectangular hole cut in them for the mouth and triangular holes for the eyes. The head-dresses consisted of a piece of wood about fifteen inches long, eight inches wide and from a fourth to a half inch thick. One end of it was carved out in arch-shape, so as to fit the head transversely just in front of the ears. The other end was trimmed in what resembled a triple tur-

ret, squarely notched, with white feathers fluttering from each. This head-piece was painted green and decorated with symbolic figures in red and yellow. This peculiar head-gear was held in place by strips of buckskin attached to the center of the hollowed-out arch and knotted about meshes of the wearer's dark, streaming hair, and also by a cord passing beneath the chin from the ends of the board at the foot of the arch.

Just as the dancers were formed in double column for dancing, some twenty strange-looking beings issued from the passageway of the same *estufa* from which the other actors of the day had come. They were the "funny men." They did not walk into the plaza, neither did they dance into it, but rather tumbled into it, hopping, stumbling, running, cutting capers, like a troupe of ill-trained clowns. In fact, in their clumsy way, they imitated or acted almost every silly performance known to the clown profession. The lookers-on enjoyed their tricks and pranks immensely. They hailed the clumsy attempts at a joke



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SUN GOD SECTION OF PAINTING IN KIVA AT JEMEZ.

and the coarse sallies of wit with shrieks of laughter. These "funny men" were attired only in breech-cloths. Their bodies were daubed in transverse rings or bands of black and white and their heads were decorated with corn-husks instead of feathers. They were "funny men" in appearance as well as in action.

While the clowns performed, the column dancers moved about the entire plaza, the women gracefully tripping, the men gravely stamping. When the entire plaza was encircled, the couples separated and changed places, all turning and facing each other, suggesting by their movement the flexures of a closely folded ribbon. The couples then reformed, the double column strung out as before, stamping, tripping in a wide circle to the rhythm and measure of the monotonous music. They now faced about, and they danced to double column back to the starting point. A rest followed.

The very moment the double column dancing ceased, the "funny men" resumed their performance with renewed vigor. One clown snatched a mill-stone and slab from a grinding box in a house and, rushing to the plaza, commenced grinding sand upon it, singing all the while and putting handfuls of sand in his mouth now and then. He was mimicking a squaw grinding meal; another clown climbed a tree backwards. Four or five played a farce in representation of the immorality of the place. Another got the skull of an elk and began to beat on it, while some of his fellows danced the double column dance. As they danced, another of the order walked reverently to the column and, as he prayed in jest, sprinkled each dancer with sand and ashes, mimicking the sun priest sprinkling the dancers with sacred meal and corn pollen in the *estufa* before they issued from it to dance in the public square. Just as the mock dancers were dispersing, a "funny man" tumbled, rolled

out of a house with an ear of corn in his hand. Reaching the plaza, he began to gnaw the ear of corn as a dog does a bone. Instantly another clown began to snarl and growl, and finally sprang upon the bone-gnawer. At that moment the attention of everyone was attracted from the pretended dog-fight by the shrieks of the women and girls. The clowns were making sallies on them. Some of the younger men of the fraternity were trying to embrace the older women; some of the older men, the young girls.

The drum beat and the monotonous chanting of the musicians drowned the women's shrieking. The double column reformed and the dance was resumed. Around the plaza the dancers proceeded as before till the processional movement was completed.

The sowing and planting act was then given. The columns separated and faced each other, the dancers keeping time with both hands and feet for a minute. Then the columns joined at the ends and spread out in the middle so as to form an ellipse. Around this all danced in a side movement to the right till each individual faced his respective partner again. Then the partners passed each other in a vigorous forward movement, turned quickly to the right with a sweeping motion and leaned forward nearly to the ground, the men swinging their gourd rattles as if sowing grain, the women sticking the heavy end of the twigs in the ground in imitation of planting corn.

At this instant other women rushed out of the houses with baskets of catables, ears of corn and various kinds of corn cakes; these they threw up into the air in all directions. When the baskets were emptied, they replenished them and tossed the contents toward the abode of those above. Of these catables whoever could catch anything that fell, proceeded to do so. The general scramble that followed was

marvelous to see. In this act of throwing heavenward the food which heaven had enabled it to raise, the whole tribe displayed its gratitude to those above.

Thus were the varied scenes continued throughout the entire day. Then all lined up in double column, with columns facing each other. Between these lines the cacique and his aides marched backward and forward for a considerable time, sprinkled their hearers with sacred meal and corn pollen, and prayed to their gods. This scene closed the dance.

THE OPEN PLAZA COLUMN DANCES.

These dances are similar to the masked dance above described, except that the god-clown element is wanting, none of the actors are masked and only the women wear head-dresses. At Jemez the clown ("funny man") element is usually wanting; but at Sia it is represented in its full force. At the present time, these dances are had on Catholic feast days and follow mass at the Catholic church.

The image of the saint of the day is carried to a booth in the plaza by a procession from the church before the dance begins. The dance in honor of the patron saint, San Diego (November 12), that in honor of St. Persingula (at Sia) and that in honor of San Juan (June 24) are the principal dances of this type. The dance in honor of San Diego is followed by an elaborately prepared feast. The dance in honor of St. John (San Juan), besides the feast element, has a mock *toro* combat (bull-fight) preceding and accompanying it, a "*gallo*" (rooster race or "chicken pulling") between acts, and is followed by a water-throwing performance.

The *toro* combat is begun on the evening of June 23, and continues spasmodically throughout the following day. On this date it continues in the public square and

streets and around the church while mass is being said, and flanks the procession with the image on its way to the booth in the plaza, keeping up a general hurrah throughout the entire time. In this peculiar mock performance, a clown actor leads a mock bull about the village—a cowhide with head and horns stretched over a plank frame, which is carried by two men obscured beneath it. On being led into the public square, some twenty rough-looking, dirty, slouch-hatted, shabbily dressed men and boys, supposed to represent Mexican cowmen, accompany it as keepers. At intervals these cowboys tease the "beast" and, bellowing and pawing, it charges them and they feign to be run down and hooked by it. If there is any mud hole in the town, they manage to be tossed into it, rolling over in the mud or are trampled in it, till it would be hard to tell they were human beings.

During the intervals, while the "cowboys" are being wallowed in the mud, the freed "beast" charges upon the people in the streets, making them climb ladders to the house-roofs, the women screaming and the children being scared almost to death. In the intervals, while the "beast" is on his good behavior, he is led from house to house, and from the inmates its keepers receive offerings of bread and other foods, to be presented as an offering to the Indian deities. At sundown, in a regular mock combat, the keeper thrusts a dirk knife through the stretched skin, and amid horrible bellowing, the infuriated "beast" expires.

In the "*gallo*" race, all the men and boys whose given names are Juan (John) have to furnish a rooster each for the race, as it is St. John's day. The roosters one at a time, are buried in the public square, all but their heads. Then the men and boys of the town line up on horseback, and as they gallop single-file past the place where the rooster is buried, they lean over

in the saddle and grab for the terrified fowl's head. At last, after many attempts, a rider gets a firm hold on the jerking head and drags the struggling bird from the ground. Then, as he waves it above his head and pounds his horse first on one side and then on the other with it, he gallops furiously through the town and out over the hills and valleys, hotly pursued by all the other riders. At last another rider grabs hold of the chicken by wing, leg, head or body, as the opportunity offers. As the riders face their horses in opposite directions, they pull the squawking rooster to pieces, chasing each other for the pieces till there is not a piece of it large enough for a hold. Then another rooster is buried and the previous performance is repeated. Thus is the rooster slaughter kept up till the adult roosters of the village are torn to pieces and the men of the place are bloodier than Roman gladiators.

In the water-throwing performance, the women carry water to the house-roofs till they have filled every water-containing vessel they have. This is done during the afternoon and evening. Just at dusk all the men of the village, with clothing removed, ride through the streets and close to the houses in every direction at a full gallop. As they do this, the women throw water on them from the housetops. It is great sport. The ceremony is a prayer for rain.

THE BURRO DANCE.

This dance is given to amuse the populace. The writer saw the dance but once. At this time, a man pretending to ride a mock *burro* (Spanish donkey) entered the public dancing area. The man was dressed in bright-colored clothes. He wore a sort of tapering dunce cap, from which many bright strips of cloth floated to the breeze. His face was painted black. His arms were bare and painted white, with red zig-zag

lightning bolts running up them their entire length. He wore a black "manta" dress, as though he were a woman. His body was placed through the wooden frame of the mock *burro*. This animal was a fair model of the living beast. The *burro* was bridled and tasseled, its body was blanketed, and from the lower edge of the covering a fringe fell nearly to the ground and obscured the movements of the bearer's lower extremities. A pair of stuffed moccasins and pantaloons extended down over the frame, one on each side, the upper parts being obscured beneath the loose outer, flashy-colored robe that the rider wore, so that it really looked like a Spanish donkey and its rider. From the bridle bit on either side a strap extended to the rider's hand. By this he guided the beast and caused its freak movements.

As the "beast" and rider entered the place, several Indians came out of the dressing room and accompanied it from place to place, beating some old Mexican metallic pots and shouting to make all the noise possible. As they thus proceeded, the mock animal would canter, gallop, balk, rear, buck. To make it go, the "keepers" would have to catch and lead it. These it would jerk down and run over now and then. It would then quiet down and trot along quietly. After the "beast" and its keepers had encircled the entire plaza in the unique performance, they caused the *burro* to prance back and forth in front of each house, while its "keepers" received bread and other eatables as a thank-offering to their deities.

After having visited each and every house, the "*burro*" cantered off into obscurity, and it and its "keepers" were seen no more.

ALL-SAINTS' DAY AT JEMEZ.

Whether mass is held at the Jemez church on All Saints' Day or not, at daybreak the sexton commences to pound the two bells in

the belfry of the church alternately with a hammer. The pounding he continues until sun-up, when the Indians come one by one to offer gifts as prayers for the good of all saints. Some of these gift-carriers have baskets of grain, some baskets of fruit, others baskets of baked bread and others cooked catables.

On entering the church, each gift-carrier proceeds to the altar, and, having made the cross and said the appropriate Catholic prayer, he places his gift upon the altar and at once leaves the church. On going out of the church, he pulls the two bell-rope as often as he chooses, causing the clapperless bells to pound each other into a dull, monotonous, choppy ringing, thus declaring to the village and his God that he has deposited his gift. This gift-depositing is carried on throughout the entire day. The proceeds are for the support of the church.

THE "PENITENTES."

Many Indians undergo excruciating tortures annually to atone for the sins of the tribe. As late as the early "sixties" of the last century, it is asserted, this rite took on the form of a "penitente" ceremony, a borrowed religious performance. In this ceremony, several men were selected who led a procession, composed of nearly every inhabitant of the village. One of the "penitentes" carried a massive cross in representation of Christ's carrying the cross of crucifixion. Occasionally this one failed to return alive, it is reported. In this performance of the "penitentes," the Indians who were not acting as "penitentes" armed themselves with cactus, and each in turn picked the "penitentes."

The more cruel the nature of the torture, the more nearly had the people of the village been forgiven by the Supreme Being for their sins during the year. The flesh-

bruising part of the ceremony being completed, the suffering subjects, bleeding from head to foot, were carried back to the sanctuary, where prolonged and weird ceremonies were performed. This human offering is said to have been followed by the "Matachina" Dance.

THE "MATACHINA" DANCE.

The "Matachina" dance is a rite performed in celebration of the resurrection of Christ. The dance seen by the writer was at the annual feast of the patron saint, St. Guadalupe, at Cañon de los Jemez, New Mexico, November 12, 1900. The principal actors were Jemez Indians, though Mexicans also took part in it.

After mass was given at the Church of Saint Guadalupe, the dancers, some thirty in number, lined up in two rows, with the chief of ceremonies at the front and between the rows. All were masked. The chief of ceremonies wore a mask that resembled very much the head of a donkey; the masks of the dancers were of cloth. Each dancer also wore a circular cap, from which floated to the breeze variously colored ribbons.

When all the performers were in their proper places, the chief of ceremonies began to writhe and to wiggle his body in a laborious manner. This performance was to indicate that with the death of Christ a furious battle was waged against sin. As soon as the chief began to perform, the gaudily dressed dancers commenced to move their limbs in a lively manner to the tune of a chanted song. They pranced about much in the same way that a baboon trips about in a cage. This spectacular and, at times, grotesque acting was kept up till sunset. Then the simple-hearted Indians set out for their homes feeling that they had done their duty, that they had been forgiven their sins and that they would begin a new church year with unsullied records.

THE BUFFALO DANCE.

The Buffalo Dance was an afternoon ceremony. It consisted of two dancers, a man and a woman. The man was dressed in a buffalo hide. While dancing, he held a bow and some arrows in his right hand and a tomahawk in his left. The woman was dressed in gala attire, jeweled, beaded, and for a head-covering she wore the complete neck and head skin of a buffalo, including the horns. The dance from start to finish was a peculiar knee-springing, foot-scrapping, forward-and-backward movement. It lasted the whole afternoon.

DANCE GIVEN IN HONOR OF BISHOP.

In the fall of 1900 the bishop of Santa Fé visited Jemez, and while he was there the Indians gave a dance in his honor.

The dancers were four men. Each of these were painted and conspicuously dressed, and each had suspended at his back, from the crown of his head to his ankles, a line of war feathers so arranged on a buckskin cord that they kept a horizontal position. In the dancing, the dancers lined up in a line abreast and acted out a vigorous stamping dance, varied occasionally by one of the dancers stepping out from the line and dancing a clumsy, grotesque jig in front of the bishop. The dance lasted about three hours.

TOMAHAWK-BOW-AND-ARROW
DANCE.

At dusk the evening before the dance, as seen by the writer in August, 1900, the cacique and his aides made the rounds of the village, prayed, sprinkled corn pollen in every house and over each inmate. To the *estufas* they proceeded, and sprinkled sacred corn pollen and meal before the symbolic paintings and over the images of the gods brought thither for the dance preparation. Then four of

the caciques left the north *estufa* and went, one in each of the four cardinal directions, for a distance of about half a mile. At his destination, each cacique lighted a low fire and sat down beside it so as to face the silvery-faced moon, beating a small drum and chanting to his deities. This was continued till the coming of the morning star.

At sunrise the next morning, a group of chanters and several drummers entered the plaza from the south *estufa* and began to sing, lifting their hands toward the heavens as if in supplication. Soon the dancers, two in number, a man and a woman, descended the ladder backwards from the south kiva. Both had faces, arms and other exposed parts of the body painted or daubed with red war-paint. The woman, a virgin, had her hair hanging loosely over her shoulders; her dress was of heavy black cloth, ornamented with shells, silver badges and sparkling stones, precious to the Indian. Her feet were bare. From her neck in front were suspended many strings of shell and turquoise beads. From the top of her head to the bottom of her dress at the back she wore a feathered cord. In her right hand she carried a bow and some arrows; in her left, a tomahawk.

The man, too, had his hair hanging loosely over his shoulders and it was bedecked with feathers. He wore leggings, moccasins and coat, each made of buckskin, beautifully fringed, and painted in symbolic designs. On his back he carried a quiver filled with arrows; in his left he held a heavy rawhide shield, on the front of which was painted the symbol of the sun.

Entering the plaza, the dancers leaped, crow-hopped, tripped or danced as the meaning of the dance demanded. On separate lines in front of the slowly forward moving musicians and the populace who had joined them, they danced back and forth the full width of the public square, the squaw facing and danc-

ing in one direction, the Indian in the opposite. As they thus danced, the half of the time they faced each other, the squaw, in mimicry, shot at her adversary and drew her tomahawk to scalp him. At the same time her approaching foe defended himself with his shield and went through motions as though shooting at her with his bow. Passing each other, they each crow-hopped at a rapid pace to the turning point of their respective courses.

As they thus danced, the squaw lifted the bow and arrows and the tomahawk alternately above her head; the Indian elevated first his shield, then his bow and arrows with a quick, vigorous thrust.

Reaching the turning points of their respective courses, the inner dancer swung around the outer dancer's course to a new line in front. The latter then wheeled about and performed in a reverse direction over the line he had covered. When these dancers had advanced in a sidewise movement across the entire plaza from one end of it to the other, they retired, and a new set took their places and danced the very same dance over again. In this manner, when one set broke up another took its place till night. Then the medicine men lined up the people, scattered sacred meal over them and prayed:

"O sun, O moon, O evening star, O morning star, O all the stars in the roof above us, O lightnings, O snakes of the clouds, O snakes of the fields and water courses, O fruits of the fields, O animals of the forests, O all the gods of our fathers, we thank you for all the past favors. We also beg and petition that you send us sufficient rain and an abundant crop. We indeed and in truth thank you for all things."

DANCE FOR RAIN AND MATURING
OF CROPS.

On August 2, 1900, thirteen Indians entered the north *estufa* to fast and pray and give thanks to

the gods and to pray for rain and the maturing of the crops. For four days they prayed in that house, ate not, drank not, prayed to the deities only. As they thus prayed, the chief medicine man presented them before each of the symbolic paintings on the walls of the edifice in the order of their occurrence, beginning with the sun-god group and ending with that of the moon group, paintings very similar to those on the god-clown masks eight times enlarged. When the circle of the wall was completed, he led them to the black mats and the sand drawings near the center of the room, presenting them before the step-like altars, stone gods and images of Pest-ya-sode and his wife, at the head of each representative mat as he continued his praying and sprinkling (the images and altars had been brought to the *estufa* for the ceremony.) The medicine man next presented them before the altar of the grove near the rear of the room.

Time and again had they seen this altar, but never before had they been formally introduced to it, never had it meant so much to them. They inspected each thing carefully. Miniature groves of pine extended from each end of the altar. They projected in horn-shape, the two horns almost forming a half-circle. The altar had an upright back-piece on which were paintings like those on the masks. Each painting had a central figure, surrounded at the sides by marginal black lines representing clouds. From these projected inward, one above another, the Rain Snake, the God of Bloom, the Red Snake and the Bolt Lightning.

The central figure was the Rain Bow in the West. It rested at each end upon four pillars of clouds. Above each group of these sat a water jar, from which the God of Bloom extended heavenward. From beneath each group, drops of rain were represented as falling toward the earth. From the rain-bow-arch,

three darts of protection lifted their barbed points on high. Beneath the arch on the center line were drawings of the moon, sun and great stars. The moon occupied the lower central position, the sun the upper. The evening star occupied a position to the left of the major symbol within the arch, the morning star a position to the right. The altar was of stone and without ornamentation. On it, in the center, was an earthen bowl filled with corn pollen. In front of it was a sand-drawing on the floor of the room. On this were placed bunches of downy eagle feathers, which represented the prayers of the village before those above. Among these sat bowls of corn pollen and meal, the representatives of prayer and medicine. Among these, at the right of the altar, stood an image of Pest-ya-sode beside that of a crouching lion. At the left stood an image of Pest-ya-sode's wife (?), at the side of which was that of a bear. The god had a rod of authority in each hand, his wife a bunch of pine twigs. All these the fasting, praying people had privilege to examine. Then, kneeling before the altar in the midst of the bunches of feathers and bowls of sacred meal and corn pollen, they received the further religious preparation for the great work before them. The medicine man, leaning over them, sprinkled them with the sacred dust, rubbed them with feathers, and put sacred corn pollen in water and had them drink it. Then, as he lifted his hands in supplication, he prayed:

"O sun, O moon, O morning star, O evening star, O rainbow in the East, O rainbow in the West, O bolt lightning, O red snake, O flash lightning, O rain snake, O all the gods of our fathers, take these persons, our representatives, and consecrate them to the great work they are undertaking. Cause them to make it rain as needed and cause the fields to mature bountiful crops.

We indeed and in truth thank you for all things."

Having completed the work in the *estufa*, the actors left it August 6 and purified themselves in the river. As soon as they returned to the village, there followed the plaza dance, which lasted till night.

In this dance, the old men danced around the drummer as they waved their hands to bring out the meaning of the song. The dancers were two in number, a man and a woman. Both had their long flowing hair bedecked with the long feathers of the eagle's tail. The man carried a gourd rattle in one hand, a tomahawk in the other; the woman, a tomahawk in her right hand and a bow and some arrows in the left. In the dancing, they commingled with the musicians, winding backward and forward, not unlike a snake in his crawlings, as they advanced, the woman in the lead. When the woman reached the front, the bystanders threw bread and various other things into the air, to shower down upon the performers. The scrambling for these things was wonderful to see. When the residue had been trampled in the ground as a thank offering, the musicians and bystanders formed in a double column and the dancers danced in the open space between the files. The principal performance was acted by the female dancer. She danced and leaped about, lifting first the bow to heaven as she leaped to the left, and the tomahawk as she leaped to the right. The dance was another elaborate prayer for rain and the maturing of the crops. It ended in an elaborate prayer, as follows:

"O sun-father, moon-mother, the evening star, the morning star, the bolt and flash lightnings, the red and blue snakes, we pray that you cause it to rain and give us a bountiful harvest. O rainbow in the West and rainbow in the East, the elder war hero of our race, the cougar deity, the bear, the badger, the

eagle, the shrew, the spider, we beseech you to cause the water jars of the heavens to pour their waters down on the fields and grant us full grain bins. O younger war hero and our great knowing brother Pest-ya-sode, the goddess of the north, of the south, of the east, of the west, of the straight-up-above, and the straight-down-below, we petition you to have the snakes of the water courses make it rain and cause the water to flow in great volume in our irrigating ditches and cause the crops to be full. O medicine water bowl, the cloud bowl, the ceremonial water vase, the ancient road, the white-shell-bead woman that lives where the sun descends, and the ancient road, we pray long and loud that the rainbow in the west will bring us more and more rain and that it will cause our crops to mature to the fullness of our granaries. O wooden images on our hearthstones, the mighty whirling winds, the yellow woman of the north, the blue woman of the west, the red woman of the south, the white woman of the east, we petition you to carry our prayers to the deities who have the charge of the rain and cause it to rain till the river is filled and our crops have received water for their filling and maturing. O yellow-bluish woman of the zenith and the dark woman of the nadir. O Pest-ya-sode and all the gods of our fathers, we beg and petition you to mature all things in the right and proper way and the fullness of whatever crop it may be. We indeed and in truth thank you for all things."

THE ANIMAL DANCE.

As midnight approached on the night before the dance was observed by the writer, the chief medicine men entered the plaza and kindled several fires. Around each of these they set seven sticks in a line in each of the cardinal directions. Over these they sprinkled sacred meal and prayed for a con-

siderable time. Then they took up the sticks and, as they blew on them, they put them in the fire one by one, saying: "We thank you, our gods, that the visible and invisible witches of our race are consumed by your power, as these sticks are about to be consumed by these flames."

When the stick-burning was completed, seven medicine men went from the plaza toward each of the four cardinal points. Each carried a young pine tree in his left hand and a bowl of sacred meal in his right. Each pine tree, thus carried, had seven feathers suspended from it to the breeze, each tree and its feathers symbolizing Jemez Pueblo. These trees, their bearers planted quite a distance from the village. Then over them they scattered the sacred dust, dedicating them to the moon-mother, who the Indian believes especially protects his home, his village, and aids him in his every undertaking. Completing the consecration, the sprinklers of the sacred meal turned so as to face the moon and said:

"As the little pine becomes a stately tree, O moon-mother, may our race again be a powerful race from now on throughout all days and all nights."

Throughout the following hours of the night men dressed in deer skins embroidered in symbolic designs raced the plaza and streets at a coyote-gallup, shaking shell bells and gourd rattles, and sprinkling the dust of the gods toward the goddess of night.

At daylight every brave bathed, rinsed out his stomach with warm water and partook of the ceremonial smoke.

As the sun began to climb over the eastern hills, the next scene opened. The medicine men took all their accoutrements to the plaza and laid them in a row in a line with the sun, with the most important one, according to the Indian notion, heading the list, then the next most important, and so on

till the long row was completed. Beginning at the head of the list, they were arranged as follows: Fetishes, bowls of corn pollen and corn meal, groups of eagle feathers, medicine beads, the skins of snakes and birds, the left front legs of bears, bunches of rabbit wool, and the head coverings of beasts.

When the medicine articles were arranged, the men of the village, followed by the women, passed down the long line in a stooping position, and, each one having blown his breath on his left hand, stroked the articles one by one with it as he sprinkled the sacred meal over them at the same time with his right hand. The Indians believe that the strength, cunningness or health powers of the medicine things they thus stroke and sprinkle with sacred meal will be imparted to them.

Hardly had the sun been above the horizon an hour when another act was ushered in. Two men, carrying parallelo-piped-shaped drums made of cornhusks, entered the plaza and, seating themselves on opposite sides of the public dancing area so as to face each other, began to beat their curious musical instruments with drumsticks that resembled potato-mashers, except that they were much larger. Scarcely had they seated themselves when the medicine men and sun-priests gathered around them and began to chant and gesticulate to the earth and the semi-cardinal points, the animals and the other sacred things of earth and, also, to those above. The chanting had merely begun when men, dressed in the skins of animals or of birds (all wearing as nearly as possible the natural shape of the head of the animal or bird they represented), came cantering, galloping, crawling, or flying from an improvised dressing room and commenced performing according to their kind.

The buffalo pawed and bellowed, the rabbit and deer leaped from place to place, the turtle proceeded slowly to move about, the turkey

gobbled and strutted, the coyote howled, and the bear growled. Followed by the musicians, these odd performers gradually moved across the plaza till the whole public space had been covered by the dancers. The chief sun-priest sprinkled the participants with sacred meal and corn pollen. The actors then dispersed to the dressing room. A new "set" formed and the extravagant actions and strange ejaculations were repeated. This performance continued till "Sol" began to hide his face beyond the western highlands. The medicine men then sprinkled all with the sacred meal, while the chief sun-priest prayed:

"O bear, O wolf, O coyote, O buffalo, O deer, O mountain lion, O wild cat, O rabbit, O turkey, O eagle, we thank you for having aided us in the past year and we beg and petition your aid in the year to come. We invoke you to give us the strength, agility, and cunningness you possess and to impart to us bravery. We invoke you to continue to aid us in time of need. We indeed and in truth thank you for all things."

THE CORN DANCE.

At dusk one evening in the late summer of 1900 every man, woman and child that could walk prepared prayer-sticks, feathered them, and then set out in a long-drawn-out procession, in Indian file, to the bank of the Rio Chiquito, north of the village. Here they tossed the sticks out from the mesa wall to the valley below; after them they sprinkled the sacred meal and the pollen of the gods, as they prayed to the rulers of heaven and earth. Then they marched back to the plaza in the same manner as they had come.

Reaching the public square, the returning people lined up, and the representatives of each clan marched to their respective *estufa*, climbed up the ladder to its roof, and entered through the hatchway. Around

the center post, which supports the roof, they danced and prayed to the god symbols on the walls, while the cacique sprinkled them with sacred pollen. This they continued to do till about eleven o'clock in the evening. Then they left the *estufa*.

On leaving the *estufa*, some of the men went to digging holes in the plaza, some went to cutting and dragging pine trees to the plaza; others, under the direct guidance of the cacique, began to prepare a long pole by peeling it and painting it in colors, so that it looked much like a barber pole, except that it was many times larger. When painted, they put a cross on it, not a Christian cross, but a cross somewhat resembling our printed "Z." Beneath this they placed a carved-wood "swastika," the symbol of the four winds and the good that these winds bring. Over both the cross and the "swastika" they suspended wreaths of corn leaves interwoven with piñon needles. Meanwhile, the men in the plaza set the pine trees in the ground so as to make a crescent-shaped grove, with open space to the north. On the trees thus placed were hung in profusion strips of cloth of various colors, snake skins, eagle feathers, claws of the mountain lion and bear, stuffed birds, buffalo horns, coyote hides, packages of eagle down, deer antlers and medicine bags filled with sacred meal and pollen—all thank offerings to those above. This completed the night activities.

Just as the sun was rising, the populace gathered around the painted pole, and with a great shout raised it to a vertical position. Between it and the village, the dancers, two men alternating with two women, lined up abreast, facing the pueblo. (The pole had been prepared in the region north of the village.) The women were dressed in black cloth, richly embroidered with glittering stones, shells and shining silver pieces. The men wore coats of buckskin and moccasins of the same material, beautifully fringed

and embroidered with shells of various kinds. They also wore an outer garment of buffalo hide. The women were bare-headed; the head-dresses of the men were deerskins and feathers of the war eagle. To each of these singularly rich and elaborate head-dresses there was added a pair of buffalo horns, reduced in size and weight and arranged as they grew upon the animal.

To give the whole dancing costume a more striking appearance, the dancers had suspended at their backs, from the crown of their heads to their heels, a line of war eagle feathers so arranged on a buckskin cord that they kept a horizontal position.

