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This study compares the written and archaeological records that attest to community change at two Hispanic villages, San Miguel del Vado and San José del Vado, in New Mexico from 1794 to around 1900. This monograph argues that nineteenth-century events and developments—including warfare and trade with the Plains Indians, the opening of the Santa Fe Trail and the rapid Hispanic expansion in the 1820s, the U.S. conquest in 1846 and subsequent land loss, the loss of the county seat in 1860, and finally the arrival of the railroad in 1879–1880—are mirrored in the architectural wood record of these two Hispanic communities.

Although rarely utilized by historians, the study of wood can provide information on a vast range of historical topics. This approach yields answers, among many other areas of inquiry, about resource use and depletion, labor organization, architectural conventions, cultural organization, and social values. Wood studies, particularly those utilizing available temporal informa-

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tion and, more rarely, broader artifactual information, are relatively common in archaeological investigations. Historians rarely use wood studies except for literature that falls under the field of historic archaeology.[1] The reason for this neglect is unclear. Historians generally rely on written records and oral histories to reconstruct the past (except in the case of historical work concerning, for example, southwestern Puebloan and Navajo sites). This standard methodology, however, draws conclusions based on sources littered with biases and inaccuracies. Like many archaeologists studying time periods through historical documentation, I prefer to establish the veracity of written and oral records by checking them against other data sets. This investigation uses dendrochronology to confirm the written historical record. Now, more than ever, these studies demand attention before the villages' unique structural wood resources completely disappear. The deterioration rate of the wood has accelerated over the past four decades.

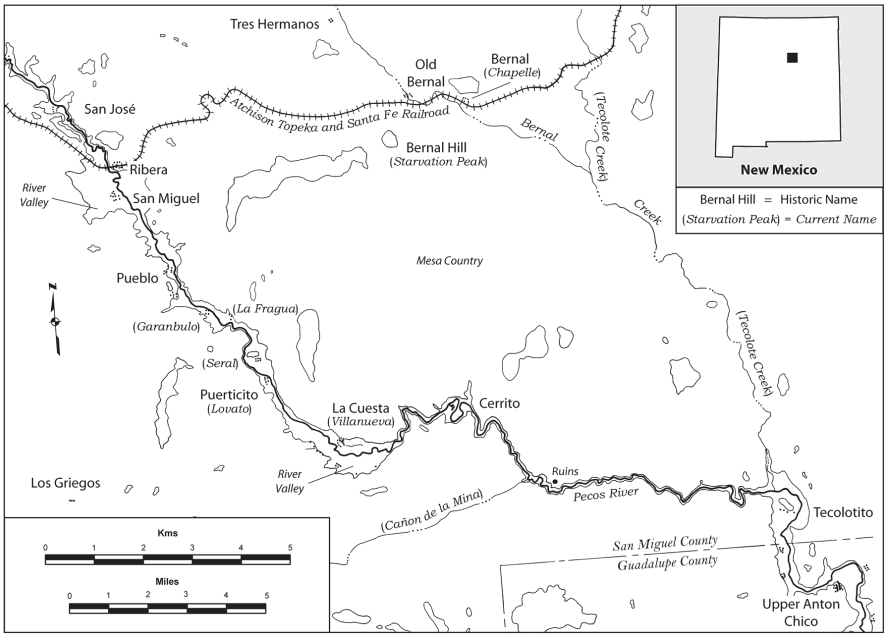
This study pursues three objectives. First, it tests the accuracy of wood methodology against the well-documented settlement of San Miguel and the thinner historical record of San José. Second, the appraisal of wood methodology provides guidelines and a framework for future research into New Mexico's historic villages. Third, the proximity of San Miguel and San José to watershed events in southwestern regional history provides the opportunity to test the value of structural wood as an independent method for assessing the impact of historical events on residents of these two villages.

Two issues of historic importance are evaluated here: the severity of the Plains Indian threat to New Mexican villages—particularly along the Rio Grande Valley and the eastern half of the state—and village population growth and change. In this study, a small cadre of archaeologists and archaeological graduate student volunteers mapped and documented the architecture and structural wood elements in thirty-six structures around the San Miguel and San José plazas, which yielded tree-ring dates from 128 rooms.

Historical Background

Between 1790 and 1900, Hispanic colonial culture spread from the Rio Grande Valley, where it covered an area about the size of Connecticut, into an area ten times that size, embracing parts of present-day Texas, Oklahoma, Colorado, and Arizona.[2] In 1794 a number of residents in Santa Fe petitioned Spanish governor Fernando Chacón for a land grant along the Rio Pecos, thirty kilometers south of the famous but declining Indian pueblo of Pecos, whose few remaining residents finally abandoned the pueblo in 1838 and moved to Jemez Pueblo.[3] Santa Fe suffered from a lack of sufficient farm

land, and some residents desired more arable plots along the upper Rio Pecos valley to the southeast.[4] In addition the authorities hoped to buffer Santa Fe and the Rio Grande Valley from Indian attacks with the establishment of communities of *genízaros* (detribalized Indians) in locations along the favored routes of attack.[5] With the decline of Pecos Pueblo in the late 1700s and Puebloans' loss of control over good arable lands along the Rio Pecos, the setting was ripe for Hispanic expansion into the region and the extension of Hispanic control over this new resource.[6] Two villages were founded as the result of this petition: San Miguel del Vado and San José del Vado, which are located today just south of I-25 near Las Vegas, New Mexico (map 1). By 1803 non-Indian colonists, along with some Pecos Pueblo Indians, genízaros (many from Santa Fe's Barrio de Analco), and a few converted Comanches, had settled along the Rio Pecos at San Miguel and San José. Christianized Navajos and Utes, converted in the 1700s and 1800s, also settled there later.[7] In San Miguel's earliest years (1799–1800), as many as 25 percent of the residents were of Indian descent.[8]



MAP 1. REDRAWN COPY OF THE U.S. GEOLOGICAL SURVEY TOPOGRAPHY MAP OF BERNAL, NEW MEXICO, IN 1890

Map shows the locations of San José, San Miguel, and other villages along the Rio Pecos. Note the Atchison, Topeka and Santa Fe Railway lines of 1880. Roads are not shown.

(Map by and courtesy author, numbering and lettering courtesy Clay Mathers)

San Miguel was the more well known of the two villages because of its location as the port-of-entry into Mexico from the United States after the Santa Fe Trail opened in 1821. Travelers along the trail left several accounts of San Miguel in their memoirs but San José, a mere five kilometers upstream from San Miguel, remained relatively obscure with few written records and only passing references in historical accounts.[9] The two villages subsequently spawned numerous splinter communities, including Bernal, Cerrito, La Cuesta (now Villaneuva), Pueblo, Puerticitio, and nearby Las Vegas, among others (see map 1).[10] Over time San Miguel grew into the sixth largest town in New Mexico and was the site of many notable historical events.[11] In addition San Miguel was founded with the construction of a small chapel in the late 1790s. The chapel was remodeled into a massive church in 1807, which residents still use today. The church once served all the nearby residents in the valley, including those from San José.