When all was ready, the drum on the north *estufa* sounded. The performers danced slowly to the public dancing area. Behind them the pole was carried laboriously. On reaching the plaza with it, it was set in the ground just west of the artificial grove. The dancers retired to the nearest *estufa*, as the men of the gods prayed and sprinkled the sacred pollen to the breeze.

Soon the five special dancers for the occasion emerged, dressed as above described. Entering the dancing plat, they formed in column abreast inside the crescent arch of the grove, with their faces turned toward the north. The musicians came next—two flute-players, two chanters and two drummers. Following these, came the squaws of the place. They were gaudily painted and dressed. Sparkling ear pendants dangled from their ears, and ring upon ring of shell beads encircled their necks and reached almost to their waists in front. The squaws formed in a line to dance in a great circle, having the striped pole, the grove and musicians and special dancers at its center; four men danced with the squaws, one in each quadrant of the circle. In dancing, these tripped it sidewise to the left, moving their feet about four inches at a step; while, as a counter movement,

they waved their hands, first the right and then the left, to the time of the music. In these waving hands they gripped ears of corn. The moving around the entire circle by each participant completed a dancing set.

The women of the special dancing set of five tripped lightly, five steps in succession as they alternately waved ears of corn in their hands; the men stamped vigorously and shook the gourd rattles they carried in their left hands and waved bunches of twigs of the pine tree which they carried in their right hands. Then all wheeled about so as to face the east. A whirl to the south was made. This time the dancers raised their hands alternately above their heads in a vigorous thrust as they danced. Wheeling so as to face the west, both hands were simultaneously elevated above the head, and five steps were emphatically stamped by both men and women. Turning on their heels so as to face the south, they began to dance as at first. Thus they continued to perform throughout the whole "set" and from set to set, till the ceremonies were brought to their close.

While the dance was thus progressing, the medicine fraternity ceased not to sprinkle all those who were taking part in it with sacred meal and corn pollen medicine and pray to their gods.

At the close of each set, the actors retired to their respective *estufas*, and another set of performers, after they had been sprinkled with the sacred dust in the presence of the symbolic paintings of the sun edifice, came from those houses, similarly costumed, to take their places.

Just as the first "set" was breaking up, the "funny men" came tumbling and rolling into the plaza. They were the same black-and-white clowns we have met before; but in this case their bodies were decorated with corn strung on cords of buckskin and hung over their

shoulders in wreaths. One of their principal duties at this time was to present to the gods the wrong-doings of the tribe. This they proceeded to do, in imitation, to the limit, as the lookers-on shrieked and howled with mirth. When the next dancing "set" formed, the clowns retired to the *estufas* or laid down to rest in the shade of the grove till the set was finished. Then they became active again.

Thus, throughout the whole day, dancing scenes alternated with clown performances till evening claimed the land. All lined up in double column, facing each other. Between these lines the caciques marched backward and forward and sprinkled all with the sacred dust. Then the columns marched to the inner room of the chief cacique's house and deposited the ears of corn they carried in their hands or had suspended from their shoulders. This corn they gave as an offering to the gods for the bountiful crop they had raised. This scene closed the dance.

THE BEAR DANCE.

In the fall of 1899 the Jemez had a religious bear hunt, some twenty men going to the mountains to hunt bear. After they had been gone about a week the writer heard a great hallooing and the firing of guns in the hills across the river west of the village. At the same instant someone on a housetop in the village yelled: "They have killed a bear! they are coming! A bear! A bear!" In a moment the whole village was vigorously astir. Men, squaws, girls, boys, all were on the house-roofs, in the streets and plaza or running to meet the hunters, all at the same time. Excitement ruled. The people of the village, on reaching the river plunged into it, swam and waded it, and made a mad rush to the leading horse of the hunters' procession, to be the first to touch the bear hide carried on this horse and to be the

first to blow a hissing breath on it, so that they should receive a special blessing of the gods. On meeting the hunters, they turned about and all entered the village in a long procession. On arriving at the village, the hunters rode completely around it and through each street and up and down its two plazas, and stopped before each house as they sang the "bear song" and fired guns into the air. Encircling the village while singing, they stopped in front of the house of the hero of the hunt, the young man who got his hand on the dying bear first. As they thus stopped, the mother came out with a club, dragged the bear hide from the saddle, put it on her shoulder and danced a clumsy jig with it as she made a speech to those present. Her dance finished, she threw the hide on the ground, jumped on it and pounded it with the club, while she shrieked a hideous "Wow, wow, wow!" as she batted her mouth with her left hand to make the noise more terrible. After pounding the hide for several minutes, she took it into her own house and stretched it for a moment on the floor with head near and toward the fire. Then she took it and laid it in the front part of the room, near the door. Each and every Indian of the village entered the house, blew his breath on his right hand, stroked the bear skin with it, lighted a cornhusk cigarette, left the room and went to the plaza to hear the hero tell of the adventures of the trip, and of how he succeeded in killing the bear.

This, the writer learned afterwards, is only a small part of the bear ceremonies. At another time he saw the rest of the ceremony, with the exception, however, that it was enacted with a live cub bear.

It was one morning at daylight in the fall of 1900, when the war-captain and his aides, in broad, sonorous, strongly accented words, gave the following order to the people as they made the rounds of the village: "Fast and pray these four

days. Take part in nothing pleasurable these four days. Go to your homes and do penance."

For four days no one moved about the village. The streets were deserted. The houses and *estufas*, however, were astir. Within them every one was occupied in religious ceremonies. In the *estufas* the "principals" beat small drums, sprinkled sacred corn pollen before the images, symbolic paintings, and chanted prayers to those above. In the houses, before the altars, paintings and household gods, the inmates prayed and danced without ceasing.

On the fourth night there was a slight change, and the caciques and special actors took part in ceremonies in the plaza very similar to the after-midnight ceremonies that preceded the Animal Dance, above described. On the morning of the fifth day everyone bathed in the river, rinsed out his stomach, and did up his long hair according to the Indian custom.

At dusk on the evening of the fifth day, the south *estufa* drum sounded and a new ceremonial was ushered in. "Wow, wow, wow!" shrieked an old woman, as she batted her mouth to make the noise as hideous as possible. "Wow, wow, wow!" she continued, as she paced the public square, carrying a club under one arm and a cub bear under the other. "Wow, wow!" she shouted, till the people filled the plaza about her. She took the cute-looking little brute by the neck and shook it, as she related the Bear Myth of how the bear had wronged the moon-mother in the long ago.

Having finished the myth, "Wow, wow!" shrieked the aged squaw again. The lookers-on "struck up" the bear chant. The drummers, who had now arrived, beat the drum. The aged squaw danced the bear dance, shaking first the club toward the god of night, then at the struggling little bear. The cacique sprinkled the dancer with sacred meal and pollen and prayed to those

above. The aged woman dropped the bear to the ground, and as the helpless little thing howled and cried pitiably, she beat it to death.

Picking up the lifeless body, the old woman shook it vigorously; dancing across the plaza as she shrieked and batted her mouth, she entered her own house and laid the bear with head to the fire a moment. Then she took it and laid it in the rear of the room. Here the populace followed her. Hither to her house the women then rushed with baskets of catables. Hither into this house entered the populace. As they entered, each one blew his breath on his right hand, patted the bear a moment with that hand, passed on, squatted on the floor, and partook of the catables till hunger was satisfied; then all rose, lit the ceremonial cigarette and passed out again into the public dancing area.

Here, seated in the center of the area, the Indian who had touched the bear first when it was captured was telling everyone his hunting adventures and the difficulties he had in capturing the cub bear which his mother had just killed. He had told them the same story before, when he had returned from the hunt, but it was still new and interesting to his hearers.

As the hero was thus relating his hunting trip, men dressed in breech-cloth, their bodies painted in symbolic colors, their hair decked with feathers, entered the plaza and began to dance in single file back and forth across the public dancing ground, as the chief penitentes beat drums, sang bear songs and gesticulated to bring out the meaning of the same. Nearly all the men and boys joined the musicians, and as all sang and shouted at the top of their voices, the whole procession, dancers included, moved toward the general feast house of the pueblo. As they neared it, the women rushed out of their houses with baskets of catables. These they

threw skyward, to shower down upon the dancers and chanters as a thank offering to those above.

On entering the feast hall, the aged woman with the hide of the bear she had killed headed the procession, dancing, "wow, wow, wow-ing" and batting her mouth with her hands. Thus performing, she encircled the middle space of the room twice; then proceeded to her son, the hero, blew her breath in blessing on him, gave him the hide, and immediately left the room.

As soon as the mother had departed, the cacique sprinkled the bear skin and its possessor with sacred corn pollen as he prayed to his gods. He cut the left front leg from the hide and placed it among his medicine curios. While the populace danced from left to right around him, he laid the hide on the ground and stamped on it, as he again prayed and sprinkled the sacred dust.

The scene suddenly changed: with one blow, the war-captain severed the scalp from the hide and hoisted it on a pole; around this the men danced the scalp dance for hours. This was continued till day began to dawn. Then all present seated themselves in the big house or in the street just outside of it. The breech-clothed actors served them with catables. At the rising of the sun the ceremonies closed.

PRAYING FOR THE VILLAGE.

The author was told by the Jemez that one or more persons often secluded themselves for from six months to a year and a half, and one man once even to a period of two years, devoting themselves solely to prayer for the pueblo and its inhabitants, being furnished just enough food daily to preserve life, during which time nothing is told them of their family even though the person's mate and children or relatives may have all died. At such times the food is to be only such food as was used before the

coming of the Spaniards. The Indians when thus secluded pray to their Indian deities, the sun, moon, stars and Pest-ya-sode.

THE FIGURE FOUR

It will be noticed that the figure four, or its multiples, plays a prominent part with the Jemez. The principal gods are four in number—the sun, moon, evening star and morning star. The clouds drawn on the masks and ceremonial regalia are drawn as four pillars or four steps and represent the four days that the Jemez believe it takes the soul to journey from earth to *shiyapu* after death. The Jemez dance four days (have the death ceremonies four days) for the dead. The sun drawing used in the ceremonies of the dead has four projecting thunder darts of protection. Four snake-lightning drawings reach out from the marginal cloud projections toward the central god figure in each of the god drawings in their *estufas*. The rays of the moon in the sacred drawings are placed in four groups, with two rays in each group, and the stars are represented as being four-pointed. Four lays before the sacred rabbit hunt, a single rabbit is killed and its food smeared on the prospective female rabbit hunters. Preparation for all the open plaza dances and other open ceremonies consume four days. At the beginning and at the close of every religious ceremony, corn pollen or meal is sprinkled to the four semi-cardinal directions. If a husband brings home any eatables from a deer hunt that he has taken with him on going to the hunt, his wife, before eating any of them, passes them around a rung of a ladder four times to prevent her from having twins like a deer. Confinement lasts four days. Often, in birth ceremonies, the oldest woman of the family marks the walls and floor of the house with parallel lines of corn pollen dust. The earthen things of the dead and the bowl the new in-

fant is washed in are thrown from the southeast wall of the mesa east of the village after they have been waved over the spot of destruction four times. On presenting the infant to the sun, the mother turns around four times, each time sprinkling corn pollen and meal to the four semi-cardinal directions. On placing offerings and prayer sticks on their various altars, they always sprinkle pollen and meal to the four winds. Eight prayer plumes are often placed on small trees without the village; practically every Jemez plants plumes every moon, and often as part of other ceremonies. (The writer has also seen them plant seven plumes at a time.) For four days each winter, as the rain priests order, no one is to buy or sell meat, grease or salt or have sexual relations. The writer will add that the number seven is also a sacred number, but not so pre-eminently as the number four.

When the writer asked the Jemez why they made the number four sacred, they said it stood for truth, that the principal gods are four, the winds are four and the kinds of clouds that show in the sky are four in number; that the places of habitation in the universe are four (see Myths), and that it took the first parents four days to come from *shiyapu* to this earth and that it takes the soul four days after death to return thence.

PUEBLO OF SIA.

Sia is a neighbor of Jemez and has much in common with it, including the ceremonies.

THE SIA KIVA.

The Sia have but one *estufa*, a no-account building on the point of the mesa southwest of the main village. The first time the writer visited it, it had its walls painted in representative drawings of their deities, but on his next visit, its walls were whitewashed and plain. It is

the writer's opinion that the Sia Pueblos whitewashed their drawings to prevent him from seeing them.

There was also an old dilapidated building there with religious drawings on its walls, but as the building was open to the village, he had no chance to make copies of them. The building was torn down soon afterwards.

SNAKE WORSHIP.

The Sia had a snake-pen out in the hills across the river, southwest of the village, in which they kept one or more snakes. They also have a snake dance very similar to the Moqui Snake Dance. However, it is secret and is usually held at night at the full-moon time in August of each year.

MYTHS.

The origin myth differs somewhat from the Jemez myth, in that the Sia say that it was through a hole in the upper part of the Nacimiento Mountains that the first Sia Pueblos came up through to this world from the earth-shelf below this one. The Sia people offered to take the writer to this hole at a place they pointed out to him, which seemed to be an extinct crater. They told that a big, fat woman got fast in the hole and plugged it up, so that part of their race is still in the earth-shelf beneath this one. This origin-home of their race is the conjectured Indian heaven to which the soul journeys after death.

SIA NAMES AND NOTES REFERRING PRINCIPALLY TO DEITIES.

Ah-wa-hai-a, name of the Woman of the East.

Ai-wan-na-tuon-nyi, cloud bowl.

Ia-arts, the earth.

Ite-ash, clouds like the plains.

Hen-nati, white floating clouds.

Ii-ah-ahr-ra, the Ancient Road.

Ii-a-mo-mi, the Ancient Road.

Ii-ahn-ye, I make an ancient

road of meal and corn pollen, so that the gods will make intercession for us.

Ii-shi-ko-ya-sas-pa, White Shell Bead Woman who lives where the sun descends.

Iis-tiahn, Knife Society. Some of the other societies are Snake Society, Ant Society, Bird Society (representing the Bird of the East, the Bird of the West, the Bird of the North, the Bird of the Zenith—the Eagle; the Bird of the Nadir—the Chaparral Cock, the Bird of the South) and the Fire Society.

Ilo-na-ai-to, the presiding officer of the cult society.

Ka-kan, wolf.

Ka-pana, Spider Society.

Ka-shi-na-ko, White Woman of the East.

Kash-ti-arts, rainbow.

Ka-tsu-na, beings having human bodies and monster heads. They are represented by people wearing masks in the dances. These *Ka-tsu-na* were made by *Ut-set*, the sister, wife and daughter of the creator, under the direction of the latter.

Katsuna are the God-Clown dancers; they wear the god-clown masks.

Ko-chi-na-ko, Yellow Woman of the North.

Ko-hai, bear.

Ko-pish-tai, the clouds, lightning, thunder, rainbow peoples; it is a collective term and represents everything of the universe except the creator, the men of earth, the sun, moon and stars and the members of the *Koshare* and the *Quer-rahna* societies.

Koshare (*Co-shaire*, or clowns): The first man created was *Koshare*. His office is to act as carrier between the sun and *Kut-tsu-na* (*Katsuna*.) He is also the companion and musician, the flute being his instrument. He is the mediator between the people of earth and the Sun and is a servant of the Sun. He acts as chief for the Sun when carrier between *Katsuna* and the Sun.

Kur-kan-nyi-na-ko, Red - White Woman of the South.

Ma-a-se-we, Elder War Hero.

Mai-tu-bo, shrew.

Mer-ri-na-ko, Blue Woman of the West.

Mo-kaito, cougar.

Mu-nai-na-ko, Dark Woman of the Nadir.

O-shats, sun.

Pai-ah-tah-mo, all men of the earth.

Pe-ah-hai-a, Woman of the Zenith.

Po-shai-yahn-ni (*Pusha-ian-kai*, commonly called Montezuma) visited Sia from Pecos. It is asserted that he was born of a virgin who became a mother by eating two piñon nuts.

Quer-rahm-na. The duties of the Quer-rahm-na are similar to those of the Koshare, except that the Moon is their chief; both are subordinate to the Sun.

Quis-ser-ri-na-ko, Slightly Yellow Woman of the Zenith.

Sa-mai-hai-a, Woman of the North.

Sa-ra-hai-a, Woman of the Nadir.

Shi-no-hai-a, the Woman of the West.

Shi-wan-na-wa-ta-un. Ceremonial water vase.

Sho-pok-ti-ah-ma, whirlwind.

Sko-yo, giant cannibals, wolves.

Sko-yo-shia-ahn, Giant Society.

Sus-sis-tin-na-ko, a spider, the creator.

Ta-wac, moon. According to the Sia belief, the moon and sun wear masks so large that they hide the whole face of the respective persons—the Indians supposing the sun and moon to be god-persons.

Tiah-mi, eagle.

Tiahmoni is the brother of Montezuma (*Push-ian-kai*) and guardian of the Sias. One of the organizations personifies him.

Tiahmoni, cacique. It is alleged that the cacique's rod of authority is a crooked staff which he claims the mother Utset gave the first incumbent of the office in the long ago.

Tu-o-pi, badger.

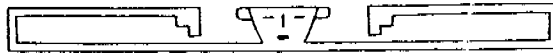
Utset, the mother of all Indians. Her elder and larger sister was the mother of all the other races of men. Utset killed her, cut out her heart, tore it to pieces and threw the pieces to the four winds. The pieces at once turned into rats. From these pieces of the heart sprang the rat family. Utset is now the mediator between man and Sussistin-nako.

Uyuuyewe, Younger War Hero. Uyuuyewe and Ma-a-se-we were the killers of Skoyo. They are now the gods of the San Dia Mountains.

Wai-ti-chahn-ni, Medicine water bowl.

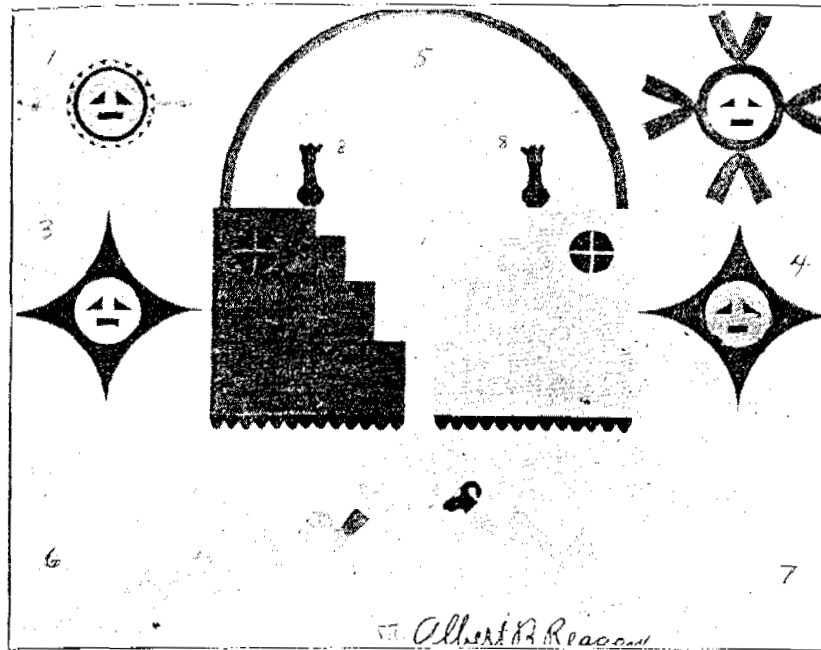
Ya-ya, mother; also the wooden household images.

Yu-ma-hai-a, Woman of the South.



The West Jemez Culture Area by Lansing B. Bloom (*El Palacio* 12(2):18-25. 1922.)

This short article contains Bloom's assertions that the "Hemes" villages of Barrionuevo were located in the Vallecitos area, and the "Aguas Calientes" villages were located in the Jemez and Guadalupe drainages.



WALL PAINTING IN SECRET DARK ROOM AT JEMEZ

1. Sun. 2. Moon. 3. Morning Star. 4. Evening Star. 5. Rainbow in the West, differing from the Rainbow in the East, on the opposite wall, in that it has the God of Flowers emerging from the water jars beneath the arch. 6. The Red Snake. 7. The Blue Snake, the rain symbol. 8. Flash Lightning, which produces flowers. Steps beneath the water jars are clouds from which rain is dropping.

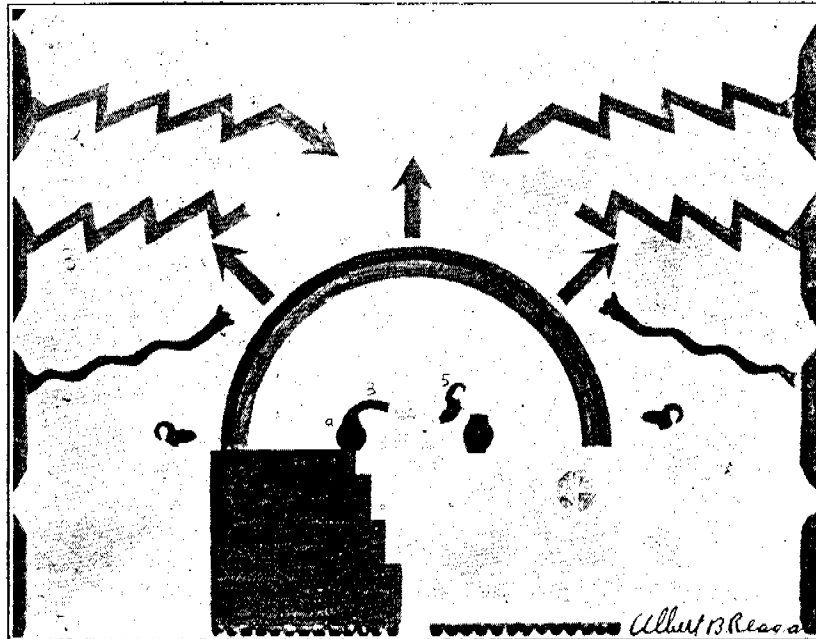
THE WEST JEMEZ CULTURE AREA

Paper read before the History Section of the New Mexico Educational Association.

By Lansing B. Bloom.

WHEN the first Spaniards entered New Mexico, the Jemez people occupied two regions, one to the east, the other to the west, of the central valley of the Rio Grande. Separated though they were by the countries of the Tiguas, the Qüeres and the Tanos, they were nevertheless one in culture, language and ori-

gin. When therefore the Fast Jemez who had occupied the pueblo of Pecos and other sites adjacent for over a thousand years, had dwindled in numbers to a mere handful, it was very natural that these survivors should rejoin their cousins of the west from whom their ancestors had separated so many centuries before. This



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RAINBOW SECTION IN JEMEZ ESTUFA

1. Clouds. 2. Bolt Lightning that does not strike the ground. 3. Bolt Lightning that strikes the Earth, the Power of Evil. 4. Flash Lightning, the producer of blossoms. 5. Blue Snake, the rain symbol. 6. Rainbow in the East. (a) Water reservoir of the universe. (b) Clouds, the steps to Heaven. (c) Raindrops. (d) Rainbow Arch. (e) Dart heads to protect the rainbow. Beneath the rainbow arch the Rain Snake and the Red Snake are in combat. The Rain Snake being defeated retreats eastward, taking the clouds with him hence the rain ceases.

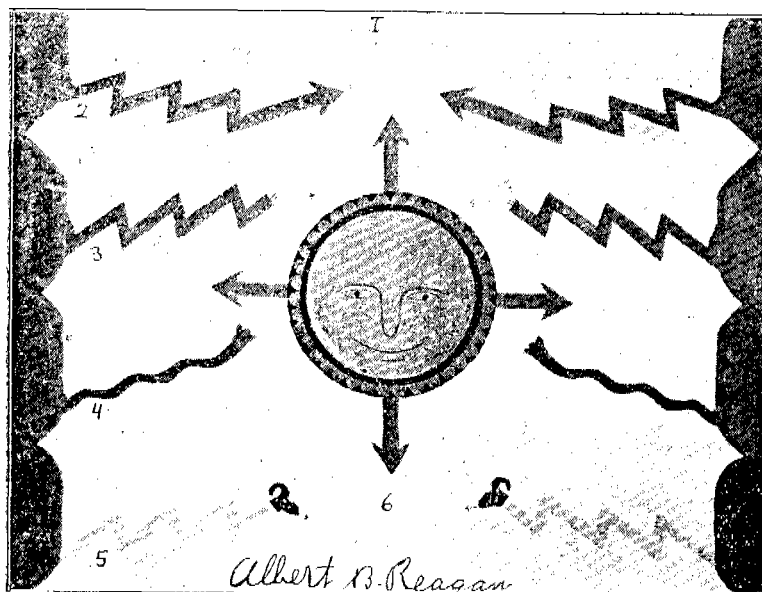
event took place in the year 1838, and today there are, among the Jemez, fifty-five who claim descent from the survivors of Pecos Pueblo.

Our present interest, however, is a survey of the culture area of the West Jemez, and some review of the history and archaeology of their country.

The so-called "grant" to the Jemez people, issued from El Paso in 1689 by Governor Domingo Jironza Petriz Cruzate after the Spaniards had been driven from the country by the Indians, was similar in purpose to a concentration camp.

The intent of that act was to reduce the Jemez to a single pueblo and to restrict their range to nine square leagues. Two centuries later a grant of this extent, with the present pueblo of Jemez at its center, was confirmed by the United States government.

Before this cutting down of their country, (and for how many centuries before is not clear,) the country of the West Jemez was contiguous on the south and east with the Queres people, on the north-east with the Tewas, on the north and west with the "Apaches Navajoses."



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SUN GOD SECTION IN KIVA AT JEMEZ

1. Clouds, the steps to Heaven (dark marginal figures).
2. The Bolt Lightning that does not strike the Earth (upper figures).
3. The Bolt Lightning that strikes the Earth. It is the Red Snake or Indian Devil, called Savah by them (second figure from top on each side).
4. The Flash Lightning, the God of Flowers (third figure from top).
5. The Good Snake, the Blue Snake, the God of Rain (lower figures).
6. The Sun, the father of the Universe and the God of all things. By the Indians he is called Patahgatzah or Pay.

The pueblo ruin at the Ojo de Chihuahua on the high mesa east of the Vallecito Viejo, is not many miles distant through the forest from sites which were occupied by the ancient Cochitenos; and only one and a half miles eastward from that ruin lies a thirty foot dugout, felled and shaped by the Indians of Santo Domingo and left high on the mountain range like a miniature Noah's ark for which there had been no pressing need.

Cerro Conejo, Cerro Pino, Cerro Pelado, Cerro Redondo and Cerro Venado, were all mountains of that early Jemez world which extended from the high mesa east of the Vallecito westward to the Rio Puerco, and from the region of the

present pueblo of Jemez north to the San Anton. It was a world of mountain and valley, of towering forest and living streams, of high majestic mesas which tapered into many a commanding potrero flanked by deep canyons. Even today the Jemez have community rabbit drives in the valley, and in the sierras they hunt the deer and bear, the wolf and fox, the gallina de la sierra and the eagle of the sky. But gone is the buffalo which (if we may trust the maps of Miera y Pacheco) formerly ranged the prairie like meadows of the upper Valles and the San Anton. The streams still teem with trout; the bluebird still flashes in the sunlight which filters down through the roy-

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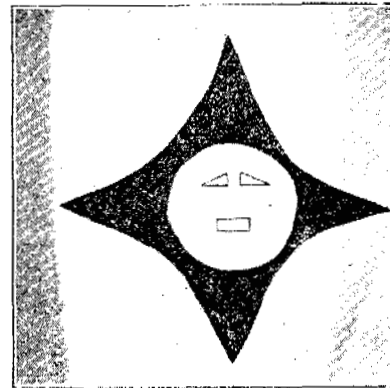
PAUL A. F. WALTER, Editor.

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al pines; the bluebells and grasses, mariposa lillies and yellow flowers of countless species still wave waist deep in the sun drenched glades of the mountains.

The archaeological survey and mapping of this Jemez country which had been planned for the past summer by the School of American Research was necessarily postponed because of an unusual and long continued rainy season. From partial surveys made some years ago, however, it may be stated that there are in the whole region the sites of at least twenty-two pueblos, of from one to five plazas each, which are claimed by the Jemez as having been built and occupied by their ancestors. This number does not include twelve others reported by the Jemez Indians but not yet verified and it also excludes three pueblo sites of this region which the Jemez state were occupied by other peoples.