In 1821, after Mexico gained its independence from Spain, American trader William Becknell opened the Santa Fe Trail running through San Miguel. The village was located near the Staked Plains, where Mexican troops first welcomed Becknell in November 1821.[12] At first the Santa Fe Trail's overland route connecting the Missouri frontier and Santa Fe, and eventually Chihuahua, stimulated the economy in San Miguel. But ironically, as the profits grew from the expanding trade, the population of San Miguel declined as residents relocated to Santa Fe for job opportunities.[13] Later, enterprising merchants in Las Vegas overtook much of the business that Santa Fe–bound caravans had previously conducted at the Santa Fe Plaza.[14]

By 1824, however, the economy of San Miguel was thriving since Santa Fe Trail trade goods saturated the market.[15] The trade with Mexico inspired several merchants to remain in town, where they profited from storing and repacking goods traveling south by wagon to Chihuahua. This activity in San Miguel bypassed the Mexican tariffs imposed by the customs house in Santa Fe.[16] The Santa Fe Trail opened New Mexico Territory to U.S. commerce and stimulated some Anglo designs to acquire Mexican territory. Among these efforts was the ill-fated Texan–Santa Fe Expedition of 1841 bent on both trade and military reconnaissance (New Mexicans believed it was an invasion force).[17] Lost on the trackless Plains, the starving, exhausted Texans were captured by the Mexican army and held captive in San Miguel. Two men were shot and the remaining captives were marched to Mexico City.[18] As late as 1848/49, the majority of U.S. settlers and gold seekers following the southern route to California passed through San Miguel and by San José.[19] In 1846 the United States annexed New Mexico and the government adjudicated land grant claims between 1854 and 1910. During this period of

time, the Vado land grant fell into the hands of unscrupulous land dealers, many of whom were Anglos and wealthy Nuevomexicanos. These land dealers deprived settlers of their common lands and resources, and the town of San Miguel eventually lost much of its forest, and agricultural and grazing land.[20] This confiscation of lands led to Hispanic resistance throughout San Miguel County. In the 1880s and 1890s, the activist group *las Gorras Blancas* (the White Caps) cut fences and destroyed property to protest the loss of lands (which provided the roots for the *Alianza Federal de Mercedes* [Federal Land Grant Alliance] movement of the 1960s).[21]

Since their founding in 1794, San José and San Miguel existed under the continual threat of destructive and sometimes lethal raids by Indians. Although the Comanches, the Southern Plains' most powerful tribe, had generally stopped their attacks on New Mexico after forming a treaty with the Spanish in 1786, the tribe continued to raid in Texas and Mexico. Disgruntled Comanche warriors, however, upset by the limited supply or even absence of promised treaty gifts in Santa Fe, stole, sacked, raped, and killed on their return to the Plains through the Vado district. When the state was short of funds in 1825, Santa Fe implored San Miguel to help with the tributes.[22] The Apaches, Arapahoes, Cheyennes, Crows, Kiowas, Pawnees, and even Navajos, meanwhile, posed a continuous threat to New Mexico well into the nineteenth century.[23] As the eastern-most point of frontier settlement for many years, the communities of San Miguel and San José invited both trade and amity, and warfare and enmity with the Plains Indians.

Indian attacks also extended to pack and wagon trains plying the Santa Fe Trail and to Nuevomexicano *ciboleros* (buffalo hunters) and *comancheros* (traders to the Comanches), who ventured east to trade with the Plains Indians as early as the 1700s. The majority of Indian attacks along this route occurred between 1850 and 1870.[24] In 1829 the U.S. Army began intermittent escort duty to the New Mexico boundary for those hazarding the Santa Fe Trail; Mexican soldiers took over at the Arkansas River in Mexican territory.[25] The historic conflict with the Indians—tales of Indians desecrating church burials and of relatives huddled in the church during Indian attacks—was still discussed by residents when my team worked in San Miguel. This threat resulted in the establishment of a presidio at the village, one of only three in New Mexico during the era of Mexican rule. A detachment of twenty-one regular soldiers were posted at San Miguel in the 1820s and soldiers remained there until after 1841.[26] Even the presidio troops could not stop the attacks, and Navajos killed the comandante in 1835.[27] During the turbulent 1800s, San Miguel justice of the peace Pedro Bautista Pino lamented the inability of Mexican regulars and local militia to stop Indians from invading

San Miguel, and presumably San José, after the security breakdown in New Mexico.[28] Even Pueblo Indians were a threat as late as the 1830s for taking settlers' children captive.[29] Few settlers owned firearms; they relied on lances, bows and arrows, and slingshots for defense.[30]

The Vado area sustained casualties and theft from Indian raids at least as late as the 1840s and 1850s.[31] For instance, Navajos killed five residents of San Miguel in 1843 and another three locals in 1846.[32] In response to this violence, Nuevomexicanos took an unusually large number of Navajo captives in counter-raids from the 1820s to the 1860s.[33] These slave raiding expeditions, sometimes organized at San Miguel, drew Navajo reprisals to the area during this period. Nuevomexicanos relocated captives to Santa Fe for employment as domestic and field servants. Until 1860 San Miguel continued to operate as a base of operation for slave and retaliatory expeditions against Indians.

In 1860, toward the close of Nuevomexicano-Indian cycles of violence in New Mexico, officials relocated the county seat from San Miguel to Las Vegas. This decision remains contentious in San Miguel even today, as we discovered during our work there.[34] Finally, in 1879/80, when Las Vegas obtained the switching yards for the new railroad, San Miguel and San José faded to the backwaters of modern U.S. history. San Miguel's village population significantly declined from at least two thousand people according to the Mexican census of 1827 to about two hundred people by the early 1920s. Fewer people lived in nearby San José.[35] San Miguel and San José are little changed today.

Archaeological Methods

The science of dendrochronology assigns calendar dates to the uneven annual growth rings of trees.[36] This methodology is a dating technique familiar to most archaeologists. The Southwest contains a large number of both prehistoric and historic sites with high dendrochronological potential. While prehistoric sites such as Mesa Verde and Chaco Canyon are well known to archaeologists and historians, these two disciplines have generally neglected, with the exception of Navajo and historic Puebloan structures and old Spanish churches, historic sites with similar dendrochronological potential. This dating technique utilizes extensive samples from wood-rich structures and communities to reconstruct complex construction and remodeling sequences. The extremely fine temporal control of tree-ring analysis, which can sometimes date samples with only a month or two margin of error, equals or qualitatively exceeds the data garnered from most historical records. Therefore, tree-ring data, gathered from not only roofing but floor joists, posts, and elements embedded in the walls such as bonding beams, lintels, and intramural supports, are excellent material for testing

for the accuracy and completeness of historical documents. Wood-rich San Miguel and San José, important historical villages, are therefore ideal places for dendrochronological analysis.