One large ruin is reported west of the Nacimiento range in the Rio Puerco drainage, but all the others are very equally divided in two main groups for which we might retain the designations given by the earliest Spanish explorers, namely, the "Jemez" and the "Aguas Calientes" (Hot Waters). The latter name can refer only to the sites found in the San Diego-Guadalupe drainage, and the group which they reported as the "Jemez" must therefore have been the group in the Vallecito drainage. There are no thermal or medicinal springs in the

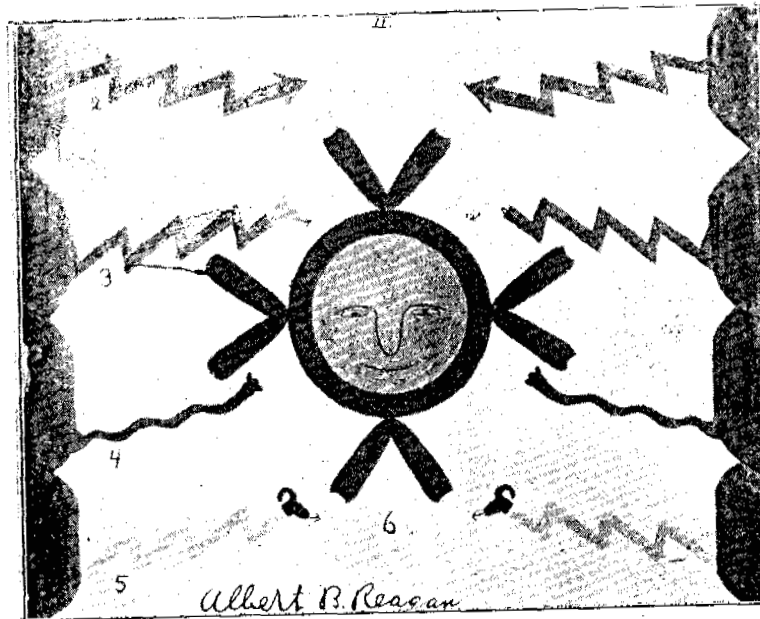


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STAR DRAWING IN SECRET
DARK CHAMBER

Valles, whereas there are such springs in the San Diego canyon and at intervals as far north as the San Anton.

Castaneda was the earliest writer to give any information regarding the pueblos of the Jemez country, and the significance of the fact that he placed them in these two groups has been overlooked by every modern student. Much confusion has resulted, especially as to names and sites, and for the sake of clearness it would therefore be better to adopt such designations for the two groups as the "Vallecito" and the "Guadalupe-San Diego."

Captain Barrio-Nuevo and his "handful of soldiers," connected with the Coronado Expedition of 1540-42, were the first Spaniards to enter the West Jemez country, and Castaneda, who recounts the event, states that after leaving Tiguex (near the present Bernalillo) and having visited the Queres nation, they journeyed seven leagues northeast to the Jemez Pueblos. The direction indicated has perplexed Bancroft and others. The country under discussion did lie northwest of the main Queres country yet from Zia, the last Queres pueblo and the one doubtless which supplied Barrio-Nuevo with guides to the Jemez, the direction up the



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MOON GOD SECTION OF PAINTING IN KIVA

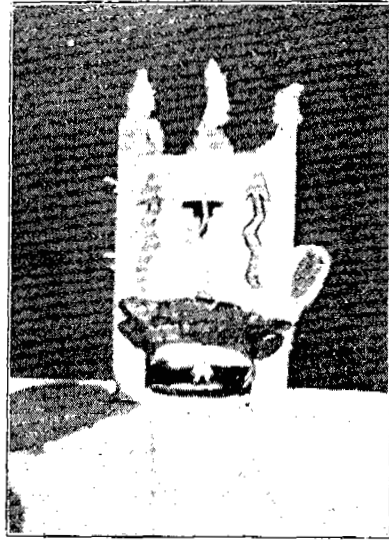
1. Clouds. 2. Bolt Lightning that does not strike the Earth. 3. The Red Snake or Indian Devil. 4. The Flash Lightning, the God of Flowers. 5. The Blue Snake, the God of Rain. 6. The Moon, the Mother God of the Universe, called by the Indians Ahtahwahtzah, or Pah.

Vallecito Viejo does bear east of north. Moreover, the Queres Indians would advise Barrio-Nuevo that the trail by way of the Vallecito Viejo up into the Vallecito de los Indios and on through the Valle Grande would be far better for the Spaniards and their horses than would any trail north by either the San Diego or the Guadalupe canyon. Doubtless, also, it seemed to Barrio-Nuevo more important for him to visit the eastern, or "Jemez," group of seven pueblos than to visit the "Aguas Calientes" group of three.

It was more than forty years before another Spaniard entered the country. Then early in 1583 Espejo made the Jemez a hurried visit, apparently following the general route taken by Barrio-

Nuevo from Tiguex to the Queres, and from the Queres to the Jemez. He also reported seven pueblos of the Jemez, but his directions and distances are unreliable and unfortunately neither he nor Barrio-Nuevo recorded the names of the pueblos which they reported.

The next reference to the West Jemez is in Onate's Obediencia of July 7, 1598, in which the "province of the Emmes," nine pueblos being named, is assigned to Fray Alonzo de Lugo. A month later Onate visited the West Jemez country in person. As he recorded in his *Discurso de las Jornadas*: "On the fourth (August, 1598,) we descended to the pueblo of the Emmes, which altogether are eleven, of which we saw eight. * * On the



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HEAD GARMENT WORN IN GHOST DANCE

fifth we descended to the last pueblo of the said province, and saw the marvelous hot baths which spring up in many places and have singular marvels of nature, in waters cold and very hot and many mines of sulphur and rock alum, and certain it is there are many wonders.¹¹

Coronado's headquarters had been at Tiguex, below the mouth of the Jemez river, and as we have seen, Barrio-Nuevo entered the Jemez country from the south. Onate on the other hand had established his real at San Juan pueblo, and the wording of his report indicates that he had entered the country from the north. He "descended" thro the Valles to the pueblos in the Vallecito drainage then working to the west over the high mesa land he "descended" from the potrero to the "last pueblo" of the province which he associated with the marvelous hot springs. Guiseewa is the pueblo meant beyond any reasonable doubt, and the trail from the Vallecito down into Hot Springs is still in daily use.

It is not certain whether the missionary Fray Alonzo de Lugo entered upon the field assigned to him; in any case his labors in New Mexico were brief as he returned to Mexico in 1601 and drops out of sight. If Dr. F. W. Hodge is right in listing two Jemez churches among the eleven which had been erected in New Mexico by 1617, the honor of establishing these missions is very probably due to the fraile or frailes who succeeded Lugo, but no missionary to the Jemez can be named for the period from 1601 to 1617. In the latter year Fray Geronimo Zarate-Salmeron was made comisario of the work in New Mexico and he established his residence among the Jemez, but whether at the convent of San Diego de Jemez, in the pueblo of Guiseewa, or at the convent of San Jose de Jemez cannot yet be stated.

Salmeron labored among the Jemez for probably not more than four years, since Fray Alonzo de Benavides came to New Mexico in 1612 as the first incumbent of the newly erected "Custodio de la Conversion de San Pablo" and in the same year Fray Martin de Arvide, missionary at Picuris, having learned that the Jemez had deserted their pueblos and were roaming the mountains, obtained permission from Benavides and the governor to go to that field. He was successful in restoring peace and in reestablishing the Jemez, laboring among them from 1622 possibly until 1631.

The next 50 years are almost a blank, because of the destruction of records in the insurrection of 1680, but from the first the Spanish policy was gradually to draw the people of each province into fewer and fewer pueblos. Under Arvide's ministry the Jemez seem to have occupied not more than three or four pueblos; by 1680 there may have been only two served by the missions of San Diego and San Juan; and as already stated, the "grant" of 1689 restricted them to one. Like the streams of their native land, converging into one river which diminishes in volume the further it flows

from its headwaters, so the Jemez have merged and diminished into a single pueblo which today has less than six hundred inhabitants.

One of the problems as yet unsolved is the identification of the church and convent of San Jose de Jemez. Aside from the church of San Diego at Guisewa, the only church among the Jemez known to have stood previous to 1680 is that of which the ruins may still be seen on the lower mesa at the confluence of the Guadalupe and San Diego rivers. Now in 1631 Benavides stated that the scattered Jemez had been congregated in the two pueblos of San Diego (which was rebuilt for this purpose) and of "San Jose which was still standing, with a very sumptuous and beautiful church and monastery." But this language cannot possibly apply to the ruin in question, which is small and insignificant especially when contrasted with the imposing ruins of San Diego. Also the manuscripts relating to the insurrection and reconquest, 1680 to 1696, repeatedly speak of this ruin on the delta as "San Juan de Jemez." Moreover, Bandelier was informed positively by the Jemez Indians that San Jose was much higher up on the mesa proper.

The solution of this problem may come in the study of the Vallecito group of pueblos. If the earliest Spaniards considered that group more important, than or even as important as the "Aguas Calientes" group, naturally one of the first missions would be established among them, and this would be the "San Jose de Jemez." Later between 1631 and 1680, when the peoples of those pueblos were brought over and merged in the pueblo of Guisewa and perhaps others of the San Diego, naturally the mission of San Jose would be abandoned.

It may be well to state in this connection that not a single site in the Vallecto drainage has yet been studied or even carefully mapped yet it includes such ruins as Pe jun kwa (pueblo of the heart) with four plazas; Kia ba kwa

(pueblo of the lion of the arroya) each of two plazas; Wa ha j ha nu kwa (pueblo of the calabaza) of three plazas; Beo le tsa kwa (pueblo of the abalone shell); Kwa tsu kwa (pueblo of the royal pine); Seh shio kwa (where lives the eagle), and Waw ba kwa (where lives the oriole). The three last named ruins have four plazas each besides extended wings. There are also in the Vallecito and its confines seven reported sites which have not yet been verified and various minor ruins.

The western group also of this cultural area, which we have named the Guadalupe-San Diego group, is still largely untouched. Some preliminary survey work has been done by A. F. Bandelier, W. H. Holmes, N. C. Nelson, and others but the only intensive research work in the whole West Jemez cultural area is that which was done by the School of American Research during the season of 1910, 1911, 1914 and 1921.

Ceramic Clues to the Prehistory of North Central New Mexico by H. P. Mera (Museum of New Mexico, Laboratory of Anthropology Technical Series, Bulletin 8:22-24. 1935.)

In this short section Mera describes the development and provides a technological description of Jemez Black-on-white. He also describes the differences between Jemez and Vallecitos Black-on-white.

Trade wares

A list of intrusive wares covering the period, presents no evidence of far flung trade relations but rather shows that any such intercourse was restricted to closely contacting cultures. Wiyo Black-on-white, as might be expected, is by far the most plentifully represented, as many border sites on the north often display almost equal percentages of both sorts. The actual amounts of Mesa Verde Black-on-white are hard to determine by reason of the difficulty experienced in separating it from the finer grades of Galisteo, although examples believed to belong to the first-mentioned type can sometimes be detected by an appearance of the paste suggesting a use of sherd temper. Chupadero Black-on-white, from the country immediately to the south, is relatively common, as also is St. Johns Polychrome. This latter type or types, toward the waning of the Galisteo regime, a decline indirectly brought about by it, is supplanted by a locally produced glaze-paint red ware, which was inspired from a St. Johns source.

Further ceramic trends in this area will be reserved for later debate, as these became involved with and were part of a development which covered not only the Galisteo territory but a large part of the southern Rio Grande Division as well, and will have to be treated as a whole when in order.

Little of importance can be said about architectural bents during Galisteo times, except to state that plaza-type habitation structures were the accepted style. A few examples showing the use of coursed masonry may be seen where natural slab material was obtainable but generally uncoursed stone or adobe, a direct inheritance, sufficed.

Flat surfaced milling stones carried on through this period, as well as all the succeeding, into modern times.

JEMEZ BLACK-ON-WHITE¹

Beginning at about the same time as Galisteo Black-on-white and inheriting a number of principal characters from a source common to both, some perhaps even being transmitted indirectly by way of that variety, a new ceramic type took form, another result of an evolutionary change in Santa Fe Black-on-white.

The extent of country concerned in this development was very much restricted (Map 3). It involved, principally, the territory drained by the upper course of the Rio Jemez and its higher tributaries with but two known exceptions. One of these is a single isolated pueblo situated seven or eight miles west of the main area on a small drainage of the eastern Rio Puerco; the other is comprised of two sites that were located on cañons flowing into the Rio Grande just east of the divide that separates the waters of that stream from those of the Rio Jemez. The lower reaches of the latter stream traverse a country that was included within the Galisteo Black-on-white limit.

While the topography is to a great extent ruggedly mountainous and densely forested, there are a few small tracts of more open land to be found sparsely scattered on mesa tops and in the bottoms of narrow cañons and valleys. Many of the latter possess streams of running water. Although a small number of Jemez villages occupied sites in the open, the great majority are found in thickly wooded situations at altitudes that vary from 6500 to 8000 feet above sea level.

1. Kidder, A.V.; 1931, p. 154.

This upland country shows no signs of having been permanently settled until some time following the first southward drift of Gallina Black-on-white, at a time when that type had undergone an alteration into an early Santa Fe Black-on-white. Although there are Chaco settlements along the lower course of the Rio Jemez, only scattering unassociated sherds of that type have been noted in the higher country, with no indications of fixed settlements. The basic ceramic form in this area is therefore deemed to have been Santa Fe Black-on-white.

Following the introduction of new styles, it appears evident that the onset of the transition of Santa Fe Black-on-white into a new type was quite abrupt as compared to a more gradual procedure shown in Galisteo territory.

From first to last, during the life of Jemez black-on-white pottery, despite no decided break in developmental continuity, there are a number of easily detected differences. For instance, the early stage demonstrates the use of a dense fine-grained paste peculiar to Santa Fe pottery but with the full maturity of the type, this feature, though retaining a similar gray color, became progressively coarser with many inclusions of fairly large, rounded, translucent particles.

A thick white slip was applied to both inner and outer bowl surfaces and has a color that very closely resembles a commercial shade called "oyster white." Although the quality of slip, from beginning to end, appears to be the same, the degree of finish differs according to the state of development. At the start, inner surfaces of bowls were well finished and polished but their exteriors were dismissed with only a perfunctory smoothing. Later both surfaces shared equally the careful attention given to this detail.

The color of the paint, with which designs were executed, ranges from a good solid black to grayish, and also fires, at times, to shades of brown. This would indicate some degree of an iron content. Another characteristic is a tendency of the pigment to tinge the slip at the point of contact which may give an impression of a slightly blurred outline. As the paint used on the Santa Fe type is one which does not discolor under conditions of firing, it is evident that a change in the nature of that feature was effected, probably at a time coincident with the adoption of a slip.

In the earlier aspects, designs greatly resembled those of Santa Fe Black-on-white but later the dominant scheme of decoration was much less complex, being built on a system of heavy lines arranged in various simple combinations. The use of dots on the tops of rims, in series parallel with lines and even to produce spotted backgrounds, was very popular. During the latest stage many elements and designs were copied from the neighboring Rio Grande glaze-paint wares. Also at this same time, outer bowl surfaces below the rims were frequently decorated.

Two features of form which deserve attention are: the seemingly preferred use of horizontally placed olla handles and a normally slightly incurved bowl rim. Not only were designs copied from glaze-paint sources but rim forms imitating those of every step in that sequence have been found.

From the description, it can be seen, that at either end of the Jemez Black-on-white progression (Plates XII and XIII), there are two distinct varieties; an early form with designs approximating Santa Fe styles, having the typical thick white slip poorly finished on bowl exteriors and a later kind with a much simplified broad-line decoration, having both bowl surfaces well polished with the outer frequently decorated. If it becomes necessary to use a term to distinguish the two forms separately, the name Vallecitos Black-on-white could appropriately be used for the earlier and L.A.258 designated as the type site, while the latter would retain the original name.

Utility wares were not remarkable for any particular feature differing from those used in the nearby Galisteo section.

Trade wares

Known intrusive wares came entirely from adjacent sources and for the earlier part of the period were the same as for the Galisteo area, except for Chupadero Black-on-white, of which no sherds have been as yet identified. In the earlier sites, Mesa Verde and Galisteo Black-on-whites occur in very small quantities and St. Johns Polychrome in larger amounts but as Jemez Black-on-white maintained an existence well into historic times, sherds of all the glaze-paint types, both A and B forms of Biscuit ware, and later, Tewa Polychrome, European pottery and porcelain, have been found. From evidence gathered at a number of ruins, especially those situated peripherally, the earliest Rio Grande glaze-paint type seemed to have offered a threat to the continuance of black-on-white, but following this, few examples of intervening glaze-paint forms are to be found until quite late, when the last three of that series were very popular.

Plaza-type architecture came into use in this region at about the same time as the change from Santa Fe Black-on-white into the Jemez type was taking place. As volcanic tuff was very plentiful, it was extensively employed, in the form of blocks, for building material, though adobe was not entirely discarded. There was a considerable range in the quality of masonry throughout the period but little can be regarded as much above mediocre.

All pottery types, except the glaze-paint sequence, pertaining to the Northern Division of that part of the Rio Grande included in this paper, have now received a measure of attention. As the author's idea has been to follow each line of ceramic progression from its inception, without deviation, to its conclusion and also, as a number of developments ran parallel courses, frequent reference to the chart is advised in order to better understand the situation on any given theoretical time level.

THE SOUTHERN DIVISION

The Southern Division, generally, has received but scant attention until of late, and a great deal of work remains to be done in some of the extreme southern and western sections. In spite of this condition, goodly portions of the valley and eastern inland regions have now been covered in sufficient detail to determine ceramic affiliations for this part of the country with some degree of confidence.

The existence of a basic brown-ware complex has already been noted in this article for the entire southern half of New Mexico and from which certain examples were mentioned as intrusive in early Chaco settlements. Unfortunately, the exact northern boundary of these wares, west of the Rio Grande, has not as yet been defined, though in the valley proper and eastward better evidence has been secured.

There are a number of technical variations which all seem to belong to this general group because, no matter what the technique, the pastes all have a most striking similarity. Inasmuch as the several foci from which the various forms were disseminated lie outside of the region which is under discussion and as their developments and interrelations would constitute a separate problem, only those kinds that have a bearing on the present subject will be included here. These will be dealt with, more particularly, in connection with influences they exerted on one another during the course of development of black-on-white wares in the Rio Grande.

Notes on the Jemez Missions in the Seventeenth Century by France V. Scholes (*El Palacio* 44:61-71, 93-102, 1938.)

This paper contains the results of Scholes's research into the locations and names of the seventeenth-century Jémez missions. The mission at Giusewa was determined to be San José de los Jemez, the mission at Patokwa was determined to be San Diego del Monte, and Walatowa was said to be the site of both San Diego de la Congregación and San Juan de los Jémez. Scholes does not mention the visitation of Jémez Pueblo by Father Dominguez in 1776. Dominguez identifies the mission at Giusewa as San Diego (Adams and Chavez 1956:181). Thus, the question of the names of the Jémez missions in the seventeenth century is still open.

NOTES ON THE JEMEZ MISSIONS IN THE SEVENTEENTH CENTURY

By FRANCE V. SHOLES*

ON THE eve of the Spanish occupation of New Mexico the Jemez Indians were living in a number of pueblos scattered over an area extending from the Vallecitos district on the east to the mesas above the Jemez and Guadalupe canyons on the west. Castañeda gave the number of pueblos as ten, Espejo as seven. The Oñate documents give us the names of nine villages.¹

On September 9, 1598, Fray Alonso Martínez, prelate of the Franciscans who accompanied the Oñate expedition, made the first mission assignments. Fray Alonso Lugo was assigned to the Jemez pueblos, "and also all the Apaches and Cocoyes of their mountains and districts."²

Three years later, while Oñate was absent on the expedition to Quivira, most of the friars and soldiers who remained behind at San Gabriel left for New Spain. One of the reasons given for this act of desertion was the alleged inability of the friars to make progress in converting the Indians because of the arbitrary and repressive character of Oñate's administration. When Oñate returned from Quivira, the loyal soldiers were called upon to give testimony to offset the charges made by the deserting friars and soldiers, and one of the points that was stressed was the lack of effort made by the friars to push

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1. These names appear in two lists to be found in the acts of obedience and vassalage of 1598 published in *Colección de documentos inéditos . . . de América y Oceanía* Vol. XVI. But in this printed version many of the names were inaccurately reproduced. Reference should be made therefore to the original manuscript in Archivo General de Indias (to be cited hereafter as A. G. I.), Patronato 22.

2. *Col. doc. inéditos*, XVI, p. 114. A. G. I., Patronato 22.

the program of evangelization. In order to prove that more could have been accomplished if genuine efforts had been made, several witnesses cited what had been accomplished in certain areas, of which the Jemez area was one. The following quotation, dealing with Jemez, is taken from the testimony of Capt. Bartolomé Romero:³

. . . asimismo ha visto este testigo que en los Hemes ay un donado Mexicano que les ha predicado y enseñado las oraciones e los ha visto a decir las en la yglesia que tenían hecha fray alonso lugo, los quales acuden al son de una campana. . . .

Thus we have evidence that Fray Lugo must have resided at one of the Jemez pueblos for some time, and that a church, probably a rude structure, had been built. The documents contain no evidence concerning the location of this church. We have no means of determining the exact length of time spent by Lugo in the Jemez area. All that is known is that he left New Mexico not later than March, 1601.⁴

For a few years subsequent to 1601 little progress was made in the conversion of the Indians, partly because of the lack of friars, partly because of the uncertain state of the colony. Such missionary work as was carried on was mainly in the Tewa area or among the Keresans at Santo Domingo. But after the arrival of Governor Pedro de Peralta and a number of new friar recruits in 1610 the area of evangelization was rapidly increased.

3. Declaration of Capt. Bartolomé Romero, Oct. 2, 1601. A. G. I., Mexico 101. (58-3-15).

4. In March, 1601, several persons left for New Spain bearing dispatches and letters from various persons in New Mexico. When the members of this party arrived in Mexico City, they were called upon to give testimony concerning the state of affairs in New Mexico. One of them testified that Fray Lugo was then in Zacatecas. Testimony of Lic. Francisco Ximénez Orta, July 30, 1601. A. G. I., Mexico 101. (58-3-15).

Unfortunately little is known concerning the history of the Jemez from 1601 to 1621-1622 when Fray Jerónimo de Zárate Salmerón began his missionary labor in the Jemez area. Captain Romero's statement quoted above indicates that a *donado* continued to teach the Indians for a time after the departure of Fray Lugo, but during the critical years from 1601 to 1610 the mission was probably abandoned. Friars may have visited the Jemez area from time to time during these years, but even as late as 1614 the Jemez were regarded as unconverted (*infieles*).⁵

In the excerpt from the Benavides *Memorial* of 1634 to be quoted below, we find the statement that Fray Zárate Salmerón was only one "among others" who labored in the Jemez area. This statement may be interpreted in various ways: (1) it may be a reference to the missionary activities during Fray Lugo's period of service; (2) it may indicate that during the period preceding 1621, especially the years 1614-1621, the missionary labors in the Jemez region had been resumed; or (3) it may merely mean that Zárate Salmerón was aided by one or more friars during the years 1621 *et seq.* Unfortunately we have no contemporary evidence to help us solve this question. Some effort

5. The only reference to Jemez in the documents of the decade 1610-1620 is in a report on New Mexican affairs written by Fray Francisco Pérez Guerta about 1617. In this account it is stated that in the spring of 1614 some Jemez Indians, together with some Apaches (Navahos?), killed an Indian of Cochiti. Several of the Jemez captains were brought to Santo Domingo, and there one was hanged. Pérez Guerta referred to the Jemez as "infieles," indicating that they were still unconverted at that time. But they had already been subjected to the payment of tribute, which indicates that they had been forced to accept Spanish suzerainty. *Relación Verdadera q. el p.^e predicador fr. Fran.^{co} Perez guerta de la orden de S.^t fran.^{co} guardian del convento de galisteo hizo al R.^{mo} Comiss. Gen.^l de la dha. orden de la nueva esp.^a de las cosas sucedidas en el Nuevo Mex.^{co} por los encuentros que tubieron don Pedro de Peralta g.^o d la dha. prouy.^a y fr. ysidro ordoñez Comiss.^o de los frailes de la dicha orden de S.^t Fr.^{co} q. residen en ella. 1617?* Archivo General de la Nación, Mexico (to be cited hereafter as A. G. M.), Inquisición 316.

may have been made to convert the Jemez between 1614 and 1621, but it is also clear that Benavides regarded Zárate Salmerón as the real founder of the missions of San José and San Diego.

II

It has been customary to date the beginning of Fray Jerónimo de Zárate Salmerón's service among the Jemez in 1617 or 1618, but I am convinced that the friar did not arrive in New Mexico until the autumn of 1621. We know that he returned to New Spain in the autumn of 1626.⁶ Sometime after his return to Mexico City he presented his *Relaciones de todas las cosas que en el Nuevo Mexico se han visto y sabido . . . desde el año de 1538 hasta el de 1626* to Fray Francisco de Apodaca, Commissary General of the Franciscans of New Spain.⁷ In the letter of presentation he stated:

. . . habrá ocho años que me sacrificué al Señor entre los infieles de Nuevo-Mexico.

The letter of presentation is undated, but in the printed version it is preceded by a statement by Fray Francisco de Velasco, who had served in New Mexico during the Oñate period and to whom the Commissary General had referred the *Relaciones* for examination and approval. Velasco's *aprobación* is dated August 18, 1629. It is probable, therefore, that Salmerón's letter of presentation was also written in 1629. If we take 1629 as the base date from which to subtract eight years, then we get the year 1621 as the date when Salmerón went to New Mexico.

The 1621 date is also confirmed by Salmerón's own testimony. On June 12, 1626, prior to his departure for New Spain, Salmerón testified before Fray Alonso de Benavides

6. This is indicated not only by the date-span of Salmerón's *Relaciones*, but also by documents in A. G. M., Inquisición 356.

7. Printed in *Documentos para la historia de México, Tercera Serie* (Mexico, 1856).

concerning certain questions at issue between ex-governor Juan de Eulate and the clergy, and in his declaration we find the following statement:⁸

... P.^o fr. geronimo de sarate salmeron . . . gu.^o del con.^o de san jose de los hemes . . . dice y denuncia que habra tiempo de cinco años poco menos, que estando en la ciudad de sacatecas a la puerta de un mercader en compañía del capitan Ju.^o Gomez que a la sason con este declarante pasaua a estas prouincias . . .

This clearly indicates that Salmerón journeyed to New Mexico in 1621. It is apparent, therefore, that he was a member of the group of new friar-recruits who went out to New Mexico in that year under the leadership of the new custodian, Fray Miguel de Chavarría, who succeeded Fray Esteban de Perea. Fray Chavarría took office on October 3, 1621.⁹

In view of the foregoing evidence Salmerón's service at Jemez could not have started earlier than the autumn of 1621, or the winter of 1621-1622.

Unfortunately Salmerón had little to say concerning his labors at Jemez in his *Relaciones*. The most important reference, taken from his letter of presentation follows:

Y habiendo hallá deprendido lengua de la nacion de los indios hemex, á donde compuse la doctrina cristiana con todos las demas cosas importantes al ministerio para ejercer los santos sacramentos entre aquellos naturales, y habiendo bautizado en dicha nacion 6566 almas, sin las muchas que bauticé en el pueblo de Cía, y Santa Ana, de la nacion querer (Keres) que no cuento, y habiendo yo solo conquistado y pacificado el peñol de Acoma que sustentó guerra con los españoles; y habiendo hecho iglesias, conventos, con las demas cosas que merecen memoria como consta por informaciones.

8. Testimony of Salmerón, July 12, 1626. A. G. M., Inquisición 356.

9. 2.^a *Petición [de Fray Esteban de Perea]* 1622. A. G. M., Inquisición 486.

For more definite information concerning the Jemez missions during the five years of Salmerón's service, it is necessary to turn to the writings of Fray Alonso de Benavides and to statements contained in other contemporary records.

In 1630, after his return to Spain, Benavides wrote his famous *Memorial* dealing with the New Mexico missions. It was printed in Madrid later that year.¹⁰ In 1634 he presented a revised edition to Pope Urban VIII.¹¹ This second edition, which is still unpublished, contains important details not included in the first.

From the first, or 1630, edition, I quote the following paragraph dealing with Jemez:

Passando este rio a la parte del Occidente a siete leguas, se topa con la nacion Hemes, la qual quando entré por Custodio, se auia desparramado por todo el Reino, y estaua ya casi despoblada por hambre y guerras, que los iban acabando, adonde los mas estauan ya bautizados, y con sus Iglesias, con harto trabajo, y cuidado de algunos Religiosos, y assi procuré luego reduzirla, y congregarla en la misma Prouincia, y puse Religioso, que con cuidado acudio a ello, y la auemos congregado en dos pueblos, que es en el de San Ioseph, que todavia estaua en pie, con vna muy suntuosa, y curiosa Iglesia, y Conuento, y en el de San Diego, de la Congregacion, que para este efeto fundamos de nueuo, trayendo allí los Indios que auia de aquella nacion, que andauan descarriados; y tambien dandoles casa hecha, y en ella sustento para algunos dias, y tierras aradas para sus sementeras;

10. *The Memorial of Fray Alonso de Benavides 1630*. Translated by Mrs. Edward E. Ayer, annotated by Frederick Webb Hodge and Charles Fletcher Lummis (Chicago, 1916). This edition contains a facsimile of the original Spanish edition of 1630.

11. *Memorial a la sanctidad de Vrbano 8 nro señor acerca de las conversiones del Nuevo Mexico hechas en el felissimo tpo del gouierno de su pontificado y presentado a su sd por el P.^o fr. Alonso de Benavides de la orden de nro P.^o San Francisco, cust.^o de las dichas conversiones en 12 de febrero del año de 1634*. Archivio de Propaganda Fide, Rome. Scrittura riferite nella Congregazione generali. Vol. 259.

que para estos gastos, y otros semejantes de caridad, solemos los Religiosos comutar hasta el sayal que V. M. nos haze limosna para nuestro vestuario, y asi está oy aquella congregacion vno de los mejores pueblos de las Indias, con su Iglesia, y Conuento, y escuelas de todas artes, como en los demas: y aunque se ha muerto mas de la mitad desta nacio, con todo tiene V. M. alli mas de tres mil tributarios congregados.

The 1634 Memorial states:

Passado el Rio del norte a la parte del occidente a siete leguas se topa con la nascion hemes, una de las mas indomitas y belicosas de todo este Reyno; y sobre todo grandissimos idolatras sus pueblos estauan fundados en unas cerrantias asperessimas y inhabitables aunque muy ricas y prosperas de minerales de plata, y en particular del mejor cobre que se ha visto pues del se saca oro. Es nascion esta naturalmente busona y que siempre tratan de bailes y entremeses, y amigos de andar uagueando diferentes tierras. Entre otros a quienes cupo en suerte la conuercion desta nascion fue uno el p.^o fr. geronimo de çarate que como buen ministro y lengua destos indios baptiso alli mas de seis mil, fundo un conuento muy curioso y un templo grandioso en el principal pueblo dedicado a san Joseph. Viendo este Religioso la impossibilidad de poder ser bien administrados los indios çerranos los Reduxo a uiuir en un pueblo que con ellos propios fundo en un sitio de la misma nascion muy a proposito y auiendo trabajado bien en esto y traydo alli infinidad de gente, succedio quemarse este pueblo de suerte que totalm^{te} se despoblo y se boluieron todos los indios a sus antiguas cerrantias y los mas se desparramaron por otras partes. y el año de 28 encargue esta reducion y nueva fundacion del mismo pueblo, al bendito p.^o fr. Martin de Aruide que tenemos agora nueva que el año de 32 recibio martirio en la prou^{ia} de Çuni, el qual con su gran selo congrego muchiss^{os} de aquellos indios emes y con ellos y su grande industria y propia persona fundo otra ves de nuevo todo aquel pueblo con mas de 300 casas y su iglesia muy buena y auiendoles cultiuado tierras en que sembrar y puesto en las cosas todo lo necess^o p.^o sustentarse hasta la cosecha, traxo a uiuir al pueblo infinidad de gente que doctrinaua y

administraua muy bien y dedique aquella congregacion al glorioso san Diego y son enseñados los indios en todas artes y tienen sus escuelas como los demas, y estan muy domesticos, porque eran muy belicosas y tan enemigos de los teoas cristianos sus comarcanos, que un capitan dellos traya al cuello una sarta de orejas de cristianos que auia muerto y se las comia, aunque este esta oy ya conuertido y el y todos los demas son muy amigos de los teoas.

Before analyzing these statements contained in the two editions of Benavides' *Memorial*, I wish to present other evidence found in another contemporary source. During the years 1618-1625 the Franciscans and Governor Eulate engaged in controversy on many phases of the mission program. One of the points at issue was the problem of the old Pueblo ceremonials. Eulate was alleged to have shown great favor to "idolaters" who wished to continue the practice of the old religious customs, and the clergy asserted that the difficulties which occurred in the Jemez area prior to the arrival of Benavides were due to the governor's policy on this issue. In a declaration of testimony made by Fray Pedro de Zambrano on April 20, 1626, we find the following:¹²

tambien es publico aber dado licencia don Ju.^o de ulate a los indios de emex para que biuiesen como ellos biuian antes en su gentilidad y con este favor quemaron la iglesia y conuento del pu.^o de la Congregacion que auia hecho el p.^o fr. Ger.^o de çarate y esto hizo por odio que a la Sancta madre yglesia a tenido el dho don Ju.^o de ulate.

Other witnesses who testified in 1626 also made brief references to this Jemez incident, which probably occurred early in 1623. During Lent of that year Eulate led a group of soldiera to the Jemez area, but he was apparently unable to restore the *status quo ante*.

12. [Declarations, letters, and decrees concerning the controversy between Gov. Juan de Eulate and the Franciscans of New Mexico.] A. G. M., Inquisición 356.

My interpretation of the evidence presented above is as follows:

1. Beginning in the autumn of 1621 or in the winter of 1621-1622, Salmerón began to convert the Jemez, and in one of the pueblos he founded the mission of San José.

2. Finding it difficult to minister to the inhabitants of all the Jemez pueblos, especially the "Indios çerranos," from San José as a base, Salmerón established a second mission. The pueblo in which this second mission was founded was clearly a *concentration* pueblo, that is, Indians were brought in from their former places of abode and settled near the new mission. Benavides stated that Salmerón congregated the Indians "en un pueblo que con ellos propios fundo en un sitio de la misma nacion muy a proposito." It is not entirely clear whether this statement means that the pueblo was newly established for mission purposes, or whether Salmerón induced Indians from other areas to settle in one of the existing villages that was situated in a place suitable for his purpose. This second mission was undoubtedly the one referred to by Father Zambrano in 1626 as the "pueblo de la Congregación."

3. As a result of the 1623 affair the "pueblo de la Congregación" was burned, and the Indians returned to "sus antiguas cerrañas y los mas desamparraron por otras partes." The incident doubtless had serious repercussions throughout the entire Jemez area, and it is not unlikely that the Navaho took advantage of the situation to raid the Jemez pueblos and inflict further damage. Benavides stated that the population declined by 50 per cent during these difficult years.

4. Under these circumstances, Salmerón must have found it difficult, if not impossible, to continue his labors among the Jemez, and he may have turned his attentions to the Keres of Sia and Santa Ana, and to the unconverted pueblo of Acoma. Whether the mission of San José was

also temporarily abandoned is not clear. In Salmerón's testimony, dated June 12, 1526, the statement is made that he was "guardian of the convent of San José of the Jemez," and other witnesses who gave testimony during that same year referred to him as the minister of the Jemez. We also have Benavides' statement that the pueblo of San José was still standing when he arrived. Finally, in a deposition made on June 12, 1626, by a certain Juan Donayre de las Misas, it is stated that the witness was a "soldado en el pueblo de S. Joseph de los emes."¹³ Thus we have two alternatives: (1) that San José mission was not abandoned and that Salmerón tried from time to time to carry on some activity there between 1623 and 1626; (2) that the mission was temporarily abandoned until the arrival of Benavides and the new governor, Felipe de Sotelo Osorio about January 1, 1626, that in the spring of 1626 Salmerón returned to the mission of San José for a few months, and that soldiers were stationed there for his protection.

5. Salmerón returned to New Spain in the autumn of 1626. His place as missionary in the Jemez area was taken by Fray Martín de Arvide, who had served in Picuris prior to 1626. Work was resumed at San José, and the "pueblo de la Congregación," named by Benavides as San Diego de la Congregación, was re-established ("fundo otra uez de nuevo todo aquel pueblo"). Benavides gives the year 1628 as the date when he gave Arvide the task of refounding the San Diego pueblo and mission. Thus when Benavides left for New Spain in the autumn of 1629 there were two missions—San José and San Diego de la Congregación—in the Jemez area. Each had its church and convent. Benavides described the church at San José as "suntuosa y curiosa." The pueblo of San Diego was said to be "uno de los mejores pueblos de las Indias con su Iglesia, y conuento, y escuelas de todas artes, como en las demas." The population of San Diego comprised more than 300 *casos* or households.

(To be continued)

13. A. G. M., Inquisición 356.

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NOTES ON THE JEMEZ MISSIONS IN THE SEVENTEENTH CENTURY*

(Concluded)

By FRANCE V. SCHOLES

III

THE WRITINGS of Benavides indicate that there were two mission establishments—San José and San Diego de la Congregación—in the Jemez area when the author left New Mexico in the autumn of 1629. But the documentary sources at present available for the period 1630-1680 do not contain a single reference to San José. Indeed, the documents never refer to more than one convent in the Jemez area, and when the name of the patron saint is given the name is always San Diego or San Diego de la Congregación. Thus we may conclude that the convent of San José was abandoned sometime after Benavides left New Mexico, although we have no documentary record concerning this event, its date, or the reasons for it. The known manuscript sources for the history of New Mexico from 1630 to 1680 are obviously incomplete, and the record of the abandonment of San José as a separate *guardiánia* may be one of the long series of missing papers.

A careful reading of the Benavides *Memorials* suggests that San Diego de la Congregación, after its refoundation c. 1628, was regarded even then as the more important center of missionary activity among the Jemez. In the

*The first two divisions of this article appeared in EL PALACIO, Nos. 7-8-9, of the current volume.

course of time it became the sole active convent in the Jemez area, and the friars apparently directed their efforts to the concentration of the Indians at that place, with the result that in 1661 San Diego was said to be "la mayor administración" in New Mexico.¹⁴ It should be noted, however, that tree ring from a Jemez ruin L.A. 136) give the date 1657-1661±5.¹⁵ This would indicate that the friars found it impossible to congregate all of the Jemez at San Diego, or that there were defections from the San Diego mission. Site L. A. 136 has no church ruin. The fact that the friar-guardian of San Diego was sometimes assisted by a lay-brother permits us to suppose that from time to time one or more settlements were administered from San Diego. The pueblo of San José may have been one of these *visitas* for a few years.

The first reference to Jemez subsequent to the time of Benavides is for the year 1639. Sometime during that year

. . . los yndios de los hemes habian tenido un rebato y acometimiento de los yndios apaches (Navahos?) ynfielos enemigos de los cristianos y que en el havian muerto a flechazos al Padre Diego de San Lucas . . ."

Father San Lucas was apparently succeeded by Fray Juan del Campo, for in a document of 1640 Campo is mentioned as "Padre guardian de los hemes."¹⁷ The documents from which the above references have been taken do not mention

14. Fray Alonso de Posada to the Holy Office, Santo Domingo, December 4, 1661, in *Papeles que se remitieron del Nuevo Mexico del susceso y fin desastrado de ahorcarse fray Miguel Sacristan . . .*, 1661. A.G.M., Inquisición 594.

15. W. R. Stallings, Jr., "Southwestern Dated Ruins: I," *Tree-Ring Bulletin*, Vol. 4, No. 2 (October, 1937), p. 5.

16. Declaration of Agustín de Carbajal, Santo Domingo, August 19, 1644. *Expediente sobre el levantamiento del Nuevo Mexico y pasages con los religiosos de San Fran.º de aquella provincia en el que se trata del proceder del obispo D. Juan de Palafox. 1644.* A.G.I., Patronato 244, ramo 7.

17. A.G.I., Patronato 244, ramo 7.

the name of the patron saint of the pueblo of which Father Campo was guardian.

In the *New Mexico Historical Review* for January, 1929, I published a report on the New Mexico missions taken from the Archive of the Indies in Seville. This report, as we have it, is a copy made in Madrid on May 24, 1664, of an original said to be in the "archive of the Secretariat of the Indies." The preamble of this document states that it is a "certification of the notices concerning the Custodia of New Mexico . . . the state of the Missions, churches, conventos, and provision for public worship, which are described below according to the relation and notice which were given concerning that Custodio by Padre Predicador Fray Gerónimo de Zárate Salmerón . . . from the year 1538 to the year 1626." This reference to Zárate Salmerón led me to believe that the support had been part of or supplementary to the famous *Relaciones* drawn up by Salmerón in 1629. But that view was clearly unfounded. I now believe that the report was not drawn up before 1642, and that the original in the Secretariat of the Indies was probably a *memoria de conventos* sent by the Franciscan Commissary General of New Spain to the Commissary General of the Indies on March 12, 1642.¹⁸ The 1664 copy contains the following item relating to Jemez:

The pueblo of the Jemez has a splendid church, a good convent, a choir and organ, and 1860 souls under its administration.¹⁹

During the administration of Governor Argüello (1644-1647) the Jemez, in league with the Apaches or Navahos, became insubordinate and killed a Spaniard. Several of the leaders in this insurrection were hanged, others

18. *Espediente sobre el levantamiento del Nuevo Mexico* . . . , A.G.I., Patronato 244, ramo 7.

19. A.G.I., Mexico 308; Scholes, "Documents for the History of the New Mexico Missions in the Seventeenth Century." *New Mexico Historical Review*, IV (1929), p. 43.

whipped, and some given terms of service. Again, in the time of Governor Ugarte de la Concha (1649-1653) there was a more general conspiracy involving the pueblos of Isleta, Alameda, San Felipe, Cochiti, and the Jemez, as well as certain Apache or Navaho groups. This movement failed, however, and nine of the conspirators were hanged.²⁰

In the spring of 1658 Gov. Juan Manso went to the "baths of San José de los Jemez" to seek relief from an illness. The testimony concerning this visit indicates that the area of the baths was then "despoblado." The governor was accompanied by a few soldiers, indicating that the region was subject to attack by hostile Indians, probably the Navahos. Another member of the party was Fray Francisco Muñoz who went along to serve as chaplain for the governor and soldiers.²¹ There are many thermal springs scattered throughout the Jemez area, but the best known are those about half a mile below the pueblo ruin of Giusewa. If these were the springs visited by Manso, then we have evidence that the Giusewa mission was San José and that the mission had been abandoned. Otherwise there would have been no need for the governor to have taken with him a chaplain.

In 1660 Fray García de San Francisco, vice-custodian of the missions during the absence of the custodian, Fray Juan Ramírez, found it necessary to send a messenger to Mexico City with reports for the civil and ecclesiastical authorities in the capital. The person whom he chose for this errand was "Fray Nicolás de Chaves, religioso lego, morador de nuestro convento de San Diego del Pueblo de los Jemez."²²

20. *Autos Pertencientes a el alcamiento de los yndios de la Prova del Nuevo Mexico* . . . 1650, A.G.M., Provincias Internas 34, Exp. 2.

21. *Contra el Capitan Diego Romero, natural de la Villa de Santa Fe en el Nuevo Mexico, por hereje*. [1660-1665]. A.G.M., Inquisición 596.

22. *2º Cuaderno del processo contra Mendicual*. [1660-1663]. A.G.M., Inquisición 527.

In 1661 the mission of San Diego de la Congregación was administered by Fray Miguel Sacristán as guardian and a lay-brother, Fray Diego de Pliego. On the day before the feast of Corpus in June, 1661, Father Sacristán hanged himself in one of the rooms of the convent which was "junto a la iglesia." On receipt of the news of this unhappy event on the following day, the custodian, Fray Alonso de Posada, who was then at Santo Domingo, immediately set out for San Diego. He made the trip by way of Cochiti, arriving in San Diego late in the afternoon. There he made arrangements for the burial of Father Sacristán, and the next day he left San Diego, going first to Sia and thence to Sandia. In his report on the Sacristán case, Posada stated that it was eight leagues from Cochiti to San Diego, and two leagues from San Diego to Sia.²³ The successor of Sacristán as guardian of San Diego was apparently Fray Salvador de Guerra.²⁴

In 1667 the Provincial of the Franciscan Order in Mexico City made a report on the state of the New Mexico missions, describing their status during the years 1663-1666 and their needs for the triennium 1666-1669. From this report I quote the following item:

In the convent of San Diego of the pueblo of the Jemez, there serves and will serve two friars, one of them a priest who will administer the pueblo; and it is necessary that one more priest should be added.²⁵

In 1672 the custodial chapter of the Franciscans of New Mexico was held in the convent of "San Diego de los Jemez." The custodian, Fray Nicolás López, presided. When the mission assignments were made, Fray Tomás de

23. Fray Alonso de Posada to the Holy Office, Santo Domingo, December 4, 1661, in *Papeles . . . del suceso y fin desastrado de atarcase fray Miguel Sacristán . . .* 1661. A.G.M., Inquisición 594.

24. *Proceso contra López de Mendizabal*, A.G.M., Inquisición 593, 587.

25. Scholes, *op. cit.*, p. 55.

Torres was appointed guardian of San Diego for the triennium 1672-1675.²⁶

At the time of the Pueblo Revolt of 1680 Fray Francisco Muños and Fray Juan de Jesús were assigned to Jemez. Father Muños escaped in the company of Luis de Granillo, alcalde mayor of the Jemez-Keres jurisdiction and several soldiers, but Fray Juan de Jesús was killed.²⁷

This brief review of scattered bits of information sums up practically all that is known about the Jemez missions between 1630 and 1680. It is unfortunate that the evidence is so incomplete, but until additional documents relating to the history of New Mexico prior to the Pueblo Revolt are found, we must base our conclusions on these few meagre references, and on statements in the De Vargas Journals, 1692-1696. It was originally my intention to review the history of the Jemez missions during the De Vargas period, but fortunately the recent article by Professors Bloom and Mitchell makes it unnecessary to recapitulate the story of that important phase of Jemez history.²⁸

IV.

On the eve of the Pueblo Revolt there was only one Franciscan establishment in the Jemez area: San Diego de la Congregación. The convent of San José had long been abandoned.²⁹ Some writers have believed that the mission of San Juan, mentioned in the De Vargas Journals was a

26. Bloom and Mitchell, "The Chapter Election in 1672," *New Mexico Historical Review*, XIII (1933), pp. 85-119.

27. Hackett, "The Revolt of the Pueblo Indians of New Mexico in 1680," *Texas State Historical Association. The Quarterly*, XV (1911-1912), pp. 124-127.

28. See note 26, *supra*.

29. Professor Bloom believes that San José was abandoned prior to 1639, inasmuch as the documents containing statements relating to Jemez and the death of Father San Lucas refer only to one mission. In preparing his *Memorial* of 1634 Benavides clearly had access to information as late as 1632. If the convent of San José had been abandoned

pre-revolt foundation, but I hold with Professor Bloom in regarding it as a temporary mission established during the De Vargas period.

Where were the missions of San José and San Diego de la Congregación located? In his recent discussion of this question Professor Bloom identified Giusewa as San José and the site of the modern Jemez pueblo as San Diego. I believe that his findings represent the most satisfactory conclusions that have yet been made, taking into account the data concerning the history of the Jemez prior to 1680 and the evidence in the De Vargas Journals.

One of the most perplexing phases of this Jemez problem has been identification of places mentioned in the De Vargas Journals, especially with reference to the stated distances in leagues. The distances given in the Journals of 1693 do not agree in certain important instances with those found in the Journals of 1692. It is obvious, of course, that the distances in leagues as given in the Spanish records must not be taken literally. Conclusions must not be based on the stated distances alone without reference to other available evidence.

Nevertheless, it is interesting to compare four estimates of the distance from Sia to the Jemez mission made at intervals of thirty to fifty years. Suppose we begin with the latest one and work back to the earliest. In a mission report of 1799 the distance from Sia to the Jemez pueblo was given as two and a half leagues.³⁰ In a report for 1754 it was said to be "about two leagues."³¹ In 1693 De Vargas stated that after having spent the night of No-

30. Biblioteca Nacional, México, Legajo Series, leg. 10, doc. 74.

31. Hackett, *Historical Documents relating to New Mexico. Nurca Vizcaya, and approaches thereto, to 1773*, III (Washington, D. C., 1937), p. 464.

prior to 1632 he would probably have mentioned it. It is possible, therefore, tentatively to fix the years 1632-1639 as the period during which the convent of San José was abandoned.

vember 26 near the deserted Jemez mission (undoubtedly San Diego de la Congregación of pre-revolt times) he marched three leagues to within sight of abandoned Sia.³² Finally, we have the statement made in 1661 by Fray Alonso de Posada that the distance from San Diego to Sia was two leagues. It is interesting to note that the two eighteenth century estimates of the distance from Sia to modern Jemez pueblo were approximately the same as the two seventeenth century estimates of the distance from Sia to San Diego de la Congregación. Moreover, it should be noted that in 1686 De Vargas estimated the distance from Sia to San Juan de Jemez, which Professor Bloom believes was founded at old San Diego de la Congregación, as two leagues.³³ The length of the league varied from place to place and from time to time so that it is difficult to make accurate league-mile comparisons. But it is obvious that if we use a conservative league-mile equivalent, for example $3 \pm$ miles to one league, the distance from San Diego de la Congregación to Sia would have been much more than two or three leagues if San Diego was located at Giusewa, or even at Patokwa. Such estimates are more reasonable if San Diego was at or near modern Jemez pueblo. Perhaps the best way to consider league distances as stated in a single report or diary is to regard them as fairly accurate in relation to each other. Posada estimated the distance from Cochiti to San Diego, probably via the Valles, as eight leagues, and from San Diego to Sia as two, thus giving a proportion of four to one. This proportion tends to favor the modern Jemez pueblo site as San Diego de la Congregación rather than Giusewa or Patokwa. Finally, any attempt to identify Giusewa as San Diego de la Congregación would make it impossible to work out any reasonable scheme for the location of the Jemez pueblos in 1692 *et seq.* on the basis of the De Vargas journals.

32. De Vargas Journals, A.G.I., Guadalajara 140.

33. *Ibid.*, A.G.I., Guadalajara 141.

If Giusewa was not San Diego de la Congregación, then it must have been San José. The large church ruin at Giusewa measures up to Benavides description of the San José church with its unusual tower as "muy suntuosa y curiosa." The tree-ring data from the Giusewa church give the date 1625 ± 2 ,³⁴ which is satisfactory. Moreover, the reference to the "baths of San José" in the documents describing certain events that occurred during Governor Manso's visit to the Jemez area in 1658 is another link in the chain of evidence supporting the view that Giusewa was San José. It should be pointed out, however, that according to Benavides the mission of San José was founded in the "principal pueblo" of the Jemez province, that is, in a site already occupied and not in a pueblo newly founded for mission purposes. Does Giusewa meet this requirement? Mr. Paul Reiter has informed me that he believes there is some evidence to warrant the assumption that Giusewa was a pre-Spanish site. Further excavation should be made, however, in order to clear up this point.

It is not entirely clear, on the other hand, whether Benavides' statement in the *Memorial* of 1634 describing the establishment of San Diego c. 1622 means that the pueblo was newly founded for mission purposes, although it is possible to give the passage that meaning. If excavation is ever permitted at modern Jemez, it will be interesting to know the age of the site in order to test the validity of the conclusion that it was San Diego de la Congregación. Failure to find late glaze pottery would be a powerful argument that the site was not occupied during the seventeenth century.

One problem remains: the identification of the church ruins at Patokwa. Is there any possibility that it was San Diego de la Congregación? Lack of excavation at Patokwa, or at modern Jemez, means that we must fall

34. Stallings, *loc. cit.*

back on documentary evidence, especially the De Vargas Journals. On the basis of the Journals, Professor Bloom identified Patokwa as "San Diego de el Monte" founded c. 1694 and abandoned c. 1696.

To sum up, it is my personal view that we should accept Professor Bloom's conclusions concerning the identifications of the sites of San José and San Diego until documentary evidence and archaeological data provide definite and positive proof to the contrary. His paper is a most important contribution to this old and vexed problem of Jemez history.

Traditional and Ethnological Evidence and Summary by Paul Reiter (*The Jemez Pueblo of Unshagi, New Mexico*, 2 vols. The University of New Mexico Bulletin, Anthropological Monograph Series 1(5):171-181. 1938.)

This concluding chapter of Reiter's Unshagi report summarizes the results of the archeological, ethnological, and historical research that had been conducted in the Jemez area up until 1937. Of special interest is the quote "the Jemez area should be the subject of many years of fascinating and productive study" (1938:171). Reiter appears to anticipate many of the questions anthropological archaeologists of the current era now ask.

Traditional and Ethnological Evidence and Summary

Supplemented by the geographical introduction, the historical background has, perhaps, given a fairly general (although far too sketchy) basis for comments concerning the Jemez province as a whole. This is essential to a proper evaluation of known and inferred aspects of the Unshagi record, although, in effect, it can amount to little more than a statement of problems. Up to this point we have not taken cognizance of other available and pertinent material. Without knowing of such indirectly related events as, for instance, when Europeans were visiting a neighboring site, when a nearby war was in progress, what was the attitude (and perhaps relationship) of a governor of an adjacent town to other tribes, and what were the attitudes of other communities toward invaders, we have ignored available material in the study of Unshagi. There is reason to consider this pueblo as *one of several towns in a province*. And even briefly to do so, we must eclectically pick and choose the urgent points of historical, ethnological, archaeological, and traditional evidence. We have no more than a rough idea of how many towns, with their complementary shrines and seasonal camps, once flourished simultaneously in the district. There may have once been a large population when compared to the six thousand and some who occupied six towns early in the seventeenth century, and a tremendous one when compared to 428 occupants who lived in the sole remaining town near the end of the nineteenth century.¹ We know that the prehistory of the region extended to pre-Pueblo times,² and in view of the long time since then, the Jemez region should be the subject of many years of fascinating and productive study—a potentiality to dwarf any current report to the status of an “introduction.”

Preliminary study has only begun to help clarify the first few political and distributional puzzles of the province. Did all the occupants speak the same language? How common were inter-village relationships—marriage, trade, custom, ceremony? What was the native attitude toward newcomers, both transients and immigrants? Could Zaratc-Salmeron's tales of *Aztec* visitors have been ethnologically correct? Were there alliances of villages in times of war and famine, or were the villages entities unto themselves? There are hundreds of questions which defy answer. With the basis furnished by some knowledge of the modern Pueblo residuum, we may postulate a very few of the solutions.

1. See page 40.

2. Hubert G. Alexander and Paul Reiter, “Report on the Excavation of Jemez Cave, New Mexico,” University of New Mexico, *Bulletin* 278, Albuquerque, 1935, p. 65, *et seq.*

Let us consider the suggestion that when the Spaniards first entered New Mexico the Jemez people occupied two regions, one to the east, the other to the west of the central Rio Grande.³ The area within which the Jemez province has been defined is that to the west, and the basis for the eastern Jemez complex was the oft-recorded but misleadingly unamplified statement that the Jemez and Pecos spoke the same language. Perhaps, as Professor Bloom has stated, the populations of these two districts were one in culture, language, and origin, although some of their migration traditions do not state that they were formerly one people. According to Bandelier,⁴ the Pecos said they entered their valley from the southeast, but that they originated in the north and shifted across the Rio Grande. The Jemez say they came from the northeast.⁵ Bandelier has also recorded that a particular site (*Pecuilagui*, Fig. 2, J-25) is traditionally stated to have been the former home of the Pecos. Dr. Hewett sets aside as the area occupied by the Pecos, that within the narrow Pecos Valley for a distance of about forty miles, from five miles above the pueblo of Pecos to Anton Chico.⁶ In addition to the ruins of the pueblo of Pecos are several ruins of smaller communal houses. One of the larger sites, chosen for description by Dr. Hewett, was *Ton-ch-un*.

Ton-ch-un lies about five miles southeast of Pecos pueblo and about one mile from Rio Pecos. . . .

The traditions regarding *Ton-ch-un* are well preserved at Jemez.⁷ This was the last outlying village in Pecos territory to be abandoned as the process of concentration went on. It held out for many years after the seven or eight other villages of nearly if not quite equal size had given up the struggle and merged with the main aggregation. [Two sites are now known to have been later, Loma Lothrop, and Glorieta.] These were not mere summer residences, but were permanent habitations, each of which sheltered several clans for several generations. Some of the small dwellings referred to doubtless served as summer residences near the growing crops, but on the other hand some of them were permanent clan homes. The traditions indicate that the clan that lived on the Cañon de Pecos Grant and the first dwellers on the site of Pecos Pueblo came from the north; that those living in *Ton-ch-un* and the surrounding group of dwellings entered the valley from the west and were of the stock of Jemez; while those living toward the southern end of the territory of Pecos were said to have come from the direction of the so-called Mesa Jumanes and the Manzano mountains.⁸

3. L. B. Bloom, "The West Jemez Culture Area, *El Palacio*, vol. XII, No. 2, January 15, 1922, p. 19.

4. A. F. Bandelier, *Final Report of Investigations Among the Indians of the Southwestern United States*, pt. I, Arch. Inst. of Am., American Series, Cambridge, 1890, p. 128.