The strategy employed at the villages sought to obtain samples from roughly 50 percent of the vigas found in each room and all the intramurals of datable species exposed in the walls.[37] Rare floor joists were also highly desired. Floor joists and wood elements within the walls would be the two most likely places to discover samples yielding dates coeval with construction. The process of dislodging these elements, however, usually infers destruction of the structure. Bonding beams, which underlay the vigas to help spread the weight of the roofing, are also highly likely to mark the construction date, but the high-value vigas, suffering the most from being robbed, moved, or replaced, triggers caution in their temporal interpretation. The best conditions for establishing construction dates occur when room sets provide date clusters and wood extracted from adjoining rooms yields similar dated clusters.

An axiom of village-architectural structural wood, based on dendrochronological studies, regards the likelihood that wholesale architectural changes have not occurred over the past two centuries among the old-style Hispanic buildings. This axiom applies particularly among the long, contiguous room blocks that still border the central plazas of some small villages along the Rio Pecos. The vast majority of the structures revealed date clusters for each room, testifying to the originality of the room viga sets. We extracted many samples from old structures still positioned along the plaza perimeter, suggesting that some original buildings must still be standing. In addition, even if considerable remodeling of or the destruction of the initial buildings that formerly encircled a plaza took place, residents consider the large timbers too valuable to discard and thus typically recycled earlier beams into newer buildings. Given the large number of samples collected (n = 606), if wholesale remodeling or destruction had transpired, many displaced beams would have reappeared in more recent buildings and had high probability of being sampled. Village residents knew of at least three instances in which roof viga sets were reused in other buildings. For the most part, however, recycled beams are usually curated within individual family holdings for later use. Due to this practice of reusing beams, and given the size of the large structural wood sample, if widespread destruction of buildings had occurred around the plazas, many original beams should still appear in the later-constructed buildings. But these beams rarely materialized in our sample in the newer structures. Only a few clusters of early beams were identified from dating, and none as reused beams except for a few isolated elements.

In this study, almost all sample dates refer to cutting or near-cutting dates, unless the specimens were deadwood. Only those beams that appeared to

have or nearly have the outside growth ring at the time of tree death were chosen for sampling. Although the tree-ring laboratory does not often assign cutting dates to cores that have limited outside surfaces (i.e., the head of a core), which comprise the vast majority of our sample, my field observations and selection process determined that almost all dated samples are cutting or near-cutting dates. Villagers debarked the majority of roof vigas with draw knives, which removed the outer rings of the tree except during cases involving careless workmanship that left narrow strips of bark and the outermost growth ring intact. Although absolute cutting dates are impossible to verify for samples taken from wood specimens stripped of their bark, the debarking treatment generally eliminates only a few years of tree growth depending on the skills of the bark remover. Thus, these samples are close to the actual tree death and, when dated in room clusters, typically indicate the near if not actual construction date of the room.[38]

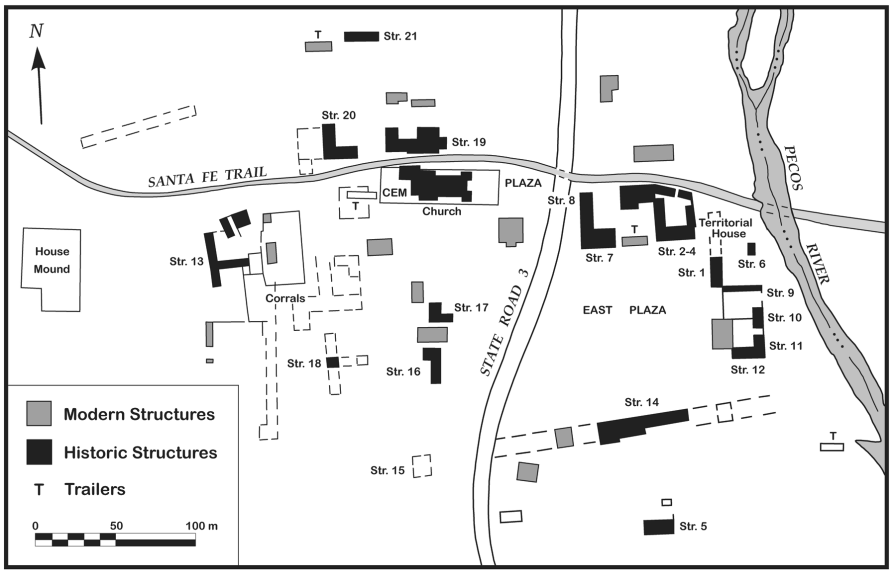
The choice to sample large numbers of vigas for this dendrochronological study creates a paradox for examining historical traditions at San Miguel and San José. While vigas are easier to date than smaller elements, they are also more likely to be recycled into newer construction because of their large size and high initial cost to obtain and prepare. At San Miguel, the team found vigas reused in outbuildings, corrals, and gardens, and stockpiled for later use but rarely in domestic architecture. Roof vigas stacked in the yards of several home owners testified to the long-term value of these timbers but posed potential problems to dendrochronological interpretation. In at least one case, a pile of vigas in San José was determined to have originated from a structure in San Miguel. But in other cases, former residents (and archaeologists) of Santa Fe recycled San Miguel beams into their new Santa Fe residences at the turn of the nineteenth century. Overall, vigas certainly do reflect historical trends in construction activity—the more construction, the more beams. However, recycling may have ensured the long life of vigas in a community but not necessarily in their original structure.[39] In addition a number of problems prevented a thorough sampling of the vigas known to be present. In several instances, the remodeling of single rooms or large areas of individual buildings with false ceilings concealed the original vigas, but sampling could still occur in remodeled buildings when these vigas lay exposed in wall exteriors or under accessible pitched roofs. At other times, rooms crowded with furniture or stored items made direct access to some vigas impossible. Some building owners were reluctant to allow access to certain rooms and others simply refused requests to collect wood samples. Sometimes, when contiguous structures were owned by different families, some families allowed sampling while other families declined to participate in the study.

The study of San Miguel and San José took place between 2001 and 2006, although some documentation and sampling continues. In addition to the examination of these two villages, a wood study initiated in 2008 of El Cerrito (not reported here), a village situated a few miles downriver from San Miguel, broadens the sample of village wood specimens. Previous studies by Charles O. Loomis and Richard Nostrand provide excellent histories of the village.[40] Permission from the owners of the older-appearing buildings was obtained in each village and a crew of between one and ten volunteers helped with the mapping, architectural and beam documentation, and the tree-ring sampling of each structure. Samples from the latter were analyzed for species and dates by the Laboratory of Tree-Ring Research at the University of Arizona in Tucson.[41]

The impetus for the study at San Miguel and later San José was spurred by the author's work at Pecos Pueblo during a compilation of all tree-ring samples taken from the upper Rio Pecos valley.[42] In addition the known movement of beams from the ruins of the Pecos Mission Church to nearby villages, to Santa Fe, and even to the East Coast focused attention on the San Miguel del Vado Church as another likely recipient of Pecos beams (none were found, however).[43] Luckily, the exterior plaster of the San Miguel del Vado Church had recently been removed when I arrived in 2000. That work exposed many of its structural wood elements that cannot be seen today since the church was repaired and replastered (ill. 1).

ILL. 1. SAN MIGUEL DEL VADO CHURCH BEFORE THE RECENT APPLICATION OF WHITE PLASTER

(Photograph courtesy Richard Moeller)



MAP 2. THE SAN MIGUEL DEL VADO PLAZA STRUCTURES AS OF 2000
Modern structures are represented in gray and historic structures are in black. *(Map by and courtesy author, numbering and lettering courtesy Clay Mathers)*

Results from San Miguel

The wood team obtained 579 samples between 2001 and 2004 from 18 of the known 23 old buildings in San Miguel and the San Miguel del Vado Church (see map 2). Vigas, the primary roof supports, provided 388 (67 percent) of the documented samples. Door and window elements comprised another 40 samples (7 percent); posts, 61 (11 percent); intramurals, 56 (10 percent); church corbels, 15 (3 percent); and miscellaneous elements, 19 (3 percent). In some dendrochronological studies, species variation can be useful in assessing differential selection during various construction cycles and temporal periods. The material selection at San Miguel was relatively uniform: of 366 sampled elements, 330 (90 percent) were ponderosa pine; 27 (7 percent), piñon; 8 (2 percent), juniper; and 1 (trace), spruce/fir. Door and window lintels and wall intramurals, which typically employed local wood, revealed a variety of ponderosa pine, piñon, and juniper. The species, form, and end-treatment of these elements are readily recognizable for use-types even when found out of context.

Three hundred and sixty-six dendrochronological samples from individual structural elements were sent to the Laboratory of Tree-Ring Research. The laboratory successfully dated 64 percent (236 of 366) of the elements and provided chronological information for nearly every room sampled—a total

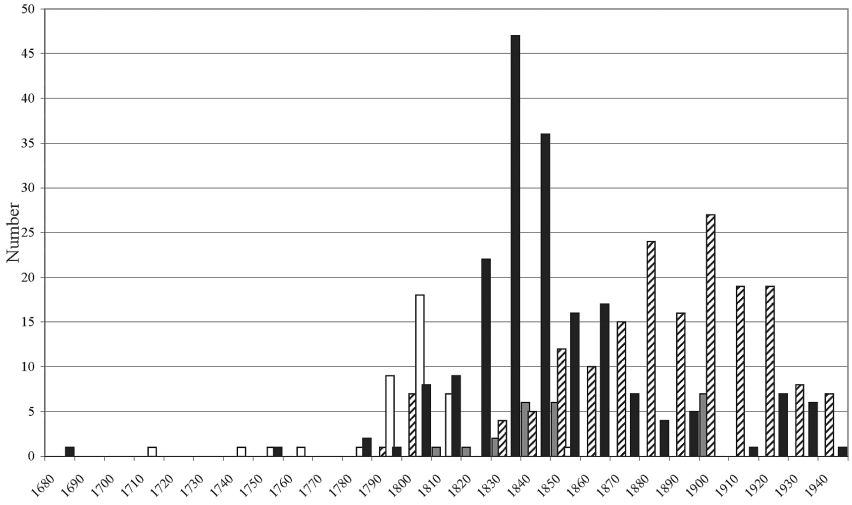


FIG. 1. TREE-RING DATES FROM SAN MIGUEL DEL VADO AND SAN JOSÉ, NEW MEXICO
The gray bars represent tree-ring dates for San José del Vado Church, the striped bars represent tree-ring dates for San José village, the white bars represent tree-ring dates for San Miguel del Vado Church, and the black bars represent tree-ring dates for San Miguel village.
(Graph courtesy Eileen Bacha)

of 67 out of 78 rooms. Overall, San Miguel tree-ring dates gradually increased in time from the first building of the church in the late 1700s, reaching a peak in the 1820s, 1830s, and 1840s, and then dropping off in the 1860s and 1870s (fig. 1).

The Indian Threat—Defensibility of the Plaza and Church

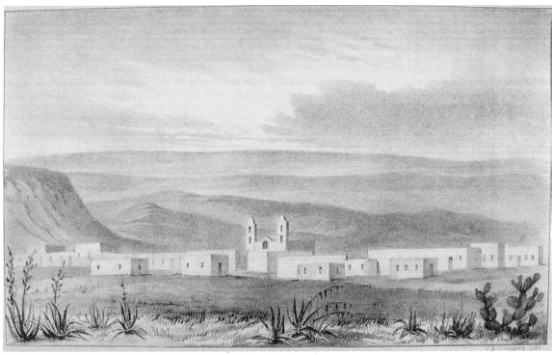
Historians disagree about the nature and the severity of the Indian threat to the villages along the Rio Pecos during the 1800s. Some historic records and oral histories suggest that the Indian assaults took the life of some members of each community every year in the early to mid-1800s. Other scholars, however, argue that the Indians were important, if not critical, trading partners for the Rio Pecos communities.[44] Although Indians perpetrated violence against Hispanics, which included theft, the number of Hispanic deaths caused by coordinated Indian raids was small in number and exceptionally rare during the 1800s.[45] The greatest number of Indian-related deaths, numbering in the hundreds, occurred during the 1760s and 1770s, when the Comanches held New Mexico in a state of "siege" and plundered the region at will.[46] If the members of the San Miguel and San José communities believed that their lives and property were in great danger from outside attacks of any kind,

they would have built fortified positions into the structure of their villages. These defensive structures would have been constructed early in the occupation of the village—the purported practice required by the authorities in Santa Fe—but more commonly during Indian raids, settlers temporarily abandoned their homes or relied on vigilance and dispersed settlement to counter the threat.[47] The wood team used dendrochronology to determine whether residents of San Miguel and San José fashioned defensive barriers at the founding of their village. These tests also indicate if residents of either village constructed such protections to guard against Indian attacks during other historical periods.