5. J. P. Harrington, "The Ethnogeography of the Tewa Indians," Bureau of American Ethnology, *Twenty-ninth Annual Report*, Washington, 1916, p. 478.

6. E. L. Hewett, "Studies on the Extinct Pueblo of Pecos," *American Anthropologist*, n. s., vol. VI, p. 435.

7. Dr. Hewett presumably got his information from Augustin Pecos (*Se-sa-fwe-yah*), final survivor of the Pueblo of Pecos, circa 1902, at Jemez.

8. E. L. Hewett, *op. cit.*, pp. 322-435.

We cannot know when the founders of Pecos—or of *Ton-ch-un*—left the Jemez province, if indeed they even lived there; but from Dr. Kidder's exhaustive study of the village we know that it had been established and had flourished for some considerable time;⁹ certainly enough time for the language to have developed peculiarities from age alone as well as from external influence. When the survivors of this community dwindled to a few they were invited to migrate to Walatowa, the only surviving village having a related tongue. Dr. Hewett describes the Pecos situation of that time:

The history of the decline and the downfall of the Pecos, which began after the revolt of the Pueblo in 1680 to 1692,¹⁰ may be briefly summed up. There is time to glance over the traditions, which, according to the great sickness at the beginning of the nineteenth century, tells that it reduced the village to such a point that it was necessary to abandon it. . . . Those who know the tradition recount that the day of the abandonment of Pecos, a date which we have essayed to fix in the month of August in 1838, the tribe was composed of seven men, seven women, and three infants.¹¹ Tradition establishes the date of the evacuation by saying that it took place one year after the death of Governor Albino Perez.¹²

Mr. Harrington adds the information:

According to a tradition learned by the present writer at Jemez, there were only about a dozen Indians left [at Pecos] at the time of evacuation, and these went to Sandia Pueblo where they were well received and lived for a few days, but finding that they could not get along well with the Sandia people, they went to Jemez. One or two of them, however, remained at Santo Domingo Pueblo.¹³ Why the Pecos refugees did not go directly to Jemez is difficult to understand, for the Pecos and Jemez languages are as closely related as Danish and Swedish, while the Sandia language, though belonging to the same stock, is unintelligible to a Pecos. . . . Mr. Hodge informs the writer that in Sep-

9. A. V. Kidder and A. O. Shepard, *The Pottery of Pecos*, II, Phillips Academy Southwestern series, New Haven, 1936, p. 610 *et seq.* Mr. Bloom (*op. cit.*, 1922, p. 19) suggested "over a thousand years," and Mr. Harrington (*op. cit.*, 1916, p. 438) several centuries at least.

10. Compare the more recent interpretations.

11. E. L. Hewett, *op. cit.*, 1904, p. 436. Two of the seven men had been away for some weeks preceding the migration (and perhaps others?). Page 439 of this citation names the Pecos emigrants; also, compare E. C. Parsons, *The Pueblo of Jemez*, Phillips Academy Southwestern Series, New Haven, 1925, p. 131.

12. E. L. Hewett, *Les Communautés Anciennes dans le Désert Américain*, Librairie Kunig, Geneva, 1908, p. 37.

13. A. F. Bandelier, (*A Visit to the Aboriginal Ruins in the Valley of the Rio Pecos*, Arch. Inst. of Am., American series No. 1, Boston, 1883, p. 105, note 1) writes: "Of the Pecos adults then living at Santo Domingo, a daughter is still alive [1881?] and married to an Indian of the latter pueblo." I am nearly convinced (although of course one cannot be certain), that names of these two (or more?) Pecos people were not included by Augustin Pecos (E. L. Hewett, *op. cit.*, 1904, p. 439). Dr. Parsons (*op. cit.*, pp. 130-131), lists twenty survivors' names. In 1925, a woman at Cochiti told Dr. Kidder she was descended from a family that moved there from Pecos. It is probable, as Dr. Kidder indicates, that people drifted away for some years before the final abandonment.

tember, 1895, he was told by Jose Miguel Peco, or *Zuwany*, a native of Pecos and a very old man,¹⁴ that the remnant of the tribe numbered only five at the time of the abandonment of Pecos, . . .¹⁵

When the Pecos reached Jemez, the new arrivals undoubtedly had linguistic difficulties. Mr. Harrington¹⁶ points out that the difference in languages would seem to testify that the Pecos had been separated from the Jemez for some time. Additional differences may have been created by the probably extended contact of the Pecos with the Comanches on the plains to the east. There is more than one hint, also, of Kiowa similarities, while another writer has suggested Tano and (in the southern Pecos area at least) Piro relationships. Although they have been noted,¹⁷ it is difficult to indicate the extent of Pecos and Jemez linguistic differences. In the foregoing quotation, Mr. Harrington has compared their relations with those of Danish and Swedish. In her recent study of the Tiwa of Taos,—seeking a possible parallel—Dr. Parsons has determined that the Taos-Picuris and Taos-Isleta speech differences were considerable.¹⁸ The statement of a Taos man is cited to the effect that the Picuris could understand the Taos, but that the reverse was not true. The authority demonstrates, however, that this is not entirely accurate. At that, the Picuris tongue is understood better by the Taos than is that of Isleta. A Taos can recognize words of an Isleta conversation only when it is spoken slowly and with care.¹⁹ From the linguistic standpoint Mr. Harrington has, of course, included the pueblos of Taos, Picuris, Sandia, and Isleta as speaking Tiwa, which he has suggested may be related to Kiowa. Pecos and Jemez, on the other hand, were Towa-speaking; and in consideration of the Taos-Picuris and Taos-Isleta differences, we may tentatively believe that, in view of the added difficulties of their long separation and foreign contacts, the Pecos-Jemez variance may have been considerable. Perhaps one may legitimately postulate that each group developed independent alterations of speech; while Pecos was peripherally located and open to several foreign contacts, the Navajo, Apache,²⁰ and Keres relationships of the Jemez, which we may conceivably project a few centuries earlier than the beginning of documented circumstances, may also have produced linguistic "impurities."

14. Jose Miguel Pecos was the uncle of Dr. Hewett's informant, Augustin Pecos.

15. J. P. Harrington, *op. cit.*, p. 477. See also Dr. Parson's account. Simpson (*Report . . . Reports of the Secretary of War, Ex. Doc. 64, Washington, 1850, p. 69*) writes: "I learn there are now living among [the Jemez] only fifteen Pecos Indians, seven being male adults, seven female, and one little girl. One Pecos male adult . . . is living at Cuesta, one at Santo Domingo, and one in the Canon of Pecos. These eighteen . . . are all that are now living . . ."

16. J. P. Harrington, *loc. cit.*

17. E. L. Hewett, *op. cit.*, 1904, p. 432.

18. E. C. Parsons, "Taos Pueblo," *General Series in Anthropology*, L. Spier, ed., New Haven, 1936, p. 12.

19. *Ibid.*

20. Regardless of various citations, all of which seem to hinge on early Spanish documents written by gentlemen with other things to do than worry over inaccuracies in tribal nomenclature, I believe the probability of Apache-Jemez relationship, *hac lege*, warrants study. There may be, in several instances of Apache citation, confusion with Navajo (as a misinterpretation of "Apaches Navajoses" *et al.*).

Bandelier and Hewett were probably correct in stating that the Pecos-speaking peoples had more than one village, but from the latter's comments²¹ one may presume that if the southern peoples of the Pecos area came from the Manzano region, they probably spoke a different language, and thus the area, as a cultural unity, was either not so extensive or, possibly, not so homogeneous as stated. Also, the migration accounts are contradictory, and Loma Lothrop and Glorieta are known to extend to Glaze I Yellow times. It is thus clear that there are loop-holes in these items of traditional evidence.

Supported primarily by linguistic evidence and secondarily by traditional indications,²² there can be little doubt of some sort of a prehistoric Pecos-Jemez relationship.²³ We may do little more than theorize, on the basis of precedent, concerning the actual circumstances.²⁴ Perhaps a large or small group of Jemez separated from their confreres (as once, perhaps, did the Apache from the *Dineh*) to found a separate site or group of sites, which later accumulated refugees, immigrants, or prisoners, to form a significant population. Perhaps a considerable portion of the Pecos Valley was already populated. The single site given by Bandelier as the former home of the Pecos might indicate a limited population migration. But if there was a proportional split of the Jemez, it may have occurred prior to the settling of either district. If the Jemez Pueblo IV populations were made up, for instance, of former Mesa Verde inhabitants, then the Pecos Valley may well have received large or small groups who wished to separate from their linguistic confreres. Aside from tradition (and even this stipulation is unsure), how do we know that Pecos did not have a separate language from that used in adjacent towns? Patently, such a situation would not be unique.

Traditional information includes what was perhaps another example of an immigration from the (then current) Jemez area. To quote Dr. Fewkes: "Katci, the chief of the surviving *Kokop* clans,²⁵ says that his people originally came from the pueblo of Jemez, or the Jemez country, and that before they lived at Sikyatki, they had a pueblo in Keams Canyon."²⁶ This is additionally interesting when it is noted circumstan-

21. *Vide supra*.

22. Dubious or no, there is no choice but to place unusual emphasis upon whatever evidence, *per se*, we may derive from recorded tradition. I should much prefer the ambiguities and vagaries of some sources of documentary history, for in the repeating and recording, tradition has often borne too much elaboration in the passage of years.

23. This, however, constitutes little basis for the term "East Jemez culture area," or anything akin to it. If one district is *Jemez* it would seem that the other area would be *Pecos*; or shall we refer to Hano (and the Hopi?) as a "Western Tewa culture area"?

24. Bandelier, Hodge, and Hewett (*loc. cit.*) compared Jemez and Pecos clan names. These data are summarized, tabulated, and discussed by Dr. Parsons (*op. cit.*, 1925, p. 133), and yield little in the way of unquestionable evidence.

25. Victor Mindleff, "A Study of Pueblo Architecture, Tusayan and Cibola," Bureau of American Ethnology, *Eighth Annual Report*, Washington, 1891, p. 105. This authority translates *Kokop* to mean *burrowing owl*.

26. J. W. Fewkes, "Tusayan Migration Traditions," Bureau of American Ethnology, *Nineteenth Annual Report*, pt. II, Washington, 1900, p. 604.

tially that the only two complete pieces of trade pottery from outside the Rio Grande region, found at a Jemez site, were Sikyatki Polychrome.

Before the advent of landgrants, the province has been quite ably described, in view of the limitations of our present knowledge, as having been bounded on the south and east by the provinces of the Keres, on the north-east by the lands of the Tewa, and on the north and west by the "Apaches Navajoses."²⁷ The easternmost towns of the Jemez were only a few miles from Cochiti neighbors, and the southernmost approached Zia territory. Reagan furnishes the information that sites from the confluence of the Salado and Jemez (obviously to the southeast) were Zia sites, and implies that those to the north in the vicinity of Walatowa were Jemez.²⁸ An exception to this boundary is probably the ruin on the Mesa Colorado west of Walatowa, which was a Zia town. This contention was substantiated by Mrs. Harper.²⁹ In light of this we must consider the Jemez as once having had close southern as well as eastern (also Keres) neighbors.

Other instances of intrusion into the Jemez country have been recorded. A thirty foot dugout, felled and shaped by the Santo Domingo people, rests high on a mountain, apparently within the Jemez province.³⁰ Bandelier was the first among recent recorders to note that at least one of the villages on the mesa, immediately to the west of San Diego Canyon, was built and occupied by "the people of . . ." or people from, Santo Domingo.³¹ These instances represent actual areal intrusions which, except for the distance factor, may be compared to the classic example of the migration of the Tewa ancestors of Hano from the Rio Grande Valley to the Hopi district. This instance, too, is not without "local" interest. The Hopi-*tuh*, it seems, were constantly being harrassed by the Ute, Apache, and Navajo, who committed fearful depredations. Needing reinforcements, the former peoples invited various of the Tewa to migrate to the westward, on four separate occasions. Finally deciding to move, after the fourth invitation, the migrating Tewa left their seven Rio Grande pueblos (one of which is given as *Teeewage*, near the present village of Peña Blanca).³²

According to one account, the travelers stopped to rest at Jemez *en route*. Some say they remained a year, which occurred "about the end of the decade following the destruction of Awatobi."³³ In the event that such a long visit at Jemez was made—perhaps a dubious point—it may be allowable to postulate that some of the party returned to their eastern

27. L. B. Bloom, *op. cit.*, 1922, p. 20.

28. A. B. Reagan, "The Jemez Indians," *El Palacio*, Vol. IV, No. 2, April, 1917, p. 25.

29. Blanche M. Harper, *Notes on the Documentary History, the Language and the Rituals of Jemez Pueblo*, University of New Mexico, unpublished thesis, Albuquerque, 1929, p. 29. This authority applies the name *Sianunqua* to this particular ruin, and also writes *Wá lá tú wá* and *Ung she á ge*, and believes *Já mesh* (*hãe mish*, *Jemez*), to mean *Mirage* people.

30. L. B. Bloom, *op. cit.*, 1922, p. 21.

31. A. F. Bandelier, *op. cit.*, pt. I, 1890, p. 214.

32. Victor Mindeff, *op. cit.*, p. 35. This information is also repeated in various of the writings of Dr. Fewkes.

33. J. W. Fewkes, *op. cit.*, p. 614.

homes, that the emigrants were joined by others of the Tewa who had reconsidered the invitations, or that emigrants remained among Jemez or Keres—or that they were joined by Jemez and Keres, and so on.

Later, when the Navajo and Jemez were federated in their anti-Spanish crusades, we may perhaps again theorize that not all the Navajo allies actually lived in the current Jemez town over an extended period. If this is true, it would not be unreasonable to guess that we may some day come across the remains of Navajo camps of some sort, perhaps within Jemez boundaries. The Jemez site to the west of the area, and the two just over the divide to the east, which are mentioned by Mera,³⁴ may constitute extrusions, although they are so close to Jemez centers that a peripheral consideration probably would be more accurate. With all this mention of "boundaries," incidentally, we must remember that specifically as such, probably no such thing existed; that had they existed they must have been fairly flexible—between peaceful peoples at any rate. While a related term is essential to this discussion, it should be made clear that we may much more accurately speak of the location of adjoining *centers* of population, and leave the actual boundary between them, and its status, as vague in definition as it probably was in practice. The Jemez at present have no qualms over hunting a few miles into Domingo territory.

Following the uprising of 1696, the Jemez fled, we are told, "to the Navajo country." Jemez Black on White shards have been found in the Largo and Gobernador canyons to the northwest. A quantity of the same pottery was found on the surface of a pueblo site in the upper Chaco drainage. In 1716, there is a record of the return of 131 refugees of 1696 from Walpi (there is at Hopi a "Hemis" katchina). Dr. Parsons suggests that various Jemez returned with their allies to Zuñi (where there is also a "Hemis" katchina), and the same circumstances seem probable in regard to the perhaps refugee-founded "Laguna" pueblo.³⁵ Some Jemez were living among the Navajo in 1705, and Simpson³⁶ was told that some Jemez went to Sandia and some to Isleta. Thus, there are references not only to intrusions and immigrations into the Jemez province by Santo Domingo Keres, Zia, and (temporarily perhaps) Tewa peoples, but an abandonment of their own territory by the Jemez and their apparent *diffusion* among nearly a dozen or more locations to the west and, perhaps, south. Add to this the possible earlier migrations of a Jemez group (*Kokop* progenitors) to the Hopi country, and the possibility of a Pecos emigration seems hardly so unusual. It is quite clear that such migratory tendencies probably were not unprecedented, although far more queries are implied, during their dis-

34. H. P. Mera, *Ceramic Clues to the Prehistory of North Central New Mexico*, Laboratory of Anthropology, technical series, 8, Santa Fe, 1935, p. 22.

35. This and following items have already been cited.

36. J. H. Simpson, *op. cit.*, p. 68. Also, A. B. Reagan (*American Anthropologist*, n. s. Vol. 22, No. 4, p. 388, *correspondence*, Lancaster, October, 1920) says some of the ruins in the neighborhood of Kayenta National Monument "look like Jemez structures." And there is the "Jemez" clan among the Navajo which, however, may be accounted by only a single Jemez woman, the clan ancestress.

cussion or citation, than can be touched upon. On a dialectic basis we may still wonder which periods of Jemez prehistory are best illustrated by the unviolated geographical grouping of the present-day Tewa pueblos, by the Hopi group with its single linguistically heterogeneous Tewa intrusion, or by the geographically jumbled positions of the various Tiwa towns.

Mr. Bandelier once stated (I cannot find his basis), that the population of Jemez pueblo was "half Navajo." There are also references to a Comanche-speaking one-time governor of Pecos who had Comanche blood.³⁷ In 1696, a San Diego-born *Haemishi* who was currently the governor of Santo Domingo was shot by the Spaniards, and some intermixture probably resulted at Jemez from the seventeenth century Santo Domingo refugees noted by Vargas. These and other relationships throw additional light on the problem, and constitute part of the background essential to considering as fully as possible the places of Unshagi, Giusewa, and "Amoxiumqua" in relation to other Jemez towns. Perhaps no friars were murdered at Unshagi; but there may have been Navajo raids.

It is clear from the finds at Jemez Cave that the area under discussion was known during Basket Maker times. Unfortunately, however, we know little of the prehistory of any adjacent locality prior to late Pueblo III times, when Mesa Verde and Chaco pottery found its way, in some instances in quantity, to nearby sites. Because we know little of the genetic circumstances of Jemez Black on White we are in no position to go farther than has Mera in this respect. That Jemez Black on White was fully developed while Glaze I red was still in vogue, we learn from Unshagi. That it was probably in use as late as the middle of the eighteenth century we know from tree-ring dated associations.³⁸ In 1628 the populations of the various small Jemez towns were concentrated at San Diego and San Joseph, so probably Unshagi was not occupied after that time; and because Unshagi dates extend from 1402 to 1605 (Appendix IV), it would seem that Unshagi was one of the towns intentionally abandoned by its population for residence at a mission site.

An interesting bit of circumstantial evidence is noted for what it is worth: the far-reaching sulphurous odor which greets Unshagi visitors a hundred yards to the south of the site may in fact have been in part a basis for some of Oñate's remarks about "sulphur rocks" of the Jemez mountains—and if so it would seem possible that Oñate may have included Unshagi when he visited "eight of the eleven" Jemez towns of 1598, for it was easily accessible to horsemen from any location within the canyon, where were located some of the "marvelous springs of hot and cold water." But Oñate did not write his name in any currently known or visible place—so we can only theorize of his trip.

37. Dr. Parsons denies this (*op. cit.* p. 130); I have not cited all of the relevant material of her report.

38. Mr. Stallings furnished this information verbally (August, 1937).

SUMMARY

Time factors in a reconstruction of events at the pueblo must remain extremely hazy, and can only be based on combinations of definitely hypothetical and circumstantial hints, with a modicum of factual substantiation. Tree-ring material is so sparse we cannot say definitely in what year a single house wall was built; and non-dendrochronological material hardly furnishes adequate basis for exactitude.

On the indirect basis of tree-ring dates and wall intersections, we may postulate that the oldest section of Unshagi lies unexcavated in the northeast corner of the north plaza, or thereabouts. It was probably founded close to the beginning of Glaze I times, or a little earlier, for nearby refuse deposit cuts lack glaze-decorated pottery, and where it does occur there are enough underlying shards, independently backed by tree-ring dates, to render conservative an estimated founding date of 1375 A. D. Close to this time Glaze I red and yellow vessels were in use at the pueblo. It would seem that the sole locally made decorated type, Jemez Black on White, was well developed by the time the village was founded, for, in addition to other indications, the earliest known refuse has yielded a consistently made group of shards, with no apparent experimental or developmental inclusions. The lack of glaze-decorated shards from test N would tend to place Jemez Black on White development, at least to some extent, in Pueblo III, although we have no assurance that Glaze I was not rather late in its introduction to Unshagi. The proportion of culinary indented to culinary plain was relatively high, although there can be no question that the latter was well into the process of development into precedence. Culinary temper was undergoing a change more or less in relation to alteration in surface finish technique, and Jemez Black on White closed forms were rare indeed.

On the basis of dated type correlations of other sites, one might postulate a short, entirely pre-glaze, black on white period, and attempt dubious theorizing with plus X dates, thus altering our occupation date estimate to before 1375. At any rate, buildings were probably extended around the north plaza between 1375 and *circa* 1425. During the earlier part of this span a large part of the village refuse found its way toward the eastern *arroyo*, while that to the west also saw use. From comparative estimate of bulk we may suppose that large quantities of refuse were washed away by these floods. Probably by 1425, parts of B- and E-sectors had been built, and perhaps the building of C-sector was also under way at that time. It may be that between 1425 and 1475—to introduce another arbitrary fifty-year period—Kiva A was sunk through preceding refuse deposits, and soon afterward the disposition of debris which included Glaze II and Glaze III had accumulated around the walls of the kiva and over the low walls of the east refuse. While the east and west deposits were still accumulating—the eastern one at this time perhaps faster than the western, for we find few deposits of the latter heap underlying Glaze III

—the South Refuse was inaugurated. Jemez Black on White closed forms had begun to assert their popularity and were on the increase, culinary indented was more rare, Jemez *rough* had had its heyday, decorated types ran a higher ratio and glaze-decorated shards were slightly more common. Buildings, probably not yet with their entire complement of rooms, had extended most of the way around the north plaza.

Perhaps by 1525, the use of the east refuse had declined considerably (or else refuse was removed by the *arroyo* after being thrown down the bank), to so continue on a very small scale until the time of the abandonment of the village. The South Refuse, particularly the western half, was a-building at a considerable rate, Glaze III may have been in vogue with perhaps the first evidences of Glaze IV appearing, and rooms were soon built over West Refuse deposits. The building of A-sector may have been well under way, and several east-west tiers of rooms had been added to the south end of B-sector, thus inaugurating the advent of D-sector, and with its occupants contributing to the western half of the South Refuse. The north plaza sectors, by this time, must have assumed approximately their final arrangements, and for all we know their occupants may have built a kiva in the main plaza.

Perhaps by 1575 there was a stronger importation of glaze-decorated ware, Jemez Black on White closed forms were popular, D-sector was almost completely extended over previous refuse deposits to something resembling its final size and shape. Kiva A—perhaps long since—had burned and been abandoned, and kiva B built (the span between kivas A and B seems too long!) Some rooms toward the pueblo's northeast corner may have been abandoned, while rooms in excavated sections (in some cases even earlier than this) are known to have been repaired. It may be that a few artifacts of iron had found their way, perhaps by trade, to the site; and possibly some of the occupants had seen their first horse. Glaze-decorated pottery may, for some time, have been made in one or more nearby Jemez villages to the south, perhaps one of which was the source for Barrionuevo's notation of a bowl full of shining mineral "with which they glazed the earthenware." That it was made in considerable quantity twenty miles to the south we know, and that at a distance of perhaps only ten miles from Unshagi the glaze-ware once threatened the Jemez Black on White proportion, we may be reasonably sure.

Between 1575 and 1627, the population of Unshagi may have reached its ultimate extent. Perhaps a few additional outer and upper rooms were built, including the two southern detached examples. Glaze-decorated ware became relatively common and its rim-form developed a new variation; culinary indented—except perhaps for "heirlooms"—was a thing of the past. Village refuse was aggregating at a considerable rate in the South Plaza. Additional rooms, which previously had been added to B-sector, over refuse deposits, were abandoned, and a gradual process of refilling

with refuse was under way. Since there was no sign of fire we might conclude that the ceiling beams were re-used at another location.

The rooms in the northeast corner—theoretically our earliest—had been either abandoned or their occupants suddenly had become conscientious about dumping their trash down the steeper slopes of the *arroyo* bank. Kiva C (perhaps previously) was built. In 1598 a possible visit of Oñate, or his presence in the immediate vicinity, may have frightened the populace, which may previously and subsequently have been troubled by wars and by Navajo raids. A month later Fray Lugo, the first missionary, may have visited, and a church was built nearby. *Circa* 1621, Fray Salmeron arrived, and we may guess that this reputedly zealous and conscientious man lost little time in visiting his various congregations at their homes. Five years later, however, he left the province and not until 1628 did De Arvide concentrate the populations of the several small Jemez towns at San Jose and San Diego. We know that Unshagi was probably occupied as late as 1605, and how long the occupation extended toward 1628, we cannot be sure. The site has yielded every sign of a careful abandonment, and no signs of forcible destruction or extensive fires appeared. It would thus seem most probable that the population in 1628 gave up their Unshagi residence of two hundred and fifty odd years, for concentration with peoples from other towns at Giusewa (San Joseph) or Walatowa (San Diego de los Jemez), or both. There, perhaps, they finally learned to make glaze-decorated pottery.

*Museum of New Mexico,
Santa Fe.
September, 1937.*

Technological Notes of the Pottery from Unshagi by Anna O. Shepard
(*The Jemez Pueblo of Unshagi, New Mexico*, by Paul Reiter, 2 vols. The
University of New Mexico Bulletin, Anthropological Monograph Series
1(5):205-211.1938.)

This appendix to Reiter's Unshagi report contains the results of one of the earliest petrographic analyses of Southwestern ceramics. Shepard's discussion of the paste and temper of Jemez Black-on-white, culinary, and glaze-paint wares from Unshagi provide information useful today in the analysis of ceramics from this area. Shepard concludes that glaze-paint wares were probably not made at Unshagi; that Jemez Black-on-white is tuff-tempered with exceedingly uniform paste, and that the paint was carbon, not mineral; and that the culinary wares were tempered early with tuff, later with glassy andesite.

APPENDIX VI

TECHNOLOGICAL NOTES ON THE POTTERY FROM UNSHAGI

By ANNA O. SHEPARD¹

The chief object of this technological study of pottery from Unshagi has been to define the paste composition of the Black on White, Culinary, and Glaze wares, and thus to learn, first, what kinds of material were used to temper the major pottery types whose center of distribution is the Jemez area, and second, whether or not indications of trade are shown by the glaze-decorated types which form a minor ware. This aspect of technological analysis was chosen because previous studies of Upper Rio Grande pottery, as well as a preliminary examination of the Jemez material, indicated that, from the standpoint of the archaeologist, it would give the most interesting results.

The descriptions of paste are based on the petrographic analysis of forty-six thin sections. Specimens were selected for sectioning only after examining with the binocular microscope several hundred shards in order to determine the principal classes of temper which occur and the range of variation in each. After the petrographic analysis had been completed, the binocular microscope was again used for the examination of large lots of shards from stratigraphic cuts, in order to calculate the proportions of the various pastes at different levels. A total of over 2,000 shards was examined for this purpose.

The archaeologist is usually interested to know whether or not he can identify temper himself or must depend on the specialist. The presence in some pastes of particles of temper which can be plainly seen with the unaided eye may give false hope that microscopic examination is unnecessary. Two conditions interfere with direct identification of temper: in many pastes the temper is too fine and sparse to show clearly, and some distinct and unrelated materials appear superficially identical. It is not advisable, therefore, to use even a binocular microscope without checking results petrographically.

JEMEZ BLACK ON WHITE

The paste is tuff tempered. No other kind of temper was found among the 750 shards examined. The tuff in the majority of pastes consists of irregular glassy flakes and scattered coarse vesicular particles. Mixed with it are grains of quartz, feldspar, and magnetite, and, rarely, a fragment of hornblende or pyroxene. The quartz grains are angular and sometimes

1. Of the Carnegie Institution of Washington, Division of Historical Research. I am grateful to the authorities of this institution for permitting Miss Shepard to undertake this project; and my debt to her for contributing much of her own time toward its completion is sincerely and gratefully acknowledged. (P. R.)

show crystal faces, the feldspar (sanidine) is glassy clear and occasionally grains are corroded. Fragments of volcanic glass adhere to some of the feldspar and quartzite grains, showing that these minerals were present in the tuff. This temper was derived from a pumice.

A powdery form of tuff also occurs but is comparatively rare. The tuff appears as opaque white or grayish white particles which are composed of minute dust-like flakes of glass mixed with impurities. Occurring with the tuff are grains of quartz, sanidine, and magnetite, and in some instances particles of pumice.

Both kinds of tuff are found in the immediate vicinity of the site, the great bulk of the material in the tuff cliffs being of the powdery form. Nine and nine-tenths per cent of the powdery tuff was found among shards from an early level (N-4; 121 shards) and 5.2 per cent in a later level (7-3, 560 shards).