Historic documents suggest that San Miguel was built as a fortified plaza town.[48] Richard Nostrand describes the San Miguel Plaza as "consisting of central open spaces (or plazas) surrounded on four sides by houses whose outer walls were windowless" (like the one in Chimayo). At San Miguel, "the central open spaces were reached through one or more heavy gates, and outside the community a high round *torreón* (tower) gave added protection."[49] Spanish viceroyalty demanded a defensive layout after distributing land to citizens in 1805. Some archaeological remains suggest that such a defensive arrangement is still extant today (map 2).[50]

The beam samples indicate early tree-ring dates for elements extracted from non-contiguous buildings positioned around the east plaza. These separate buildings were built over a number of decades and did not form a continuous wall for defense. The tree-ring data gathered from the eastern and southern buildings suggest construction dates around 1850. Residents might have joined them to form a substantial walled perimeter but would have done so much later than 1805, after the historical record describes. Instead, the dates indicate that buildings were spread around the general plaza area without a continuous walled perimeter. This settlement pattern was similar to that drawn of San Miguel by Lt. James W. Abert of the U.S. Army Topographical Engineers in 1846, when Brig. Gen. Stephen W. Kearny and the Army of the West first entered New Mexico (ill. 2). Nostrand believes, however, that "among Hispanos the term *plaza* was used rather loosely to refer to both compact plazas and semi-dispersed ranchos."[51] About 1830 another observer wrote that "the word *plaza* indicates a certain place where people are living."[52] Rancho settlements, which predated plaza types, were "reinstituted as quickly as Plains Indian pacification allowed."[53]

The Indian threat was certainly present in the Vado area for the first seventy-five years of the nineteenth century, but several factors may have initially militated against the fortified plaza in favor of a more dispersed settlement. First, settlers reportedly lived in the area before Spanish authorities officially



ILL. 2. SAN MIGUEL
Drawn by Lt. James W. Abert, U.S. Army Topographical Engineer, 1846, in U.S. Congress, Senate, Annual Report of the Secretary of War, 30th Cong., 1st sess., 1847–1848, S. Ex. Doc. No. 23, serial 506.

granted the land in 1805.[54] Afterward, they were probably reluctant to re-establish themselves around a fortified plaza. In 1779, during the height of the Indian threat in New Mexico, Bernardo de Miera y Pacheco, representing the Spanish government, reported that villages were "extremely ill arranged, with the houses of the settlers of whom they are composed scattered about a distance from one another. Many evils, disasters, and destructions of towns, caused by Comanche and Apache enemies who surround said province, killing and abducting many families, have originated from this poor arrangement."[55]

The Hispanic tradition of living near their fields seems to have precluded increased efforts for strengthening village defenses. Instead, settlers often fled to the larger settlements where they had relatives. In the Chama River valley and at the genízaro settlement of Abiquiu, at least, settlers believed that the enclosed fortified plaza offered little protection, and they resisted living in one because of the increased social obligations, the higher attraction for attack that fortifications offered Indian raiders, and the undue government oversight of or interference in illegal activities such as trade with the Utes.[56] Just to the west of San Miguel and San José, the town of Galisteo had vanished from the census records by the 1780s because of Indian raids, and, a century earlier, the Salinas missions were abandoned along the eastern frontier. Indian warfare may have been less severe in 1805 than later on, but there were periods when Indian threats were so bad in the 1820s (and later in the 1850s) that settlers in the land grants to the southeast (for example, Anton Chico) and to the east and northeast of San Miguel temporarily abandoned their lands. For the most part, by the early and mid-1800s, San Miguel had become a center for much Hispanic interaction with the Plains Indians, which at times included brokering peace between various tribes. At San Miguel, villagers freely obtained robes, meat, and horses on which New Mexicans had become dependent.[57]

The structure with the earliest tree-ring results is the chapel dated to the late 1790s and to 1806 during its enlargement as the present San Miguel

del Vado Church (ill. 1). Documents confirm that local residents were conscripted to assist in its construction.[58] Only a few scattered rooms in the plaza have tree-ring dates that fall within the general time period of the church's early construction and additions. Barring widespread beam reuse, it can be assumed that the original settlers laid out the general village in a dispersed rancho style rather than a closed, fortified perimeter around an open plaza.

The Spanish colonial governor Juan Bautista de Anza had negotiated peace with the Plains Comanches in 1786.[59] The Comanches generally upheld the peace with the Nuevomexicanos and Puebloans, although they waged war on other colonial subjects, such as the Hispanos and Natives to the south in Texas and northern Mexico. The Indian threat may have been overstated in the Vado area, at least for the first few decades of the nineteenth century. Marc Simmons describes the converted genízaros, primarily Apaches and Comanches, living in these villages as formidable soldiers who little feared the Plains tribes, suggesting that villagers may have dismissed fortress-like defenses as unnecessary and that the San Miguel del Vado Church sufficed as the main defensive structure during Indian raids. These converted Indians had a stake in hanging on in the Vado settlement in order to become full-fledged land owners. But some disadvantaged and impoverished Spanish subjects, including genízaros, fled to live with the Comanches.[60]

San Miguel del Vado Church was well suited to serve in a defensive role. Started in the late 1790s as a small chapel, this structure, the most massive in the village, was enlarged and completed between 1806 and 1811 according to both tree-ring dates and historical records.[61] A large earthen platform was first built for the church. Massive walls, up to three feet thick and about thirty-five feet high, were partly built of stone stacked ten feet high and completed with adobe blocks. Five-foot-high crenellated parapets surrounded the original flat roof (parts are still visible under the pitched roof), and the tall towers served as both watch and bell towers.[62] San Miguel was not built along a defensive-plaza plan; instead, the church was sufficient for defensive needs during the first few decades of occupation in the 1800s.

After 1820, however, conditions in the Rio Pecos valley triggered changes in the built structure of the village. Historical documents during this period report not only an increase in conflicts with the Indians but also increased trade; an expanded population; the establishment of a military garrison in the village; and an increase in slave and livestock raiding by nomadic Indians, Puebloans, and Hispanos.[63] During the 1820s, settlers fled the land grants directly northeast, east, and southeast of San Miguel as Indian attacks intensified, but the settlers had largely returned by the 1830s.[64] Tree-ring data show that after 1820, San Miguel residents clustered buildings around the

plaza and imposed some restrictions on access to this space, but even by 1839, Santa Fe trader Josiah Gregg described the village as an "irregular cluster of mud huts."[65] This pattern is particularly evident in the arrangement of buildings on San Miguel's southeast, east, and northeast sides, next to the Rio Pecos, which provides a more continuous plaza block (see map 2). At the same time, however, filling in around the plaza with buildings was not evident at San José.

In these same buildings, other defensive features, such as wide gates for wagons and narrow windows with closely spaced vertical poles (*rejas*) placed near the roof level, can still be seen today. A group of residents remarked that the barn built in the 1850s on the east side of the plaza sheltered inhabitants during Indian raids and that arrows were shot through the barred windows (structure 12, map 2). A high barred window is also evident in Adolf F. Bandelier's photo of San Miguel Plaza in 1882.[66] During our investigations, one barred window was found hidden behind wall plaster in a residential building constructed in 1868 (structure 1, map 2). These windows also provided ventilation in utility buildings, but were replaced with larger windows in residential homes once the Indian threat had diminished.[67]

Population Change through Time

Between 1800 and 1900, important regional events likely furthered significant population changes in the Vado area. The increase or decline of building construction should reflect those demographic shifts. Since dramatic changes occurred over short periods of time (ten to twenty years), tree-ring dating is an ideal technique to evaluate the veracity of historical records of population change in the village.

Historical accounts indicate that in the late eighteenth and early nineteenth centuries San Miguel was a bustling community large enough to levy communal labor for church construction, but there are conflicting reports on exactly how many residents lived there.[68] Official Spanish and Mexican census records often combined the population of San Miguel with that of other villages in the area. In 1812 San Miguel and San José had 230 families between them. In 1821 the Thomas James wagon party traveling on the newly opened Santa Fe Trail reported about one hundred houses and two large flour mills in San Miguel; nearly 1,000 residents may have lived in the village or its vicinity.[69] There were 2,800 people living in and around San Miguel by 1830.[70] Complaints of San Miguel population pressure in 1831 forced consideration of opening up new lands to settlement.[71] By 1845, however, there were only 1,519 residents in San Miguel, but by 1850, the population rose to 1,963 residents.[72]

The 1820s were a turning point in San Miguel's history. The church records from San Miguel for baptisms, weddings, and deaths—serving as measures of population size—indicate that the population numbers were low in both San Miguel and San José until about 1825, when figures increased dramatically (fig. 2).[73] This trend continued through 1828, after which there is a three-year lapse in records. From 1834 through 1839, high numbers were again common; Anglo traveler Matt Field estimated 1,500 residents living in San Miguel in 1839.[74] These same church records, matched to model demographic tables for nonindustrial agricultural populations, allow researchers to estimate the population based on an annual growth rate of 3.20 percent. Based on this table, which posits five persons per family, by 1839 there may have been a population of 1,150 among the 230 families living in San Miguel.[75]

Two historic events in the 1820s directly spurred the dramatic population increase: the opening of the Santa Fe Trail in 1821, and the near demise of Pecos Pueblo coupled with its Native people's loss of protected status as land owners. The newly independent Mexican government allowed lands along the Rio Pecos to be taken by Nuevomexicanos. By 1825 non-Puebloan settlers controlled critical irrigated lands along the Rio Pecos, areas essential for market access to the Santa Fe Trail.[76] Other activities and enterprises also contributed to the town's growth and prosperity. For example Neuvomexicanos increased their interaction with the Plains Indians. Mexican soldiers garrisoned at San Miguel protected the town and the Santa Fe trade, and also provided a market for local crops and goods. In addition Neuvomexicanos

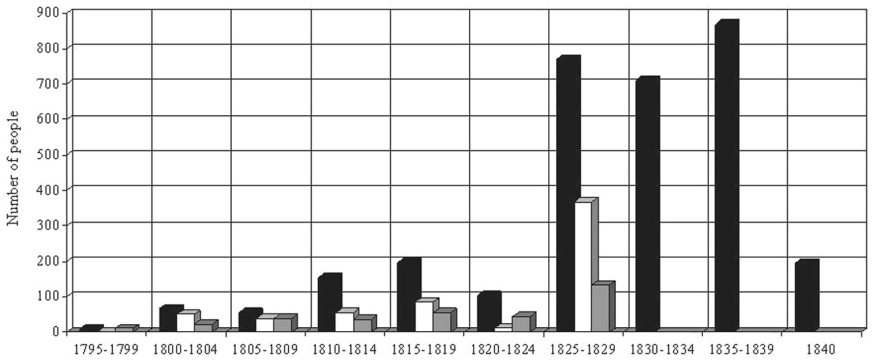


FIG. 2. PECOS VALLEY COMMUNITIES
The black bars represent number of baptisms, the white bars represent the number of marriages, and the gray bars represent the number of deaths. Statistics compiled from church records in San José and San Miguel communities. Records for the years 1823-1824 are missing.
(Graph courtesy Eileen Bacha)

needed captives to help with the farming and ranching. Catholic baptismal records indicate a sharp regional increase in Navajo slaves entering Nuevomexicano households during the 1820s.[77] San Miguel became the jumping-off point for numerous families founding new settlements along the Rio Pecos and in adjoining valleys. According to baptismal books, Neuvomexicanos added twenty new villages to the region in the 1820s and nine in the late 1830s despite Indian conflicts.[78] Finally, the year 1826 marks the beginning of the recovery from a prolonged period of drought that gripped the region between 1795 and 1825. Anthropologist Frances Levine refers to the period between 1820 and 1840 as one of rapid population increase in the San Miguel area.[79]

Mexico's independence from Spain in 1821 freed New Mexico from many of the old colonial controls over and proscriptions against interaction with foreigners. Santa Fe trader Gregg gave some idea of the magnitude of commerce flowing through San Miguel when he reported that between 1822 and 1843, 50 to 350 teamsters and traders, accompanied by wagons numbering between 26 and 230, plied the trail each year. He also reported that no traders were killed along the trail between 1831 and 1843.[80] Many entrepreneurs settled in San Miguel to engage in commerce or provide support services. One hundred and eighteen Anglos were listed as living there in the U.S. Census of 1850.[81]

Building construction probably reflected a growing population and bustling commerce. Sixty-seven of seventy-eight rooms in the seventeen structures that yielded tree-ring dates show the shifting construction episodes over time. The overall tree-ring sample from San Miguel indicates increased construction in the 1820s, 1830s, and 1840s. During this time, commerce exploded along the Santa Fe Trail, and other activities, such as trade with Indians, bolstered habitation numbers. Residential and commercial construction rose due to the arrival of new residents taking advantage of commercial possibilities, trade, and hunting on the Llano Estacado, and an expanding Mexican population. By the 1860s and later, however, there was a drop-off in construction as reflected in our sample, which appears to follow the slow demise of the village.