It is not the purpose of this report to give a complete technological description of Jemez Black on White pottery, but a word may be said regarding the paint, since its characteristics have led to some confusion. The paint is organic and shows the physical properties typical of this paint except that it frequently has a brownish or reddish brown coloration. This color is not due to iron in the paint but results from a peculiar effect of the paint on the clay. Experiments have shown that the color is caused by the action of alkali, that it occurs only with certain types of clay, and that an oxidizing atmosphere is necessary to develop it.² The brown of painted areas is, therefore, caused by accidental oxidation during firing. The ware was normally fired in a reducing atmosphere but reddish brown zones in the paste, as well as surface discoloration in many shards, indicate either incomplete reduction or partial oxidation. Some pastes were vitrified but without extreme bloating or deformation. The paint lines of these pastes often have relief and a rough blistered appearance.

CULINARY WARE

Two distinct kinds of temper occur in culinary ware: some form of tuff, and a dark glassy rock. The tuff-tempered paste is comparable with that of Jemez Black on White; pumice is most common, but powdery tuff is also found. The grains of quartz and sanidine are frequently more conspicuous than the tuff, and six-sided pyramidal crystals of quartz are sometimes seen. The clear feldspar and the crystals of quartz plainly distinguish this material from ordinary stream sand.

The glassy rock, a vitreous pyroxene andesite, appears as dark fragments having a semi-vitreous luster. The glass appears brown when viewed in thin section, and contains crystallites, and a few large crystals of plagioclase feldspar (andesine), and some pyroxene (hypersthene). Stray

2. The subject is more fully discussed in a report in preparation to be published in Mr. Earl H. Morris' monograph on the Archaeology of the La Plata District.

fragments of pumice and grains of quartz and sanidine are sometimes found with it, and the association indicates that the vitreous rock and the tuff originally occurred in proximity.³

The ratio of the two pastes was recorded for three levels. As there were more shards from the test cuts than was required, only the larger ones, those exceeding one inch in diameter, were examined. Shards from the earliest level (N-4, 121 shards) contained 7.4 per cent of vitreous andesite and 92.6 per cent tuff. These shards comprised both indented blind corrugated and plain surfaced types. The percentage of vitreous andesite in the former was 1.6 and in the latter 12.9. The ratio of rock to tuff in the middle level (L-8, 121 shards) was 21.5 per cent to 78.5 per cent, and in the latest level examined (L-4, 381 shards) 94.2 per cent to 5.8 per cent. In these two lots indented ware was so rare and faint that it was not considered in relation to paste.

GLAZE-DECORATED WARE

The glaze types are considered as a whole because there are not enough rim shards to compare the paste of the various types. A number of distinct kinds of temper are found, olivine basalt, andesite,⁴ a distinct form of tuff, shard, vitreous andesite, pumice, and sand.

Superficially the dark fragments of basalt which contrast with the reddish paste resemble the dark glassy andesite of culinary ware, but the two rocks are mineralogically distinct and unrelated. The basalt is composed of laths of feldspar (labradorite) with small interspersed grains of augite, and scattered large crystals of altered olivine. Present day potters of Zia pueblo use olivine basalt temper and it has been found in glaze-decorated pottery from the village refuse.⁵

There are several varieties of andesite temper but as the rocks all occur in the same locality these differences are not particularly significant and will not be described in detail. The most common varieties are an altered fine-grained equigranular rock composed mainly of feldspar (andesine) with some augite and magnetite, and a porphyritic rock with phenocrysts of andesine, hornblende, and augite. Many of the andesite tempered

3. Dr. Esper S. Larsen, of Harvard University, kindly identified this rock. Dr. Larsen states that some of the volcanic domes near No Agua are made up of hypersthene andesite a great deal like it and although the specimens collected from this region have less glass than the rock temper, glassy rocks are present in the area. Dr. Larsen also mentions a similar rock on the mesa [east of the Rio Grande] between Santa Fe and White Rock Canyon. I have not made a systematic search in the vicinity of Unshagi but have found a related rock outcropping a short distance above the site.

4. This andesite, which is entirely crystalline, should not be confused with the vitreous andesite of the culinary ware. Although the two rocks are similar in chemical composition, their texture shows that they came from different geologic formations.

5. Dr. Clarence S. Ross, of the U. S. Geological Survey, has kindly supplied the following information regarding the distribution of basalt in relation to the site. "Basalt caps several square miles of mesa about four or five miles east of Jemez [Pueblo] and west of Canyon Honda. Our mapping indicates that the nearest outcrop of basalt would be about five and a half miles northeast of Jemez, but fragments should occur along Vallecito Viejo much of the way to Jemez."

pastes are buff in color. The laccoliths and dykes of the Cerrillos Hills and the Ortiz Mountains are the nearest source of this class of rock.

The tuff occurs as opaque particles which, when viewed with high magnification, appear to be finely granular. Polarized light shows that the glass is partially devitrified and that some tridymite is present. The pumice temper does not differ from that in Jemez Black on White nor the vitreous andesite from that in the culinary ware. The shard temper is difficult to recognize because the particles are small and similar in color to the paste. They are also mixed with rock fragments which often appear more prominent than the shard particles. The sand temper is mixed with grains of fine textured sandstone.

The temper of 675 glaze-decorated shards from stratigraphic tests was identified with the binocular microscope. The tests included E, L, and M, also level three of square seven and square ten. The percentages for the larger lots and for the total of all levels are given in the table below.

TEMPER OF GLAZE-DECORATED SHARDS
Percentages for Levels Having More Than Thirty Shards

| Levels | Basalt | Andesite | Tuff | Vitreous Andesite | Miscel- laneous | Total No. of Shards |
|--------------|--------|----------|------|----------------------|--------------------|------------------------|
| Upper | | | | | | |
| 10-3 | 65.0 | 11.3 | 16.0 | 5.6 | 1.9 | 212 |
| 7-3 | 58.7 | 11.1 | 23.8 | 4.7 | 1.6 | 63 |
| L-4 | 65.3 | 10.1 | 4.3 | 20.2 | 0.0 | 69 |
| Upper Middle | | | | | | |
| E-2 | 33.3 | 36.0 | 5.5 | 13.9 | 11.1 | 36 |
| E-3 | 63.0 | 23.9 | 4.3 | 4.3 | 4.3 | 46 |
| M-1 | 76.5 | 14.1 | 4.7 | 3.5 | 1.1 | 85 |
| Lower Middle | | | | | | |
| L-7 | 56.3 | 15.6 | 3.1 | 18.7 | 6.2 | 32 |
| M-2 | 61.0 | 25.0 | 8.3 | 5.5 | 0.0 | 36 |
| Average | | | | | | |
| All Levels | 61.5 | 18.5 | 10.5 | 7.1 | 2.3 | 675 |

The early levels contained shards tempered with basalt, and with andesite, but none with tuff or vitreous andesite. There were, however, too few shards to justify conclusions. The figures for the later levels show no clear cut trend, and in a number of instances seem inconsistent. A few facts, nevertheless, stand out. In all except one level, basalt is the principal temper. In half the levels andesite is the second most abundant, being at least double that of either tuff or vitreous andesite. In the other levels one of the latter exceeds andesite. Tuff is consistently low except in level three of squares ten and seven, but the higher percentage in these does not indicate an increase of this kind of temper during later times because levels three of squares seven and ten do not average as late as level 4, test L, in which tuff occurs in approximately the same proportion as in the earlier levels. Vitreous andesite is high in level 2, test E, exceptional in other respects, and in levels 4 and 7, test L, but absent from the

other levels of this test. In the miscellaneous column are included shard-tempered, and sand-tempered pastes, and also a few fine-textured unidentified pastes. Two shard-tempered shards occurred in 10-3, one in 7-3, and two in L-7. One sand-tempered shard occurred in M-1, one in E-1. The tuff is principally the devitrified type, for only two pumice-tempered shards with glaze paint were found, one each from L-4 and L-5. Eight other pumice-tempered shards with slip resembling that of glaze-decorated ware were found, but they were all very small and had no trace of glaze paint, and, therefore, do not give positive evidence. The small number of shards in the levels may in part account for inconsistencies of the figures, and some levels may have been disturbed. It seems reasonably certain, however, that there was no important change in proportion of the different classes of temper during the period represented by the levels shown, and the average for all levels of the several tests gives an idea of the relative importance of each kind of temper. No attempt was made to correlate temper and type of glaze-decorated ware because most of the shards are very small, and rim shards are rare.

SUMMARY

The paste of Jemez Black on White is exceedingly uniform and the type shows no significant change in technique. The few deviations from the custom of tempering with pumice appear to represent the work of careless or indifferent potters, since the powdery tuff was somewhat easier to obtain and prepare but apparently was considered less suitable.

Culinary ware, since it has two distinct kinds of temper, is of more interest technologically than black on white ware. In the earliest levels there is a strong preponderance of tuff, the paste being essentially the same as that of black on white ware. There was no special adaptation of paste to class of pottery. Gradually, however, vitreous andesite-tempered paste, which is present in the earliest levels, becomes more abundant, and in the latest levels it had largely replaced pumice. The increase in vitreous andesite temper is correlated with the displacement of blind indented corrugated pottery with plain-surfaced culinary pottery. The reason for the use of vitreous andesite temper is not obvious. It is more difficult to prepare than pumice, and has no apparent practicable advantages. The potters may have had some superstitious ideas regarding the effect of such temper or they may have been influenced by the custom of potters in other regions where ground rock was the best kind of temper available. It is even possible that the vitreous andesite-tempered culinary pottery was obtained in trade, although such a condition is hardly to be expected. A comparative study of culinary ware from the region might throw some light on the problem.

The variety of pastes in glaze-decorated ware is in direct contrast to the uniformity of Jemez Black on White paste. Does this variety, together with the fact that the proportion of glaze ware is always small, mean that

the ware is entirely of foreign origin? If so, from what localities did the various types come? The distribution of the different pastes of glaze-decorated ware in the Upper Rio Grande Valley is not yet sufficiently well known fully to answer this question. To date, the only detailed study is that of the ware from Pecos on the eastern periphery of the area.⁶ Certain facts established by this study, however, throw light on conditions at Unshagi. The shard-tempered, glaze-decorated ware at Pecos was mainly Glaze I Red. It was of rare occurrence, and considered intrusive from villages along the Rio Grande in the vicinity of Albuquerque, since a preliminary examination showed that it is most common in these sites. The shard-tempered paste of the Unshagi specimens resembles that from the Albuquerque sites in texture and in the included rock fragments. Andesite tempers occurred abundantly at Pecos only during the first and last stages, Glazes I and VI, and the pottery was considered intrusive from the Galisteo Basin. The Galisteo Basin sites are located near the only important formation of andesite in the area, and andesite temper was here used throughout the period. The probability that the andesite-tempered shards from Unshagi came from the Galisteo pueblos is strengthened by the common association of this temper with a buff-colored paste. Buff pastes are common in some of the Galisteo sites but rare in other parts of the area. Sand temper in glaze-decorated ware is, so far, known only from Pecos. The sand-tempered paste from Unshagi resembles that from Pecos in the presence of fragments of fine-textured sandstone.

It is reasonably certain that these three varieties of glaze-decorated pottery are intrusive at Unshagi, and came from the regions suggested. The distribution of the other pastes, basalt-tempered, and tuff-tempered, is less well known and their origin at Unshagi, therefore, less certain. Basalt of the type occurring in the Unshagi specimens has been found in glaze-decorated ware from sites along the Rio Grande in the neighborhood of Cochiti Pueblo, and also along the Jemez in the vicinity of Zia Pueblo. Glaze-decorated pottery was the principal painted ware in the group of sites near Zia, and among shards examined 85 to 90 per cent of the red-slipped types were tempered with basalt.⁷ It is quite possible that the Unshagi specimens were brought in from these villages. Several arguments may be advanced in support of the hypothesis that the basalt-tempered variety of glaze-decorated pottery was intrusive at Unshagi. In the first place, the proportion of glaze-decorated ware is very low. It is improbable that Unshagi potters, had they mastered the technique of making the ware, and had they the necessary material, would have continued to make mainly the comparatively unattractive black on white ware, with only now and then a glaze-decorated vessel. In the second place, basalt temper does not

6. A. V. Kidder and A. O. Shepard, *The Pottery of Pecos, II, Glaze-paint Wares*, Phillips Academy Southwestern Series, New Haven, 1936.

7. Surface survey shards examined through the courtesy of the Laboratory of Anthropology.

occur in Jemez Black on White and is very rare in culinary ware.⁸ It seems improbable that a special kind of temper would be used for the glaze-decorated ware. In the third place, the proportion of basalt-tempered paste is relatively constant in all levels. Unshagi was peripheral in location, and one would expect, therefore, that, in the beginning, potters would have become acquainted with the ware through importation, in which case only trade ware would be present in the early levels, followed by levels with increasing proportions of ware tempered with local material, if Unshagi potters had learned to make the ware.

The variety of glaze-decorated ware tempered with devitrified tuff was presumably made somewhere in the Jemez Mountains, since the tuff is unlike that from secondary wind blown deposits. It seems improbable, however, that this variety of the ware was made at Unshagi because this particular kind of tuff was not found in Jemez Black on White pottery. This type of paste has, however, been found at Tschirege on the Pajarito Plateau. It is a curious fact that it has not yet been recognized in Black on White or Biscuit A and B. The few shards with temper identical with that of Black on White or culinary ware may or may not be local in origin, for we do not yet know the distribution of these varieties of paste.

As a working hypothesis it may, therefore, be suggested that, with the possible exception of a few sporadic attempts, glaze-decorated ware was not made at Unshagi but was obtained from a number of localities. At first, the bulk of it came from villages nearer the Rio Grande and from the Galisteo Basin. Later, although contact with these villages continued, some pottery was obtained from pueblos in the Jemez Mountains which had more recently learned to make glaze-decorated ware. Conditions at Unshagi appear, therefore, quite different from those at Pecos, a flourishing and important pueblo where large amounts of glaze-decorated pottery were apparently first imported, mainly from nearby Galisteo villages, but also in part from villages along the Rio Grande, and then the technique of making the ware was learned, and most of it produced locally until almost the end of the period.

The fact that a hypothetical explanation of the occurrences at Unshagi is given at this time is not due to the limitation of technological methods as much as to our lack of knowledge of the distribution of the varieties of glaze-decorated ware which occur at Unshagi. When these data are accumulated, we should have a reasonably detailed picture of the development of Rio Grande glaze-decorated ware, the spread of the technique, the principal centers where the ware was produced, and the volume of trade within the area.

8. Culinary shards were carefully rechecked for basalt temper because the basalt and vitreous andesite appear superficially very similar. One basalt-tempered shard was found in a lot of 150. This shard may well have been intrusive.

CHAPTER 5. LARGE PUEBLO SITES IN THE JÉMEZ PROVINCE

The Jémez Province contains at least 40 large pueblo sites. Large in this area means over 50 estimated rooms. Of these 40 sites, 9 are termed "great kiva" sites. These sites all have over 650 estimated rooms, and exhibit a great kivalike feature. No site has more than one such feature, but several sites have large plaza kivas that approach the arbitrary great kiva size threshold of 10 m in diameter. None of the great kivas are located within plazas, but are usually located on the edge of the pueblo, most often on the east or south sides. Features of these nine large pueblo sites include enclosed or semi-enclosed plazas, the smaller plaza kivas, multiple room blocks, multistoried construction, and dense refuse scatters. All great kiva sites are located on mesas; none are in valley or canyon bottoms (with the exception of Walatowa, modern Jémez Pueblo).

The known great kiva sites are Tovakwa (LA 484), Kwastiyukwa (LA 482), Amoxiumqua (LA 481), Seshukwa (LA 303), Wabakwa (LA 478), Pejunkwa (LA 130), Kiatsukwa (LA 132 and LA 133), Boletsakwa (LA 136), and Wahajhamka (FS 573). Pejunkwa, Wabakwa, and Wahajhamka have only early Jémez phase components, and the other sites appear to primarily have experienced minor Refugee phase occupations. Only Boletsakwa has a recognizable post-Pueblo Revolt component.

Table 1 summarizes the characteristics of each great kiva site. Figure 10 shows a schematic diagram of each site to the same scale and orientation. These data are somewhat updated versions of those contained in an earlier work (Elliott 1982).

Somewhat smaller in size than the great kiva pueblo sites are the "plaza" sites. These sites contain multiple, multistoried room blocks surrounding one or more plazas on at least three sides. Some of these sites have plaza kivas, but none has a great kiva. These sites range in size from 50 to 600 rooms. Table 2 contains summary information on the "plaza" sites. Figure 11 shows the schematic diagram of each site to the same scale and orientation. These data are also somewhat updated from the author's earlier (Elliott 1982) work.

Two and possibly three abandoned pueblo sites in the Jémez Province are also the sites of seventeenth-century Spanish missions. Giusewa (LA 679), present-day Jémez State Monument, was the site of San José de los Jémez Mission. This structure was probably built in the 1620s atop an earlier mission, and was abandoned by at least 1639. The pueblo was built three stories high, abutting the west wall of the mission structure. The size of the pueblo is difficult to judge, since historic accounts indicate it extended under the road and present Catholic chapel towards the Jémez River some distance. In addition, some structures, including a kiva, were located south of the Church Canyon Arroyo under what is now a USDA Forest Service administrative site.

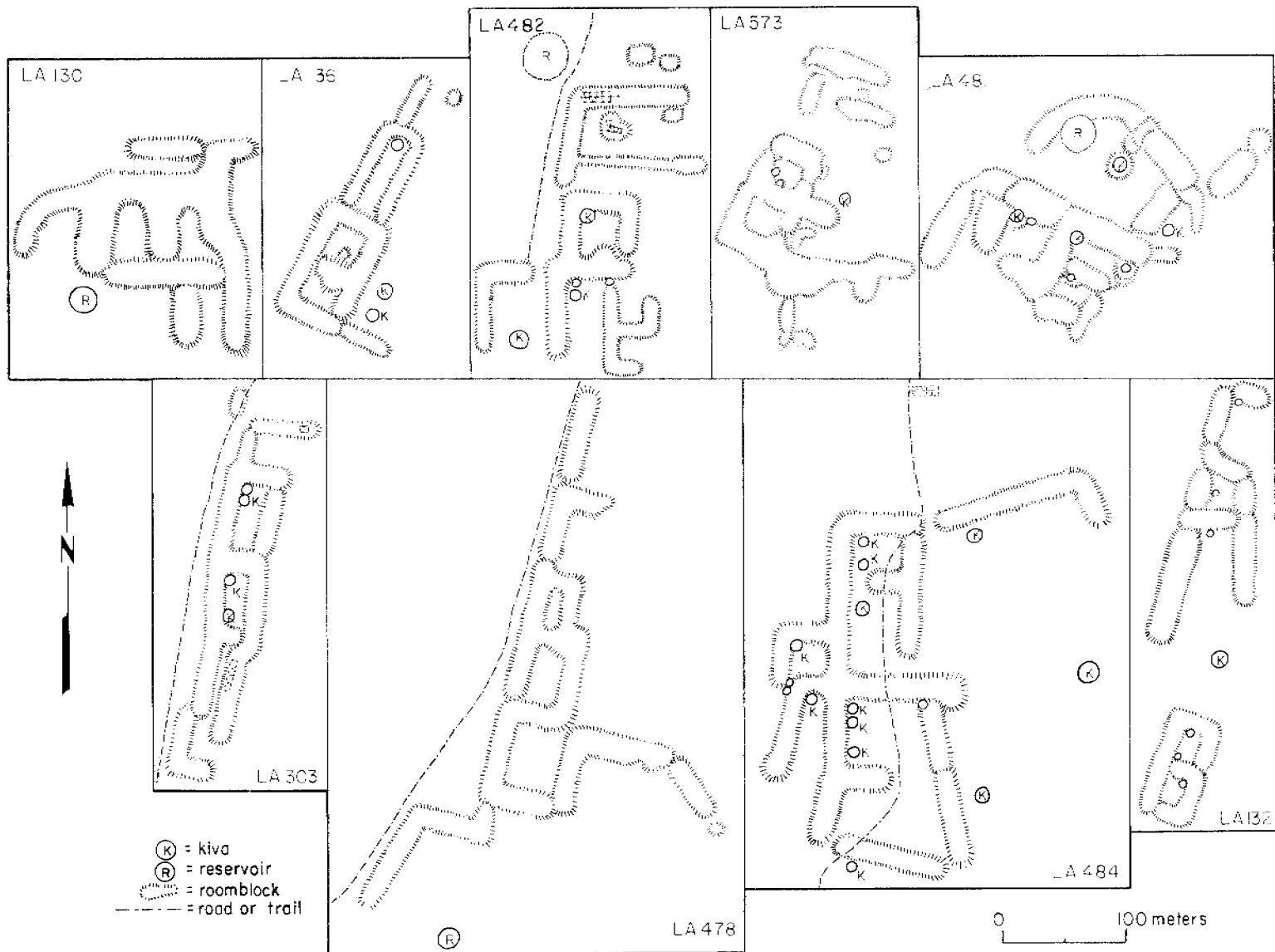


Figure 10. Schematic diagram of great kiva sites.

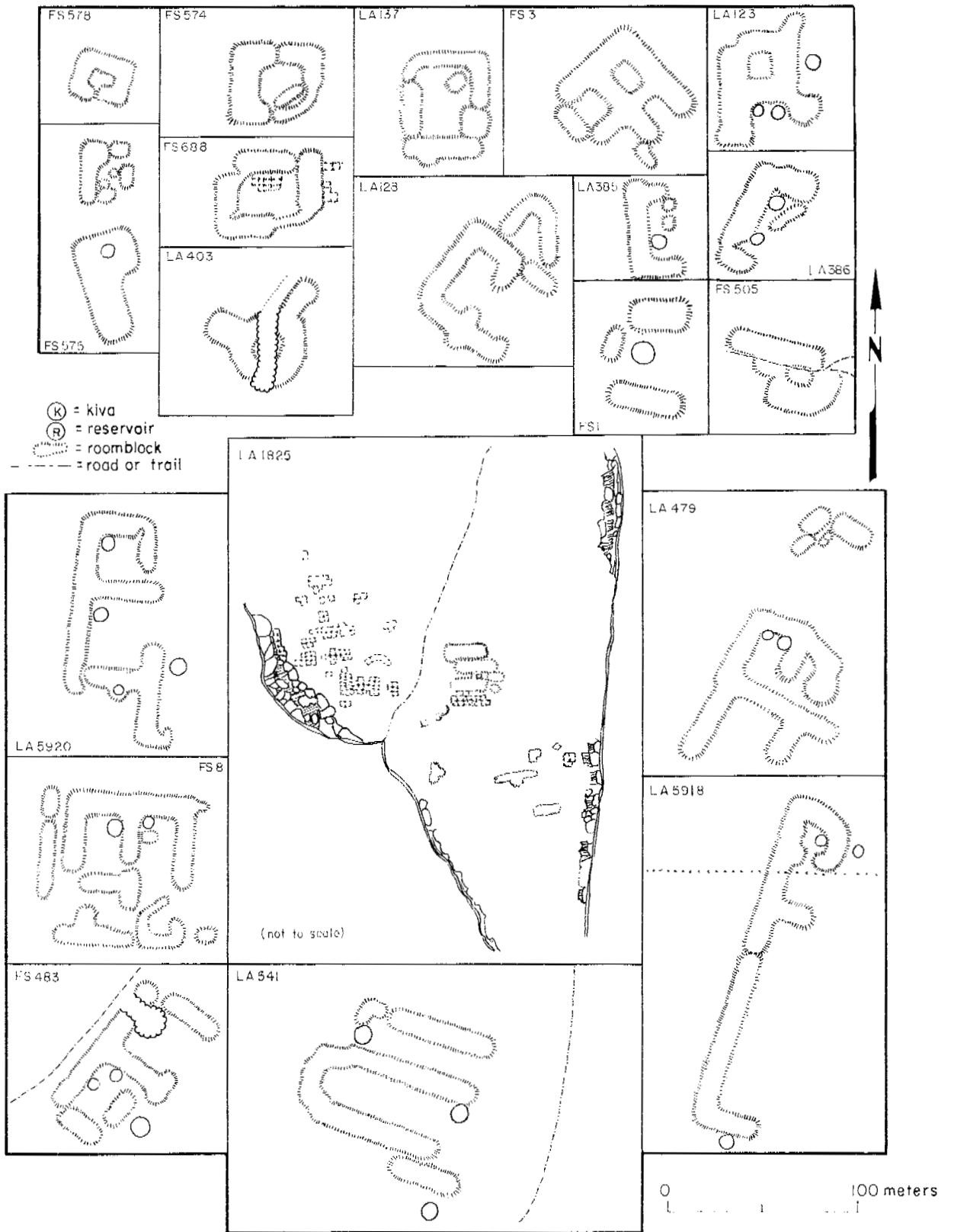


Figure 11. Schematic diagram of plaza sites.

Table 1. Great Kiva Sites in the Jémez Province

| Number | Names | Est. No. of Rooms | Elevation (feet) | No. Small Kivas | Ceramic Dates | Dendro Dates |
|-------------------|--|-------------------|------------------|-----------------|---|--|
| LA 484 | Tovakwa(?) Stable Mesa Ruin | 1,850 | 7,880 | 14 | 1350-1650 | |
| LA 482 | Kwastiyukwa(?) Giant Footprint Ruin | 1,250 | 7,610 | 3-5(?) | 1350-1650 | |
| LA 481 | Amoxiumqua(?) | 1,200 | 7,800 | 6 | 1350-1650 | 1502v |
| LA 478 | Wabakwa | 1,400 | 7,680 | 0(?) | 1175-1400 | |
| LA 303 | Seshukwa San Juan Mesa Ruin | 1,100 | 7,920 | 4 | 1350-1650 | 1597c |
| LA 132, LA 133 | Kiatsukwa | 975 | 7,720 | 7 | 1300-1450 | 1615rL, 1616rL, 1616v, 1616rB, 1615c |
| LA 130 | Pejunkwa(?) | 1,300 | 7,560 | 0(?) | 1300-1450 | |
| LA 136 | Boletsakwa (may also be mission site) | 650 | 7,240 | 2(?) | 900s(?) 11-75-1350 1350-1650 1680-1780 | 1656v, 1663v, 1680v, 1680v, 1680cG, 1681vv, 1681r, 1682vv, 1683v, 1683v, 1683v, 1683r, 1683r |
| F.S. 573 | Wahajhamka(?) | 750 | 7,500 | 2 | 1300-1450 | |

The other known Pueblo site with a mission ruin is Patokwa (LA 96). The name of the mission here is thought to have been San Diego del Monte. The site is shown as "San Diego" on the 1779 Pacheco y Miera map of New Mexico. Patokwa was believed to have been built over an older pueblo ruin in 1694, after the defeat of the Jémez by Governor Vargas at Astialakwa. The 1696 revolt took place here, and it is generally believed that Patokwa was the site where the priest Fray Francisco de Jesús was martyred. The pueblo component of Patokwa was severely damaged by vandals with heavy equipment. Local folklore says that the vandals were looking for a gold bell supposedly buried at the mission during the Pueblo Revolt. Luckily, they did not know where the mission was, for they succeeded only in destroying several dozen pueblo rooms.

Table 3 summarizes archaeological information for these two mission sites. Figure 12 shows schematic diagrams of Patokwa.

Table 2. Plaza Sites in the Jémez Province

| Site Number | Name | No. of Rooms | No. of Kivas | Elevation | Dates |
|-------------|---------------------|--------------|--------------|-----------|-----------|
| F.S. 1 | Kiashita | 50 | 1 | 7,150 | 1350-1500 |
| F.S. 3 | Hanakwa | 150 | 0 | 7,360 | 1350-1500 |
| LA 483 | (?) | 250 | 3 | 8,000 | 1350-1650 |
| LA 5920 | | 350 | 4 | 7,640 | 1350-1500 |
| LA 5918 | | 375 | 3 | 7,620 | 1350-1500 |
| LA 541 | Nanishagi | 350 | 3 | 6,680 | 1350-1500 |
| LA 123 | Unshagi | 263 | 3 | 6,760 | 1350-1650 |
| LA 1825 | Astialakwa | 250 | 0 | 6,680 | 1500-1700 |
| F.S. 505 | Hot Springs Pueblo | 50 | 0 | 7,280 | 1350-1500 |
| LA 385 | | 50 | 1 | 7,530 | 1350-1500 |
| LA 386 | | 75 | 2 | 7,530 | 1350-1500 |
| LA 189 | Kiabakwa, Guacamayo | 250 | 1 | 7,220 | 1350-1500 |
| F.S. 574 | | 75 | 0 | 7,200 | 1350-1650 |
| F.S. 575 | | 100 | 2 | 7,280 | 1350-1650 |
| F.S. 578 | | 50 | 0 | 7,280 | 1175-1500 |
| LA 479 | Totaskwinu | 200 | 2 | 7,760 | 1250-1500 |
| LA 137 | | 75 | 0 | 7,000 | 1350-1500 |
| LA 128 | | 125 | 0 | 6,750 | 1250-1500 |
| F.S. 688 | | 75 | 0 | 7,260 | 1350-1650 |
| LA 403 | | 60 | 1 | 6,080 | 1175-1500 |

Tree-ring dating and ceramic evidence indicate that another possible mission site could be Boletsakwa (LA 136). Boletsakwa is constructed very much like Patokwa, that is, two plazas enclosed by multistoried room blocks. At the north end of the pueblo are problematic structures of some kind. These features could be older pueblo room blocks that were scavenged for building materials during the Pueblo Revolt. On the other hand, it could be a mission site that was destroyed in either 1680 or 1696. This site has generally been ignored in the literature, but with a good series of tree-ring dates in the 1680s and Puname Polychrome ceramics dating from 1680 to 1720, the site has a definite post-Revolt component.

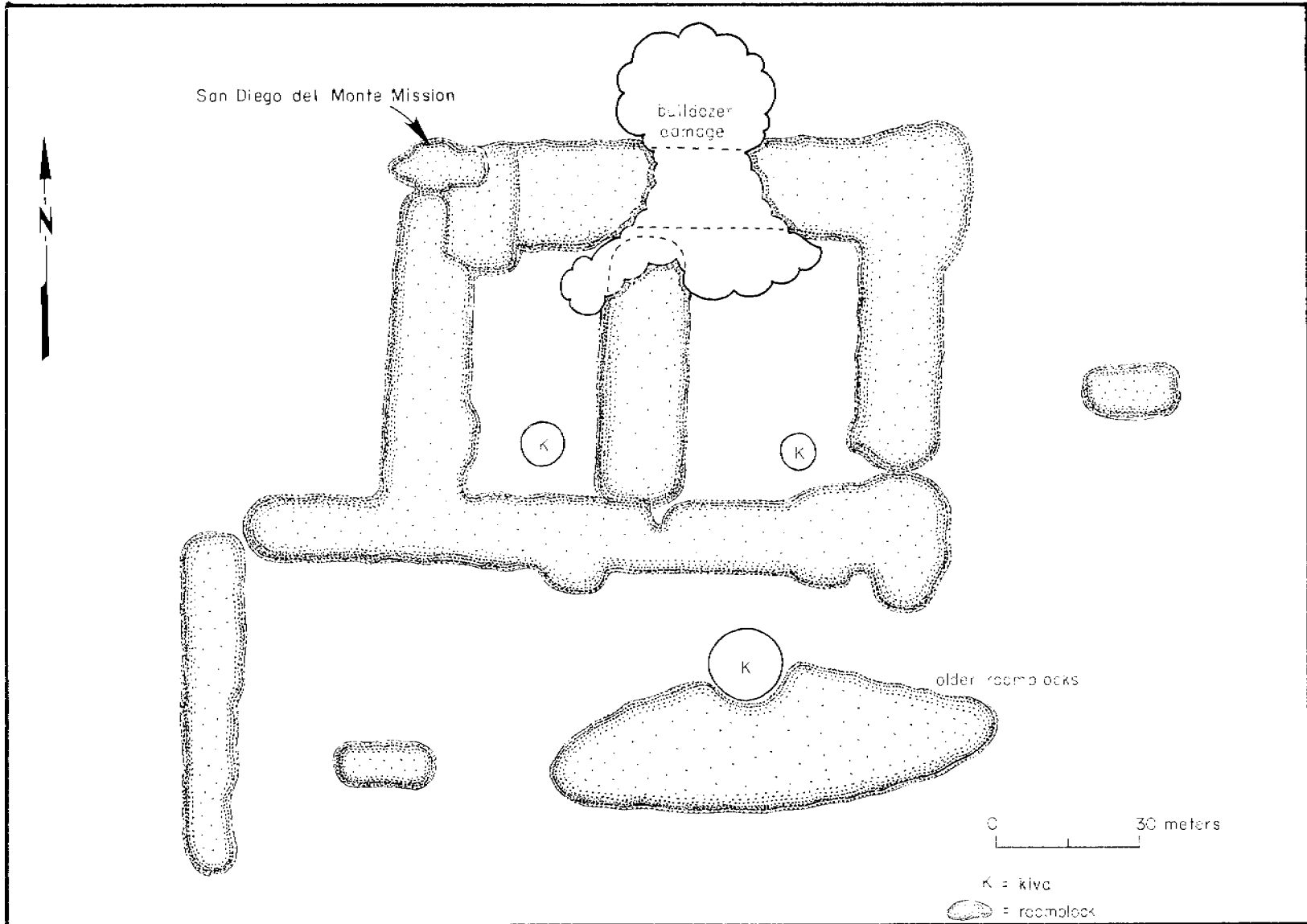


Figure 12. Schematic diagram of Patokwa.

Table 3. The Mission Pueblo Sites of Giusewa and Patokwa

| Number | Names | Est. No. Rooms | Elevation (feet) | No. Small Kivas | Ceramic Dates | Dendro Dates |
|--------|--|----------------|------------------|-----------------|--|---|
| LA 679 | Giusewa San Jose de los Jémez | 350 | 6,280 | 3 | 1350-1650 | Mission: 1497vv, 1507vv, 1577vv, 1578vv, 1596v, 1611vv, 1619vv, 1619vv, 1621vv, 1622vv, 1622v, 1624v. Mission, North Room Convento: 1865+rB, 1866v, 1866v, 1866rB, 1866rB, 1866rB, 1900v. Pueblo, Kiva 1: 1596vv, 1610v, 1610v, 1610r, 1610r, 1610r, 1610r, 1610r, 1610r. Pueblo, Room 100A: 1623v. Pueblo, Room 103A: 1615vv, 1618vv, 1620vv. |
| LA 96 | Patokwa, San Diego del Monte | 600 | 5,820 | 3 | 600-800 1175-1350 1500-1700 1700-1780 | |

It is suggested here that the site could have been San Juan de los Jémez, since the mesa in that vicinity is known as San Juan Mesa, and a pueblo on a mesa named San Juan is mentioned by Vargas several times. No mission ruin has ever been found that has been positively identified as San Juan de los Jémez, though it has long been assumed that the site was located at Walatowa (Scholes 1938; Bloom and Mitchell 1938).

CHAPTER 5. CONTEMPORARY OVERVIEW OF THE JÉMEZ PROVINCE

From the preceding review of the literature, it can be seen that a substantial data base exists concerning the Jémez area. The following culture-historical overview is this author's best attempt at reconstructing Jémez prehistory and history from the existing data.

Jémez Pueblo is today a peaceful Indian village located about 50 miles north-northwest of Albuquerque, New Mexico. The placid exterior of the present-day pueblo gives little indication of its stormy past. At one time, there were several pueblos of Jémez, or Towa-speaking people. Tradition states the Jémez were often at war with other Pueblos, the Navajo, and even among themselves.

When the Spanish arrived in this area in 1541, it was for the purpose of acquiring provisions, by force if necessary. After the founding of the first permanent Spanish colony in 1598, the Jémez were forcibly reduced to just two villages. But the Jémez were among the most difficult of the Pueblos for the Spanish to pacify, and often returned to their homeland on the mesas. The Jémez eagerly participated in the Pueblo Revolt of 1680, and martyred one of their missionaries.

While the Indian's victory was complete, and the Spanish were driven from New Mexico, their freedom was short-lived. Diego de Vargas reconquered New Mexico in 1692. After a disastrous attempt at another unified rebellion in 1696, which failed miserably, the Jémez virtually abandoned their former homeland. By about 1703, they began returning to Walatowa, modern Jémez Pueblo, and most of the Jémez have lived there ever since. The story of how the Jémez got to Walatowa is an interesting one. To tell it, one must examine the archaeological, historical, and ethnological data.

Two principal developmental/chronological schemes have been utilized for the Upper Río Grande area, which includes the Jémez area. The Pecos Classification (Kidder 1927) was the first developed, but does not seem relevant to the Jémez area. Many researchers today do not apply the Pecos Classification outside the San Juan Basin. The most useful classificatory scheme developed thusfar for the Upper Río Grande area is Wendorf and Reed's "An Alternative Reconstruction of Northern Río Grande Prehistory" (1955). The two authors synthesized the data available at that time, and developed a model linking changes through time in settlement pattern, architecture, and ceramics. They proposed five broad time periods they labeled Preceramic, Developmental, Coalition, Classic, and Historic.

With some modifications, necessary because of the new information available, this scheme is still generally applicable for the Northern Río Grande area, and the Jémez area in particular.

The Preceramic period, because of the advances made towards understanding cultural phenomena of that period, is now usually divided into Paleoindian and the Archaic periods.

No sites dating to the Paleoindian period (ca. 12,000-8,000 B.P.) have been recorded in the study area. Isolated Paleoindian artifacts have been found on the Pajarito Plateau (Steen 1977:7, 1982:37; Gauthier, personal communication 1984). Diagnostic Paleoindian artifacts made of Jémez Mountains obsidian have been found in other areas of the American Southwest (Meyers and Ford n.d.). Utilization of the Jémez Mountains region during this period and the subsequent early Archaic period (ca. 7,500 to 5,000 B.P.) was probably sporadic and limited to obsidian procurement and seasonal hunting, gathering, and collecting. This pattern of seasonal utilization of the Jémez highlands continued, and possibly intensified during the Middle Archaic period (5,000 to 3,000 B.P.). A number of obsidian workshops/campsites dating to that period were recorded and studied during the cultural resources investigations conducted for the Baca Geothermal Project (Baker and Winter 1981). These are the earliest "sites" reported thusfar in the Jémez Mountains.

For reasons of simplicity, the Late Archaic period (ca. 3,000 to 1,350 B.P.), the Basketmaker II period, and the En Medio and Trujillo phases of Irwin-Williams's (1973) chronology have been lumped together. This period may be considered to be after the introduction of corn and horticultural technology, but before the appearance of ceramics, sedentism, and "permanent" architecture. Conceptually, this period "fits" better with the Archaic in the Jémez area, since the generalized Archaic hunter-gatherer model of small mobile bands scheduling their subsistence activities based on the differential seasonal availability of floral and faunal resources probably changed little with the initial appearance of cultigens.

The Late Archaic period saw the first utilization of the area for horticulture. Excavations at Jémez Cave (Alexander and Reiter 1935; Ford 1975) yielded a corn macrobotanical specimen with a direct radiocarbon date of $2,440 \pm 250$ B.P. Correcting this date for isotopic fractionation in corn (Berry 1980) and variability in the atmospheric C12 to C14 ratio as observed in bristlecone pine tree-rings (Klein et al. 1982) yields a date of about 2,830 B.P. or 880 B.C. (\pm). This is one of the earliest directly dated corn specimens in the Southwest. The specimen came from a level 7 to 9 feet below the surface. An additional 7 feet of deposits bearing corn remains lie below. Thus, there may be even earlier corn remains at Jémez Cave.

Ford's (1975:22) conclusions were that "Jémez Cave should be considered one of the Southwest's early agricultural sites," and "Jémez Cave is an important, preceramic, early horticultural site."

Ojala Cave (LA 12556), a similar site in Bandelier National Monument, excavated in 1974 (Waber et al. 1982:313ff), also yielded directly dated corn remains. When corrected through the previously mentioned procedures, these specimens yielded dates of 970 B.C. and 1050 B.C.

The Developmental period marks the first appearance of ceramics in the study area (Table 4). This period has been divided into two subperiods based on ceramic typology, which have been termed Early Developmental (from A.D. 600 to 900), and Late Developmental (from A.D. 900 to 1175 or 1200). The earliest ceramics found in the Jémez area were found at site AR 03-10-03-1538, located near the historic pueblo site of Patokwa.

Table 4. Diagnostic Ceramic Assemblages for the Jémez Area

| Phase | Dates (A.D.) | Ceramics |
|---------------------|--------------|---|
| Early Developmental | 600-900 | Lino Gray, White Mound B/w, San Marcial B/w, brown wares |
| Late Developmental | 900-1200 | Kwahe'e B/w, Wingate B/r, San Juan Basin types |
| Coalition | 1200-1325 | Santa Fe B/w, indented corrugated, St. Johns B/r and Polychrome |
| Vallecitos | 1250-1350 | Vallecitos B/w, Santa Fe B/w, Galisteo (Mesa Verde) B/w, Wiyo B/w, indented corrugated, St. Johns B/r and Polychrome Glaze A, Heshotauthla Glaze-polychrome |
| Early Jémez | 1325-1515 | Early Jémez B/w, Vallecitos B/w, Wiyo B/w, Biscuit A, smeared indented corrugated, Glaze A, B, C |
| Late Jémez | 1515-1650 | Late Jémez B/w, Biscuit B, smeared indented and plain, Glaze D-E, Sankawi B/c |
| Refugee | 1621-1680 | Late Jémez B/w, Glaze E-F, soup plate forms, ring bases |
| Post-Revolt | 1680-1700+ | Late Jémez B/w, Glaze F, matte paint--Tewa series, Puname series; Maiolica |

The site included two probable pithouse depressions with berms or low storage-room mounds on one side. These structures appear to be associated with a later component at the site dating from A.D. 1175 to 1300, since there is a relatively dense scatter of Santa Fe Black-on-white sherds immediately surrounding them. However, the ceramic assemblage included Lino Gray sherds, and mineral-painted black-on-white ware sherds tentatively identified as White Mound Black-on-white. The dates for Lino Gray are generally given as A.D. 600-800 (Breternitz 1966:83). White Mound Black-on-white is dated "best between about 675 and 775," as a trade ware (Breternitz 1966:102). This early component of Site 1538 would appear to date from about A.D. 675 to 800. The possibility exists that buried pithouses exist in the area, or that abandoned pithouses may have been reused. This is the only known site dating to the Developmental period in the upper Jémez area. However, it must be pointed out that recent surveys in the area are biased in the sense that most of the acreage surveyed is located in the high elevation ponderosa pine zone (about 7,000 to 8,500 feet). Few lower-lying areas that might be likely to have experienced Developmental period occupations have been surveyed (USDA Forest Service and New Mexico Cultural Resource Information System files). The few surveys that have been done (for example, Wiseman 1976) have located Developmental period sites near present Jémez Pueblo and San Ysidro.

No Late Developmental sites are recorded in the Jémez area, but two were recorded and excavated for the Cochiti Dam Project (Biella 1979:105). These sites had both pithouses and surface architecture, and exhibited Kwahe'e Black-on-white ceramics.

A number of sites dating to the Coalition period (A.D. 1175 or 1200 to 1300 or 1325) are known in the study area. Site density and population appear to increase substantially, due in part to immigration from the collapsing Pueblo III Anasazi centers at Chaco Canyon and Mesa Verde,

the Western Pueblo area, and the Gallina area. The reasons for the large-scale abandonments are complex, and probably related to environmental deterioration and the disintegration of the social structure and stability in the San Juan Basin. The beginning of this period in the Upper Río Grande area generally is considered to begin when the locally made painted ceramics changed pigment types from mineral to carbon (Kwahe'e to Santa Fe Black-on-white in the study area). Site characteristics of this period in the study area include masonry pueblos of up to 50 rooms, one- or two-room fieldhouses, and associated reservoirs and agricultural features. Diagnostic ceramics of this period are Santa Fe Black-on-white, indented corrugated utility wares, and St. Johns Polychrome and Black-on-red.

Beginning by about A.D. 1250, a local variety of Santa Fe Black-on-white began to be made, Vallecitos Black-on-white. Vallecitos Black-on-white can be described as a carbon-painted black-on-white ware exhibiting characteristics of both Santa Fe Black-on-white and Jemez Black-on-white. Vallecitos Black-on-white usually has the thick white slip characteristic of Jemez Black-on-white, but Santa Fe Black-on-white designs, surface treatments, and paste. A number of developmental variants, however, which can be termed Vallecitos Black-on-white with different combinations of Santa Fe Black-on-white and Jemez Black-on-white characteristics, have been observed in the collections of the Laboratory of Anthropology and at unrecorded sites in the Ponderosa-Vallecitos-Cañon de la Cañada area.

The development of Vallecitos Black-on-white probably occurred when local clays and tempers were used to manufacture Santa Fe-style vessels locally. New immigrants into the area probably contributed certain ideas and preferences. Wiyo and Galisteo Black-on-white types were probably also local expressions of the generalized Santa Fe Black-on-white traditions.

Both the spatial and temporal distribution of Vallecitos Black-on-white were limited. With the exception of Jémez Cave, virtually all sites where the type has been reported lie south of the village of Ponderosa. The best dates for Vallecitos Black-on-white are intuitively around A.D. 1250 to 1350. However, there are no good tree-ring dates available for sites where the type has been found.

"Influences" from the Gallina area upon the study area, especially in the form of Gallina ceramics, have been said to have occurred at about A.D. 1250 with the abandonment of the Gallina area (Mera 1935:23; Wendorf and Reed 1955:148; Ellis 1956:4; Ford et al. 1972:25). Few quantifiable similarities, however, can be seen between Gallina Black-on-white and either Vallecitos or Jemez Black-on-white that don't exist between Gallina Black-on-white and several other carbon-painted black-on-white types.

Beginning about A.D. 1350, there appears to have been a substantial population increase in the Jémez area. This population increase was probably due both to immigration and local growth trends. Both site size and frequency increase dramatically. The territorial range of sites expands upward (in elevation) onto the mesas. The large mesa-top villages began to be established at about this time.

It was also at this time that Jemez Black-on-white began to be made. This temporal congruence is probably no accident. Dates traditionally given for Jemez Black-on-white are A.D. 1300 to 1750 (Smiley et al. 1953:58). Warren (1977:33) dates the type from A.D. 1350 to 1700. There are no sites in the Jémez area where Jemez Black-on-white was presumably being made

with tree-ring dates earlier than A.D. 1402 (Robinson et al. 1972). The manufacture of Jemez Black-on-white probably ceased between A.D. 1680 and 1720. After that time, the Jémez people lived either at Walatowa (present Jémez Pueblo), or had migrated to other areas of the Southwest, such as the Gobernador region. The Jemez Black-on-white ceramics reported at eighteenth-century sites in that area (Carlson 1965; Hester 1962) are probably heirlooms, trade wares, or curated vessels.

In the study area, the Classic period can be divided into two phases based on Jemez Black-on-white ceramic attributes. These phases have been designated Early Jémez phase, from about A.D. 1350 to 1500, and Late Jémez phase, from about 1500 to 1700. The phases were established by monitoring certain attributes of the Jemez Black-on-white sherds collected in the 1930s by Harry P. Mera and others curated at the Laboratory of Anthropology, and from inspection of ceramics in 2-by-2-m sample plots at selected large pueblo sites. The dates were established by the associated well-dated ceramic types and few tree-ring dates, principally the Río Grande Glaze-paint wares. Table 5 summarizes the Jemez Black-on-white attributes of the two phases.

The preceding are only empirical generalizations based on subjective criteria. The samples at the Laboratory of Anthropology were collected by Mera and others a half-century ago. They are grab samples, and any systematic analysis of these artifacts would be subject to unknown biases. The proposed ceramic phase designations should thus be thought of as a heuristic device and as a possible springboard for more systematic monitoring of the attributes in the future. Very few sites in this area have been tree-ring dated, and only one of those, Unshagi (LA 123), can be considered to have been well dated.

Table 5. Classic Period Ceramic Phases and Corresponding Jemez Black-on-white Ceramic Attributes in the Jémez Area

| Early Jémez Phase (A.D. 1350-1500) | Late Jémez Phase (A.D. 1500-1700) |
|---|--|
| Higher bowl to jar ratio | Lower bowl to jar ratio |
| Lower incidence of exterior design on bowls | Higher incidence of exterior designs on bowls |
| Thick band just beneath rim on interior of bowls | Designs lower on interior of bowls; higher frequency of olla handles |
| Associated with low frequencies of early Río Grande Glaze | Associated with high frequencies of late Río Grande Glaze |
| Most bowl rims direct or slightly thickened | Bowl rims copy late Río Grande Glaze rims |
| Bowls are more hemispherical | Bowls flatter in shape |
| Higher occurrence of brownish tinged paint and paste | Higher occurrence of well-reduced paint and paste |

History of the Jémez Province

It is possible that the Jémez first had knowledge of the entry of the Spanish into the New World through the rudimentary trade network and communications system in operation between the Pueblo world and the more advanced cultures of Mesoamerica. New Mexico was "discovered" by four Spanish shipwreck survivors in 1533. An ill-fated expedition led by Fray Marcos de Niza reached the Zuñi pueblos in 1539, but turned back when trouble arose and some of the group were killed. Spurred by Fray Marcos's tales of cities of gold and great wealth, Francisco Vasques de Coronado led an expedition into New Mexico in 1540. The first recorded contact between the Jémez people and the Spanish occurred in 1541. In the fall of that year, Captain Francisco de Barrionuevo of Coronado's Expedition "discovered" the Jémez Province.

Soon after Don Tristan de Arellano reached Tiguex in the middle of July, 1541, he ordered that provisions be gathered for the approaching winter. He sent Captain Francisco de Barrionuevo with some men up the river towards the north. He found two provinces, one of which was called Hemes, containing seven pueblos, and the other Yuque-yunque. The pueblos of Hemes came out peaceably and furnished provisions. (Hammond and Rey 1940:244)

Later in Casteñada's account of the Coronado expedition is a list of the Pueblo provinces they encountered. Listed immediately after "Hemes, seven villages" is "Aguas Calientes, three villages." Many researchers have assumed that the Hemes villages must have been found in the Vallecitos region, and that the Aguas Calientes villages were in Jémez Canyon. The idea appears to have come from or have been reinforced by the historian Lansing Bloom. At the time he wrote "The West Jémez Culture Area" (1922), tree-ring dating was in its infancy, and ceramic chronologies were poorly developed. Recently analyzed archaeological evidence seems to contradict this notion.

We now have a much better idea about chronology in the Jémez Province. The well-developed dating scheme for the Rfo Grande glaze-paint wares provides an excellent diagnostic ceramic ware for sites occupied in the sixteenth century--the so-called Glaze E types. Glaze E was manufactured from about 1515 to 1650 at several sites in the Rfo Grande Valley, and was widely traded throughout the Rfo Grande world.

Pueblo sites occupied in 1541, when Barrionuevo visited the area, should exhibit Glaze E sherds. Only two sites in the Vallecitos area, LA 303 (Seshukwa), and LA 133 (Kiatsukwa) exhibit Glaze E sherds. Both of these sites have tree-ring dates that coincide with the ceramic dates. Both sites are located on the high mesa tops east of Jémez Springs, however, and the question is raised whether these sites are properly classed as Vallecitos area sites. In any event, there are seven village sites in Jémez Canyon and the mesas west of there that exhibit substantial quantities of Glaze E sherds. These are sites LA 123 (Unshagi), LA 679 (Giusewa), LA 541 (Nanishagi), LA 481 (Amoxiumqua), LA 482 (Kwastiyukwa), LA 483, and LA 484 (Tovakwa). It seems quite likely that among these nine sites exhibiting Glaze E sherds are the Hemes villages of Casteñada. Several of these sites also have tree-ring dates (Robinson et al. 1972) indicates that they were probably occupied in 1541.

This leaves the question of the location of the Aguas Calientes group. These villages are only mentioned once in Casteñada's journal. No locations are given. Several other hot springs are known in New Mexico, such as those around Ojo Caliente and Zuñi. Either of those areas could be the location of the Aguas Calientes group. If the Aguas Calientes villages were in Jémez Canyon, the most likely candidates would be Unshagi, Nanishagi, and Giusewa.

This initial contact with the Spanish does not appear to have affected the Jémez people much. For two generations, the visit of Barrionuevo must have gradually receded into the realm of Jémez folklore. However, Spanish expeditions eventually came back into the Jémez area. These include the Rodriguez-Chamuscado expedition in 1581 and the Espejo-Beltran expedition of 1583. The Rodriguez-Chamuscado expedition journals (Hammond and Rey 1966) describe their journey up a valley they called Santiago. There, they visited two pueblos. One of these they called Puerto Frio, the other Baños. Puerto Frio could have been Unshagi. Because of its location near the Jémez hot springs, Giusewa was probably the site they called Baños.

Thus, this group was the first to have visited a site that can be identified. Santiago is usually translated as Saint James, the apostle, and the patron saint of Spain. San Diego is translated as Saint Didacus of Alcala. Two of the seventeenth-century missions established in the Jémez area and the present Catholic Church were dedicated to San Diego.

There is some question whether the Espejo-Beltran expedition actually made contact with the Jémez villages. Hammond and Rey believe they did not (1966). Espejo's journal description of the area appears very detailed, and the itinerary he described is very accurate. Though historians must judge the veracity of Espejo's statements, it appears that he did visit some of the Jémez villages, but turned back to Zia upon learning that the "great" pueblo of the Jémez was very large, and might present an adverse military situation for this small group. Neither the Castaño de Sosa entrada of 1590 nor the Bonilla-Humana expedition of 1594 made contact with Jémez pueblos.

In 1598, New Mexico became a Spanish colony, under Don Juan de Oñate, and the lifeways of the Jémez began to be drastically altered. Oñate mentions an ascent up a steep hill to the "great pueblo" of the Jémez. While there, he observed a paten worn by one of the Jémez that was clearly of Spanish manufacture. The wearer said he had traded for it from the Tigua Indians near Bernalillo. Oñate believed it to have been taken from one of the priests of the Rodriguez-Chamuscado expedition who had remained in New Mexico and was martyred. Oñate offered the wearer some trinkets for the paten, and took it with him.

The "Obediencias" of Oñate, the written account of his formal seizure of various Pueblo groups, mentioned nine Jémez pueblos (Hammond and Rey 1953), possibly the nine pueblo sites identified earlier as exhibiting Glaze E sherds. Thus, it appears that if the Aguas Calientes villages of the Coronado expedition were in San Diego Canyon, they were grouped with other Jémez villages by Oñate. No new pueblos are known to have been established between Coronado's and Oñate's visits. Oñate's papers contain the first list of native Pueblo names for the Jémez Province.

The long controversy concerning the "true" Towa names for the various villages occupied during historic times embroiled such researchers as Paul Reiter, Edgar Hewett, John Harrington, Adolph Bandelier, Lansing Bloom, and others. There appears to be no conclusive evidence for

the assignment of Towa names for some sites. Some sites appear to have more than one name (such as Astialakwa, Mashtiashin, and Kyokwa for LA 1825). For some site names, there seems to be compelling evidence for assigning them to more than one site. It appears that this problem may remain unsolved for some time.

It may have been likely that when the Jémez people were reduced to the single pueblo of Walatowa after the reconquest, the former residents of the various villages probably had different names for their old villages, depending upon whether they lived there, or had kin there. Thus, when the names were passed down through oral traditions, conflicting names for the same site were passed on to the various researchers by Jémez informants of different social or kin groups.

Some preference must be given to Bandelier's identification of the pueblo names. Being the first extensive published site name identification list, it would seem likely that Bandelier's list was used by later researchers in questioning their informants. This feedback loop many have had both positive and negative effects. Some informants may have acquiesced to Bandelier's identifications without really knowing. Other informants may have denied Bandelier's identifications, knowing they were right, but hoping to continue his "employment" as an informant. At best, the present Towa site names can only be considered as accurate for what the Jémez people were designating the sites in the late nineteenth and early twentieth centuries, not necessarily what the original occupants of the villages called the sites.

The first priest was assigned to the Jémez in 1598. Oñate appointed Fray Alonso de Lugo to the position. His work was probably conducted at Giusewa, and a small mission may have been constructed at that time. Most other historic references to the Jémez between 1598 and 1680, because of the widespread destruction of civil documents during the Pueblo Revolt of 1680, are accounts of missionary work. These include the *Relaciones* of Fray Geronimo Zarate de Salmeron (1966), and the two *Memorials* of Fray Alonso de Benavides (1965, 1945).

There were four missions (five if Lugo built one) established among the Jémez during the early historic period. Scholes (1938) gives a detailed history of these missions. Reiter (1938:41) presents his data in tabular form (Table 6.) Reiter's list (based on Schole's work) appears to be the most accurate of the published sources. Future archaeological and historical work may help determine the correctness of this assertions.

Table 6. Seventeenth-Century Mission Names and Locations in the Jémez Province

| Mission and Location | Occupied | Abandoned |
|--|----------------|----------------|
| Lugo's Mission/Giusewa? | 1598 | 1601? |
| San Joseph (Jose) de los Jémez/Giusewa | 1621-1622/1628 | 1623/1632-1639 |
| San Diego de la Congregación/ Walatowa | 1621-1622/1628 | 1623/1680 |
| San Diego del Monte/Patokwa | 1694/1703 | 1696/1716? |
| San Juan de los Jémez/Walatowa | 1695/1703? | 1696?/Present |

The Jémez were among the leaders of the Pueblo Revolt of 1680, though the nominal leader of the Indians was the San Juan medicine man, Popé. The Jémez martyred one of their missionaries, Fray Juan de Jesus, and assisted in driving the Spaniards out of New Mexico. During the period 1680-1692, ceramic evidence and tree-ring dating indicates the Jémez apparently abandoned Walatowa and returned to Astialakwa (LA 1825) and Boletsakwa (LA 136). Refugees from other pueblos were also present (Dougherty 1980).