Results from San José

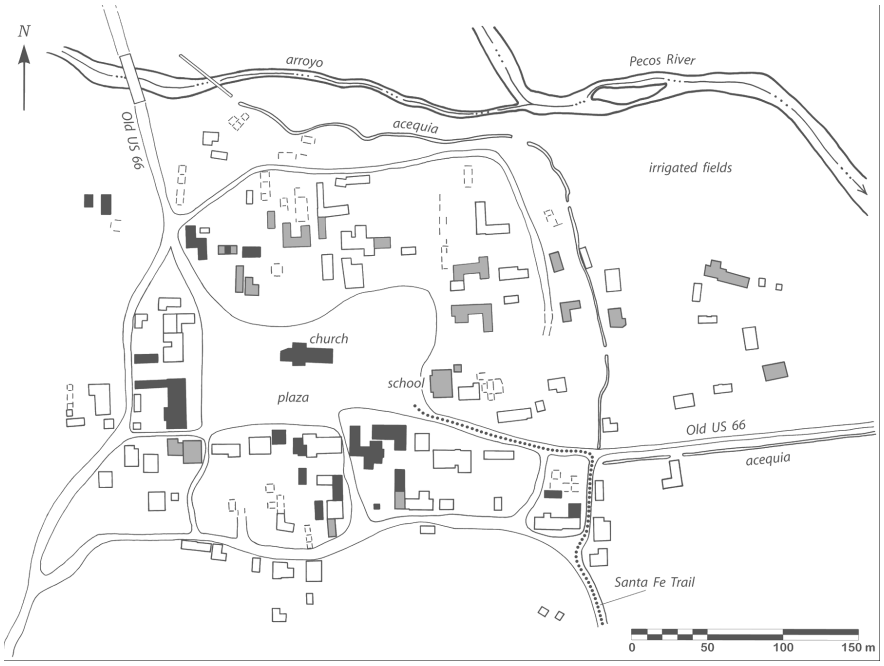
Other than Chimayo near Española, San José today remains one of the few original surviving plaza community in New Mexico. The plaza was a settlement pattern once thought to have featured houses with windowless outer walls enclosing an open space. The fortress-like village was accessed through heavy gates.[82] This type of settlement was necessary for protection on the

frontier against marauding tribes.[83] Outside some church records, there are few documents concerning San José. This important community was part of the initial expansion of Hispanic culture and settlement beyond the Rio Grande Valley eastward onto the staked or palisaded plains (Llano Estacado) of New Mexico, Texas, and Oklahoma, and northward into Colorado.[84] For a short time, San José may have eclipsed San Miguel in importance after the latter's decline by the late 1840s, but San José also suffered from the expansion of Santa Fe and Las Vegas as trade and mercantile centers in the mid-nineteenth century.[85]

The sparse historic information about San José makes it difficult to address some of the project's goals. Dendrochronological results from San José, however, are somewhat similar to those from San Miguel (fig. 2). The initial mapping of San José in the 1970s was part of a larger historical study of Pecos undertaken by historian John Kessell in cooperation with the National Park Service and the American Historic Buildings Survey. Included in that project were studies of the villages of San Miguel, San José, and Pecos. These efforts generated aerial photographic maps of San José and San Miguel, and the first tree-ring studies in San Miguel and the village of Pecos. These studies were later continued by the author between 2002 and 2004.[86]

San José has suffered far less architectural alteration than San Miguel and provides another opportunity to look at Hispanic colonial architecture, particularly the establishment of a defensive layout, to compare with San Miguel.[87] Approximately seventy-five people, dispersed within forty-one households, now reside in San José.[88] Many buildings in the village have suffered major deterioration, and some were completely leveled during the wood project. Several buildings are owned by absentee residents and suffer from plundering and disrepair. Although the documented structures do not represent the entire number of old structures in the village, they do represent a sizeable number of the overall buildings around the plaza (a sample estimated by the author at about 48 percent of the approximately forty total plaza buildings recorded on the Historic American Buildings Survey village aerial map of 1974), especially along the western half of the plaza (see map 3).

The most complete architecture appears along the south side of the San José Plaza, where structures are aligned along the entire side, occasionally parted by alleys and roadways. Some alleys may have originally been gated entries into the plaza. The west end of the plaza, which is elevated several meters above the main plaza, is also filled with structures and may contain remnants of the original buildings. Structures along the north and east sides of the plaza are scattered, and only segments of the original structures exist. In the 1930s, with the advent of motor vehicles, San José Plaza, located



MAP 3. THE SAN JOSÉ DEL VADO PLAZA STRUCTURES
The revised map was drawn from the Historic American Buildings Survey map of San José del Vado in 1974. Black structures are those documented and sampled. Gray structures are those no longer present.
(Map by and courtesy author, numbering and lettering courtesy Clay Mathers)

along the old U.S. Route 66, was probably opened to allow easier movement of traffic and to capture economic benefits from tourism until the road was rerouted directly between Santa Rosa and Albuquerque. It is clear that many structures have been removed, although jutting broken wall segments and mounds of house building materials mark the locations of some earlier structures. Although a late Puebloan site was located in San Miguel Plaza and its refuse was sometimes mixed with construction adobe, none has been observed at San José.

In San José the wood team sampled 9 properties comprising 62 rooms (60 rooms yielded tree-ring dates) in 19 old structures. These properties provided 240 samples from 542 documented elements of structural wood. The Laboratory of Tree-Ring Research successfully dated 93 percent (223 of 240) of the elements. Of these, the church at San José yielded 23 dates from 47 documented beams, although many more beams were left undocumented. The church is the only structure noted in the village work, aside from a domestic room in El Cerrito, in which Pueblo-style latillas were set contiguously across the main roof beams. In the church's case, the latillas must have numbered

in the hundreds or more. For the most part, village roof vigas are covered by saw-cut boards. Although the majority of the sampled village elements were ponderosa pine (170 [71 percent]), there was a surprisingly large number of Douglas-fir elements (23 [10 percent], mostly vigas) and of piñon elements (45 [19 percent]). In addition two pieces of juniper (1 percent) were sampled, but juniper is rare in house architecture and seldom dates in the Vado area. Thus, juniper elements are seldom sampled. The majority of the 542 documented samples were 409 vigas (75 percent), followed by 45 intramurals and bonding beams (8 percent), 45 jacal posts (8 percent), 19 roof secondaries (4 percent), 11 door and window lintels (2 percent), 7 miscellaneous elements (1 percent), and 6 church corbels (1 percent).[89]

The wood crew found most piñon to be long, straight upright poles of three or four meters or more, stacked in contiguous rows covered by mud to form interior cross walls or, in two examples, exterior room walls. In each of the five constructions within the three villages, including Pecos, the piñons dated into the 1920s, although the building technique was used by settlers in the 1800s and much earlier.[90] Today, according to San José resident LeRoy Salazar, straight piñons can still be found in an isolated area in the mountains to the north of the village. Salazar had a fresh stack of these poles in his yard.[91] Piñons in general, including those in the local region, have stubby stems and bent limbs that are unsuitable for most house architecture but are commonly used in outbuildings.

Despite the documented origin of San José, only a single room dating to 1805 and centered on the south side of the plaza attests to the early beginning of the plaza's occupation. The next earliest rooms, adjacent to the room built in 1805, date to the 1850s, as does the San José del Vado Church and a single room centered along the west side of the plaza. A residence located on the rise along the west side yielded two internal parallel walls that were one meter thick and parallel to the plaza. These massive walls (all others in the study are less than sixty centimeters thick) seemed ideal as part of a fortified, walled-in plaza, but the associated tree-ring dates go back only to the late 1800s, long after the residents needed a defensive wall against Indians. The vast majority of dates from the buildings adjacent to the San José Plaza are from the late 1800s and early 1900s.