Their numbers were severely reduced by the effects of European introduced diseases, warfare, and famine. A reasonable estimate of the population in 1598 would be 6,000. Zarate de Salmeron claims to have baptized 6,566 Jémez souls by 1626. Benavides's (1630) *Memorial* mentions 3,000 "tithing congregants," possibly omitting children and others. By 1692, the Jémez population was probably no more than 1,000 (Bloom and Mitchell 1938:98), and by 1704, there was a further decline to 300 (Harper 1929:7-8).

Governors Otermin (1681) and Jironza (1688) made raids into New Mexico and reported the Jémez living high on the mesas. When Vargas reconquered New Mexico in 1692, he spent nearly two years attempting to coax the Jémez back down into the valley, where they could be ministered to and more easily controlled. In July 1694, the Jémez attacked the Zia but were defeated. Finally, on July 24, 1694, Vargas attacked the Jémez village of Astialakwa (Espinosa 1942). He split his forces and caught the Jémez in a "pincer" style attack. Several Jémez jumped off the steep cliffs rather than be captured. Legend has it that either the Virgin of Guadalupe or San Diego appeared and lifted those who leaped gently to the ground. In all, 84 Jémez were killed and 361 were taken prisoner. The pueblo was burned, as was another constructed by Keresans from Santo Domingo. Livestock and corn were taken from Astialakwa and given to friendly Keresans who had helped Vargas. Some of the confiscated supplies were taken to Santa Fe. The prisoners were eventually released after promising to build the pueblo and church at Patokwa.

On June 4, 1696, the Jémez of Patowka again revolted, and killed their missionary. Retreating again to Astialakwa, they repulsed an attack by Don Fernando de Chavez, although they lost 32 warriors (Bloom and Mitchell 1938:107). On June 29 of that year, a battle ensued in San Diego Canyon. Captain Miguel de Lara of Zia and the Alcalde Mayor of Bernalillo led the Spanish forces. Forty Indians were reported killed, including eight Acomas (Sando 1979:422). Most of the Jémez dispersed after that, some moving in with Navajos in the Gobernador area (Hester 1962; Carlson 1965) and others moving to other pueblos such as Acoma, Zuñi, Laguna, and Hopi.

The Jémez area was apparently completely abandoned by the Jémez people from 1696 to between 1703 and 1706. After more than a century of battling the Spanish conquerors, Walatowa, the site of modern Jémez Pueblo, was re-established no later than 1706. The site had been occupied in the historic past, and possibly prehistorically, although the lack of archaeological investigations at the pueblo have clouded this issue. Salpointe reported that on June 8, 1709, Apaches had assaulted Jémez and "destroyed the houses and the church and took the vestments and sacred vessels, in spite of two squadrons of soldiers who tried in vain to overpower them." The village of Patokwa may have been occupied as late as 1716, but since then, most Jémez Indians have lived at Walatowa.

Fray Francisco de Lepiane served at Jémez from 1724 to 1726, and built a "very good church [San Diego de los Jémez] with transept, sacristy, choir loft, and baptistery as well as two upstairs cells, each one with parlor, study, bedroom, kitchen, and storeroom; also an irrigation ditch and kitchen gardens, and all the rest necessary" (Kessell 1980:181-182).

In 1760, Jémez Pueblo was visited by Bishop Tamaron, who said the titular patron of Jémez was San Diego, that it had a Franciscan priest, and a population of 109 families and 373 persons (Adams 1954). In 1776, the pueblo was visited by Fray Francisco Dominguez. Dominguez was quite impressed by Father Joaquín Ruiz, who was in charge of the San Diego de Jémez mission. Fray Ruiz "marched the Jémez people around like a military drill instructor, so far as that was possible" (Kessell 1976). Dominguez described the church in some detail, and visited the old mission at the site of Giusewa, which was then still called San Diego.

Spanish reprisals against the Navajo for their raids on the Jémez and Spanish settlers in the area grew more numerous in the late 1700s. In 1780-1781, a smallpox epidemic killed many Jémez. By 1793, there were 375 Hispanic settlers in the area.

Several kinds of land grants were made by the Spanish. Pueblos were granted lands they used; settlers were granted lands for the purposes of establishing communities. Undeveloped rural lands were also granted to those who pledged to develop the property. The Pueblo of Jémez land grant was supposedly one of several made to the Pueblos in 1689 by Governor Domingo Jironza Petriz de Cruzate. Although confirmed by the United States, investigations into these grants proved them to be seriously in doubt (Brayer 1938). In 1766, the Ojo del Espiritu Santo grant was made by Governor Cachupin to the Pueblos of Zia, Santa Ana, and Jémez. Court decisions determined that the grant had been forfeited for non-use. In 1941, Jémez and Zia Pueblos were given permanent exclusive use of the grant.

Other land grants in the area were made to Spanish settlers. In 1728, the Cañada de Cochiti land grant was made by Governor Bustamente to Antonio Lucero of Peña Blanca. The heirs to this tract fought over ownership and taxes, eventually losing the land to the Bonanza Development Company of Massachusetts. In 1943, the Pueblo of Jémez purchased the western half of the grant for \$7,500. In 1768, the Ojo de San Jose land grant was made to six Spanish militia men by the Spanish governor of New Mexico at the time, Pedro Fermin de Mendinueta. This community, also called Santo Torribio and Vallecitos, consisted of eleven families and a total of 63 persons. The same year, the Ojo de Borrego land grant was made to Nerio Antonio de Montoya. The San Ysidro land grant was made on May 16, 1786, to Antonio de Armenta and Salvador Sandoval by Governor Juan Batista de Anza. On March 14, 1798, the Cañon de San Diego de los Jémez land grant was made by Governor Fernando Chacon to two Navajo interpreters then living at Jémez Pueblo, Francisco and Antonio Garcia de Noriega, and eighteen other men presumably living in the area. The last large land block awarded in the Jémez area was the Baca Location No. 1. This tract (one of five 100,000 acre tracts) was selected by the heirs of Luis Maria Cabeza de Baca under the authority of Congress, in an attempt to clear up two overlapping grants in the Las Vegas area (Sando 1982).

The Pueblos of Jémez, Zia, and Santa Ana presented a combined land claim of more than 500,000 acres to the Indian Land Claims Commission in 1951. In 1974, after numerous decisions and appeals, the Pueblos were awarded over \$750,000 compensation for lost land. Land and water rights claims continue to be an obsession for Jémez and other pueblos.

By 1800, sheep herding and cattle raising were becoming increasingly important economic activities in the Jémez area, to Indian and Hispanic alike. The early 1800s also saw exploitation of the area for fur trapping. Albert Pike visited Jémez Pueblo in 1831 (Weber 1967). Towards the end of the Spanish Colonial period, New Mexico became increasingly isolated. The Treaty of Cordova, signed in 1821, resulted in New Mexico becoming a Mexican Territory. In 1821, the Hispanic population of the Jémez Valley was 864. The pueblo remained a rendezvous point for Mexican campaigns against the Navajo.

In 1846, General Kearny captured Santa Fe and New Mexico without firing a shot. Two years later, in 1848, the Treaty of Guadalupe Hidalgo was signed, making New Mexico an official part of the United States. In 1850, the New Mexico Territory was created by Congress.

In 1849, Lieutenant James Simpson visited Jémez Pueblo, and traveled up the Jémez River as far as Giusewa and the San José mission. Simpson was a part of the first United States campaign against the Navajo. He reported that the settlement of Cañoncito (or Canyon) was abandoned due to Navajo raiding (McNitt 1964).

In 1851, raids by the Navajo were widespread. One such raid occurred in the Valle Grande. A group of civilians with a contract to cut hay for Army mules was attacked. Forty-nine mules and horses were driven off. Eleven men from Jémez Pueblo who were herding cattle in the area heard the commotion and attacked the fleeing Navajo, recapturing five of the mules. The site of the hay camp apparently became Camp Valles Grandes. This was an army camp established to deal with the Navajo and Apache raids during the final Navajo War of 1863 (Scurlock 1981).

The first of several peace treaties between the United States and the Navajo was signed at Jémez Pueblo in 1851. James Conklin was appointed Indian Agent for Jémez Pueblo by Governor Calhoun. In 1853, an Indian trader's license was issued to Conklin allowing him to trade with the Navajo who came to Jémez Pueblo. Troubles with the Navajos continued until the late 1800s. While the persistence of the Navajos served as a deterrent to homesteading in the Jémez Valley, the area gradually developed. The Cañon de San Diego de los Jémez land grant was approved by Congress in 1860. Only 6,000 acres of farming land were confirmed, the remaining 110,000 acres were classified as common, or grazing land. A wealthy local rancher named Miguel Otero began buying the farm land and the grazing rights that went along with it. He eventually claimed the entire tract. A subsequent lawsuit by his heirs resulted in the eventual sale in 1908 of 44,000 acres of the grant for 45 cents an acre. The heirs' lawyer received 44,000 acres as his contingency for handling the case (Sando 1982).

In the 1850s, a man named Archuleta and his wife established a public bath at Jémez Springs. A small settlement began to develop in the area. In 1888, a post office was established at the village, called Archuleta. In 1894, the post office name was changed to Perea. Finally, in 1907, the name was changed to Jémez Springs.

During the late 1800s, farming, ranching, and small homesteads flourished in the upper Jémez Valley. The Sulphur Springs resort was developed in the 1880s, and the Jémez Springs hotel and bath house were built in 1881. There were plans to build a railroad from Bernalillo to Jémez Springs and Sulphur Springs. In 1889, gold was discovered in what became the Bland-Albamarle or Cochiti mining district.

In 1905, the Jémez Forest preserve was created by President Harrison. The boundaries of the forest have changed much over the years. Some land was purchased or exchanged for other government land, such as the Cañon de San Diego grant. Other land was taken out of the forest for the creation of Bandelier National Monument and the Los Alamos National Laboratory.

In 1912, virtually all of Cañon de San Diego grant came into the hands of an Albuquerque man named A. B. McMillian. He apparently purchased the land for back-taxes owed. In 1922, the Santa Fe Northwestern Railroad was constructed from Bernalillo through Jémez Pueblo and up the Guadalupe Canyon to Porter's Landing. Commercial logging of the Cañon de San Diego grant began at this time and had continued intermittently up until the present. A severe flood in 1941 washed out the railroad. Since then, trucks have been used to remove logs from the area.

Jémez Pueblo Today

According to Jémez origin myths, the Jémez people emerged from the earth at the sacred lagoon called Uabonatota, usually identified today as Stinking Lake and Lake Burford. From there, they moved south into the area known as the Gallina Culture area. Finally, they moved into the southern Jémez Plateau area where they were encountered by the Spanish in 1541.

Jémez clans are exogamous, and matrilineal, although the teachings of missionaries have reinforced patrilineality in nuclear families. Clans have some ceremonial functions, and membership in specific clans is required for some ceremonial-political offices (Sando 1979:423).

Membership in the two kiva moieties, Squash and Turquoise, is generally patrilineal and endogamous. All the men of the village belong to either the Eagle or Arrow societies. These societies have traditional functions dealing with defense and war. Ellis (1964:15) reported there were twenty-one religious societies with membership not being determined by heredity. These societies form the basic social and political units of Jémez Pueblo today.

The titular head of the pueblo is the cacique, a theocratic leader "from the time of emergence from the underworld." The war chief is the second-in-command. The cacique, the war chief, and their staffs serve lifetime terms. These two individuals, the war captains, and their staffs are responsible for enforcing the rules and regulations governing the social and religious activities of the pueblo. A war captain and his five aids are selected by the war chief in alternate years from each of the two kiva moieties. The war captain also has a lieutenant who has five aides. These men are responsible for policing the pueblo, as well as supervising traditional social activities (Sando 1979:423, 1982:65-66).

The civil governor and his staff are selected by and serve under the cacique and are responsible for all tribal business affairs and other dealings with the outside world. The governor's staff includes two lieutenant governors, sheriff, five aides, and the fiscales, or Catholic church officers, and their staffs.

Since the 1940s, patterns of land use in the area have been for cattle grazing, commercial logging, and dispersed recreation. Jémez Pueblo began to change more rapidly after the return of veterans from World War II. Electricity, running water, telephones, a sewage system, butane

gas tanks, television antennas, and brand new pickup trucks are common sites at the pueblo today. However, Jémez still retains much of its traditional religious life. A full schedule of ceremonial events, some open and others closed to the public, are held each year. Jémez is currently the only Pueblo which speaks Towa, one of the Tanoan Languages. The population of Jémez was 1,940 in 1970.

Generalized Research Design for the Jémez Province

This brief look at the prehistory and history of the Jémez area should be thought of as only an introduction. Much more of the story begs to be told. Very little focused archaeological research has been conducted in the area since before World War II, and a whole range of questions could be asked about adaptations in this area. Methodologies such as radiocarbon dating, obsidian hydration dating, thermoluminescence dating, archaeomagnetic dating, macrobotanical or flotation analysis, palynology, lithic technological analysis, spatial modeling and analysis, palynology, lithic technology analysis, spatial modeling and analysis, and numerous artifactual analytical methodologies have been developed since that time. Theoretical advances in the way archaeologists view culture have also given us new questions to ask. In a sense, the Jémez area is an archaeological frontier. The rediscovery of this important area after nearly half a century of disinterest has the potential to produce profound changes in the way archaeologists perceive Puebloan adaptations.

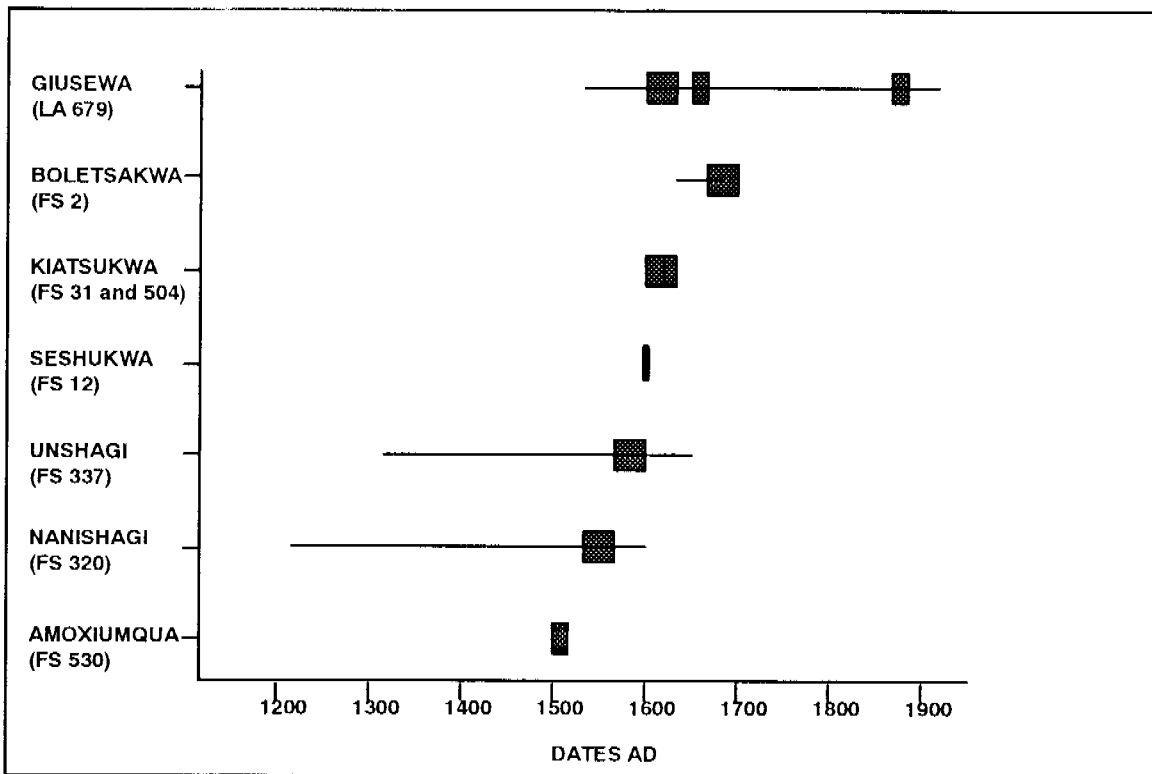
The purpose of this section is to present a generalized research design for the Jémez Province. There are many specific research questions that could be asked about the Jémez Province. However, there are several classes of basic data missing. Recovering this "baseline" information should be the first priority for modern research in the Jémez Province.

Judge (1982:6) has defined baseline information as "archaeological data of a nature so fundamental that without it one cannot expect management to make decisions essential to the responsible, long-term conservation of the resources in question." He describes baseline information as consisting of three distinct categories: (1) chronological placement of sites, preferably absolute or relative; (2) site distribution across generalized ecological zones, and (3) site type.

The Jémez Province is very poorly dated. Table 7 contains all the tree-ring dates obtained thusfar in the area. As previously mentioned, only Unshagi (LA 123) can be considered well dated. The representativeness of the Unshagi tree-ring dates and their applicability to the region as a whole is doubtful. At least two sites (LA 482 and LA 483) have in situ vigas that are now exposed to the elements and vandals. These vigas should be cored as the highest priority. Many more tree-ring dates are needed, especially from the early (Coalition/Vallecitos phase) sites, and the later (Patokwa, Astialakwa, and Boletsakwa) sites.

Coincidental with the collection of tree-ring specimens should be the application of other dating techniques. Archaeomagnetic dating has worked quite well in Chaco Canyon. One archaeomagnetic sample was collected from a hearth feature in a fieldhouse on Virgin Mesa in 1985, but results were negative. Obsidian hydration dating is being refined to a more reliable absolute dating technique. It had the advantage of being relatively cheap. Obsidian is often found

Table 7. Tree-Ring Dates from Pueblo Sites



(after Robinson et al. 1972; Elliott 1982:87)

at even the small sites in the Jémez Province. The Pajarito Archaeological Research Project (PARP) utilized obsidian hydration dating extensively on the neighboring Pajarito Plateau (Russell 1981). Thermoluminescence and radiocarbon dating are quite expensive, and would provide the least precise range of dates.

All of the large pueblo sites should be carefully contour mapped to show their present condition. At the present time, only Giusewa (LA 679) has been contour mapped. Aerial photogrammetry would be the most effective, accurate, and inexpensive way to map most of these sites. However, the forest has so overgrown some of these pueblos that either the trees would have to be removed or terrestrial contour mapping would be required. After mapping present conditions, then the wall alignments could be cleared at some sites and new imagery shot to provide site structural and architectural information.

After mapping, controlled surface investigations should be conducted to collect representative samples of the ceramics and other artifacts on the sites. At least one room at each large pueblo site should be carefully test excavated to recover tree-ring and other absolute dating specimens, to determine stratigraphic sequences in rooms at each site, and to provide architectural and construction details for comparative purposes.

Mapping and absolute dating of both these sites is, therefore, the highest priority for future research. Once a representative sample of absolute dates are obtained, then artifactual chronology and seriation should be established. Although Reiter was unable to distinguish visually between

early and late Jemez Black-on-white, he was looking at an assemblage from only one site. Even the grab samples collected by Harry Mera in the 1930s reveal some differences in early and late Jemez Black-on-white (Gauthier and Elliott 1986). Other classes of artifacts are virtually unstudied.

Site distribution patterns are relatively better known. The USDA Forest Service has conducted numerous cultural resources inventories in the Jémez Province. The quality of these inventories is highly variable. Very little artifactual information is provided. Site locations as shown on survey maps are often off by hundreds of meters. Site plan maps are often unsuitable for relocating sites or for providing estimates of room size or counts. Reinspections of some inventories done in the early years of the USDA Forest Service cultural resources program have been shown to have missed as many as half the small sites present. This was probably due to poor survey methodology and crew training and performance, and the low visibility of many of the small sites. Nevertheless, a substantial data base exists.

Site typologies are relatively undeveloped in the Jémez area. There have been three basic morphological site types normally employed, disregarding preceramic and nonaboriginal historic sites. These types are pueblo, fieldhouse, and artifact scatter. Pueblos are usually defined as any structure with four or more rooms. The largest pueblo site, Tovakwa (LA 484), may have had as many as 1,850 rooms. The difference between four and 1,850 is immense, yet both are pueblo sites. Temporal, spatial, and functional distinctions are empirically obvious and need to be made more explicit for the pueblo sites in the Jémez Province.

Fieldhouses are the most common type of aboriginal site in the Jémez Province. There may be as many as 4,000 to 6,000 such sites in the area based on projected densities. There are now over 1,000 such sites recorded. They are usually defined as any structural feature with three or fewer rooms.

Features termed fieldhouses may actually have served a number of functions. Great morphological variability exists among such sites. The smallest and least complex sites are usually evidenced on the surface by a small, amorphous mound or pile of rocks, surrounded by a few pot sherds. The more complex fieldhouse sites have well-made coursed masonry structures with hearths and other floor features, and relatively large quantities of artifacts, including chipped and ground stone, with a great deal of inter-assemblage variability.

Here again, it seems from an empirical standpoint that there must be variability in the function(s) of these sites corresponding to the variability in their form. Differences across time and space are also evident. What is desperately needed is a more careful recording of the features and artifacts and their interrelationships at these small sites. Perhaps all of the sites of one mesa top community could be intensively examined, and a representative sample of artifactual, architectural, and distributional information could be recovered by excavating a sample of small sites representative of the entire range of morphological variability of fieldhouses.

The artifact scatters are also problematic. Nonstructural limited activity pueblo sites have not received much attention until the recent past. In the heavily forested areas of the Jémez Province, such sites have probably been overlooked because they are simply not visible beneath the heavy pine needle duff. There are a number of these sites recorded, however. Investigations aimed at uncovering the functions of such sites should be conducted, including intensive surface

investigations and subsurface testing. Other nonstructural sites such as water/soil control, fields, trails, and shrines should also be carefully examined to determine their function and place in protohistoric Jémez society.

Once the baseline archaeological information is available, several other classes of data become important. Present ecological zones may not bear much resemblance to the pre-Spanish patterns. Much of the Jémez Province, particularly the mesa tops, has been affected by the activities of modern man.

For example, Virgin Mesa, the location of Amoxiumqua Pueblo (LA 4812), two other smaller ruins, and hundreds of fieldhouses, was extensively logged 50 or 60 years ago. Most of the trees visible today are less than 50 or 60 years old. The dense "dog hair" stands of young pine trees, so common today on Virgin Mesa, were probably relatively open, parkland-type forested areas during the primary occupation of the area from A.D. 1400 to 1600.

The labor investment in the construction of even the large pueblo sites must have been staggering. We are talking about sites up to twice as large as Pueblo Bonito in Chaco Canyon. Dean and Warren (1983:205) estimated the construction of the ten largest sites in Chaco Canyon consisted of an estimated 200,000 primary and secondary beams. These ten sites have a total estimated room count of 2,649 (Hayes 1981:55). Just the nine Great Kiva sites in the Jémez Province have a total estimate room count of 10,450 (Elliott 1982:83). This would seem to imply that as many as 800,000 beams could have been used in the construction of the roofs/floors of just nine sites. The other 31 large pueblo sites in the Jémez Province constitute another 6,550 rooms, and the fieldhouses would total another 6,000 rooms. This is a total of 23,000 Jémez Province rooms, requiring as many as 1.73 million primary and secondary beams.

Even considering the relative availability of the masonry materials (roughly shaped or unshaped tuff blocks on the mesa tops, river cobbles in the valleys), and roofing/flooring materials (vigas and latillas), and, with no beasts of burden, simply transporting such massive amounts of material must have been a serious challenge to the prehistoric Jémez.

The heating needs in the Jémez Province must have been another considerable drain on the biomass of the area. With the cold, snowy winters that almost always strike there, the amount of firewood that would have been required to heat the several thousand rooms occupied at any one time for the almost 300-year occupation of the area would be almost incalculable.

Wildlife was probably severely depleted in the immediate Jémez Province area during the fourteenth, fifteenth, and sixteenth centuries. This would have been due to overhunting by the residents, and the removal of natural plant species from the habitat due to the effects of farming and wood removal for construction and fuel. Even today, one can observe open, parklandlike areas with small young or stunted trees sparsely covering what should be a dense Ponderosa pine forest. These areas of 10 to 20 acres usually have several fieldhouse sites near them.

Ecological studies should concentrate on reconstructing the pre-Puebloan environment, and environmental conditions during the Jémez phase. Such studies should concentrate on both the Jémez and Gallina areas. Environmental degradation in the Gallina area in the A.D. 1200s is suggested from tree-ring studies (Dean and Robinson 1977). More tree-rings specimens from sites in both areas should be collected and analyzed from both chronological and environmental

reconstruction perspectives.

Pollen studies also need to be conducted from cultural deposits or features and from noncultural contexts. The report by Linda Scott (1986) provides some tantalizing information regarding possibly more xeric conditions, or the clearing or burning off of what is now heavy forest in the Jémez Province in the 1500s. During this period, Jémez population figures dramatically increase and the sites are found in higher elevations.

Macrobotanical studies of cultigens and other human-utilized plant species would be valuable. There is very little doubt that the Jémez were growing corn successfully at an elevation of over 8,000 feet in the 1500s. No other Southwestern Puebloan culture occupied such a high elevation niche. In other parts of the world, corn has been grown in far northern latitudes, and as high as 10,000 feet in elevation. The exact varieties of corn grown in the Jémez area, and whether other cultigens were grown are important questions in explaining how the Jémez adapted to an area that annually receives several feet of snow and has a freeze-free season of less than 120 days.

One possibility suggested is that the Jémez were depending heavily on hunting and wild plant collecting, or even cultivating certain "wild" species. No detailed analyses of faunal remains have ever been conducted at a large pueblo site. Such information would be critical for explanations of Jémez subsistence strategies.

Once baseline archaeological and environmental data are available, more specific research questions could be asked, and hopefully answered. Such questions would include the organizational characteristics of the Jémez adaptive system. How do the large and small sites articulate with one another? Were the Jémez one tribe with a central organization, or several competing and distinct ethnic groups who happened to speak the same language? How did such a system develop through time? How did the Jémez sustain themselves at such high elevations? What is the nature of the postulated "Gallina connection"? Why did the Jémez appear to buck the general trend of the Classic period populations aggregating in larger pueblos closer to permanent sources of water? What was the nature of Jémez interactions with other protohistoric groups in the area?

The Jémez Province provides a fertile testing ground for any number of theoretical or methodological questions. The fact that there has been so little archaeological work of a substantive nature conducted in the area for 50 years, and that the sites in the area are in generally excellent condition makes the area even more attractive for modern archaeological research.

It is important today for any researcher to acknowledge the connection between the archaeological remains of the Jémez Province and the Jémez people of today. Special sensitivity will have to be shown toward skeletal remains. In most cases, such remains should not be disturbed. The only exceptions would be remains that have been previously disturbed and are exposed to the elements. These should be recovered and reburied. The important thing will be to consult with the Pueblo during all stages of the work, and to be sensitive to their concerns. If possible, excavation crews should include some residents of the Pueblo. If they are made a part of the process, the Jémez would probably be as interested as any of us would be in finding out more about our roots.

Some consideration should be made of giving or loaning to Jémez Pueblo some of the artifacts recovered from any new or even some of the old excavations for exhibition or interpretive purposes. Some kind of oral ethnohistory project should be conducted at the Pueblo. Documentary historic research could provide valuable corroborative information for archaeological research.

Historical archaeological projects could proceed along several fronts. The mission names and chronology have never been satisfactorily established. Archaeological investigations at Patokwa, Giusewa, Boletsakwa, and Walatowa could provide very important information on that topic. The process of acculturation could be studied, characterized, and explained from archaeological data from the Jémez Province.

The Pueblo itself has never been very thoroughly studied archaeologically. If the residents would permit it, these studies would be invaluable for clearing up some burning historic questions, such as the names and proper locations of the Jémez missions. Such studies might not even require excavations, but instead utilize remote sensing methodologies such as siesmography to locate the walls of the early mission site(s) at the Pueblo. Studies of surface artifacts and features would even be useful.

The Jémez Province is an important and unique resource. The potential exists for study in this area to radically alter our perceptions of Southwestern Puebloan adaptations. The preservation of most of these resources, and the wise and careful study of some small portion of the rest, is critical.

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