Historical evidence documents that San José was inhabited around the same time as nearby San Miguel (its earliest mention in church records is of a marriage of a San José couple in October 1805).[92] The dendrochronological study of structures adjacent to the present plaza argues against an early enclosed or fortified plaza, although that layout has been assumed since the village's founding.[93] The need for massive early defenses, however, may be

overstated by historians.[94] Instead, the overall temporal settlement pattern at San José is similar to the one supported by the findings of the dendrochronological study at San Miguel. At San José, residents partly enclosed a central plaza beginning in the 1840s or 1850s, long after the village's founding.[95]

Based on dendrochronology, the San José del Vado Church was constructed in the 1840s or 1850s. This Catholic church provided residents a spiritual focal point that was lacking in earlier decades of San José's existence. The village residents initially attended the San Miguel del Vado Church, until the San José del Vado Church was erected. With the establishment of the San José del Vado Church in the 1850s, residents began enclosing the village plaza with new buildings. As at San Miguel, where there was a similar process around the plaza, regional developments may have prompted the structural in-filling primarily for security reasons or from a growing population eager to be close to the church and associated plaza activities. San Miguel, and perhaps San José, became logistical centers for Nuevomexicano slave expeditions, prompting retaliatory raids by the nomadic Indians and a heightened need for security by the mid-1800s. Increased tensions also stemmed from the breakdown of Comanche autonomy due to the unremitting pressure of eastern settlers, miners, buffalo hunters, and the U.S. Army. Coming from the west, even Navajos were killing residents in San Miguel and Las Vegas as late as the 1840s.[96] Before midcentury the San Miguel del Vado Church could have served San José's residents as a place of defense while the majority of the population in both communities resided in scattered ranchos in the general area.[97]

Discussion and Conclusions

Both villages gained prominence from their location along the Santa Fe Trail. Despite the relative wealth of San Miguel during the Santa Fe Trail period, the Census of 1860 listed no merchants residing there, while San José had three dry goods merchants.[98] The latter suggests a large enough number of people in the vicinity or passing along the Santa Fe Trail to keep several merchants in business. Another indicator of how many residents lived in the Vado area comes from church records, which show a small increase in the number of baptisms in the very early 1800s, then a decline until about 1820, and then a surge afterward. While this surge was also noted regionally for Navajo captives, no evidence suggests any sizeable Navajo influx into the Rio Pecos villages.[99]A similar pattern transpired in nearby San Miguel and provides some relative idea of population swings during the 1800s in the Vado area. Tree-ring dates from San José suggest an initial spurt of construction,

a hiatus, and then a much larger surge that started in the 1850s and carried into the early 1900s. These tree-ring studies support earlier historical evidence that many people resided in the valley by the 1820s. However, these studies suggest that San Miguel and San José villagers were not initially living in tightly spaced contiguous configurations around a central plaza as proposed by some researchers.

This study has illuminated aspects of life in San Miguel and San José as reflected in the use of architectural wood. The results both confirm and elaborate on the written and oral histories. First, the severity of the Indian militancy appears overstated immediately after the Comanche Peace was established in 1786. Warfare and raiding defined Vado settler and Plains Indian relations from the 1820s through the 1840s, but mutually beneficial interactions between them characterized much of the early 1800s. Second, this study found that building-construction patterns followed the fluctuations of community populations along with the shifting economic fortunes of the villages.

Although not covered here, the beam attribute information revealed changing tool technology as employed by the villagers. For instance axe-cut ends and hewn ceiling planks gave way to saw-cut ones as cheaper tools became available through trade on the Santa Fe Trail and, eventually, from the presence of saw mills and the arrival of the railroad.[100] Beam-end cuts also suggest varied uses for individual rooms and offer insights into harvest and construction behavior by individuals and groups.[101]

Despite the wealth of new tree-ring and attribute beam information at San Miguel and San José, a greater effort is needed to coordinate it with the oral histories of the people and the use of the buildings, something the team members hope to expand in the future at San Miguel and San José. More importantly a concise, focused approach on wood treatment and its relevance to the many changes in the village settlement and organization can provide a wealth of new information about changes that occurred throughout the life of these two important but now seemingly insignificant villages. As a centerpiece for testing the validity of the written and oral records and for expanding our knowledge of daily life in historic towns, San Miguel, San José, and other Hispanic villages still offer a wealth of information.[102]

Acknowledgments

A number of volunteers helped to sample and document the two villages for the present study. I am most grateful for their help and excellent work. Eileen Bacha was especially helpful in collecting and listing the data obtained during the project and putting it into an electronic database, and in

providing graphs and statistics. Clay Mathers helped to format and clean up the illustrations. I wish to thank the many village participants in the study, who graciously opened their homes for study and sampling. My special thanks to the reviewers, Richard Nostrand and Ronald Towner, for their many helpful comments, and to editor Durwood Ball and associate editor Jennifer McPherson for their patience, suggestions, and help in getting this paper ready for publication.

Notes

1. Obtaining tree-ring dates from archaeological sites is common during field research but rarely is structural wood studied for its cultural use or for its relationship within the broader artifactual assemblages collected for analyses. See Thomas C. Windes and Peter J. McKenna, "Going Against the Grain: Wood Production in Chacoan Society," *American Antiquity* 66 (January 2001): 119–40. For a recent discussion of the lack of communication and understanding between historians and archaeologists, see Mark E. Harlan, "Historians and Archaeologists: Proposals for Connecting in a Common Past," *New Mexico Historical Review* 82 (fall 2007): 501–40. For examples of archaeological applications of tree-ring dating in historic contexts in the Southwest, see Richard V. Ahlstrom, "The Interpretation of Archaeological Tree-ring Dates" (PhD diss., University of Arizona, 1985); William J. Robinson, "A Construction Sequence for Hubbell Trading Post and Residence," *The Kiva* 50 (summer 1985): 219–36; William J. Robinson, "Tree-ring Studies of the Pueblo de Acoma," *Historical Archaeology* 24, no. 3 (1990): 99–106; Ronald H. Towner, ed., *The Archaeology of Navajo Origins* (Salt Lake City: University of Utah Press, 1996); Ronald H. Towner and Michael R. Clary, "Historical Dendroarchaeology in Central Colorado: Lessons from the Keystone Area," *Southwestern Lore* 67, no. 3 (2001): 8–32; and Ronald H. Towner and P. Paul Creasman, "Dendrochronology of the Savage Homestead, El Malpais NCA, New Mexico," *Historical Archaeology* (forthcoming).
2. Richard L. Nostrand, "The Century of Hispano Expansion," *New Mexico Historical Review* 62 (fall 1987): 361–86.
3. John L. Kessell, *Kiva, Cross, and Crown: The Pecos Indians and New Mexico, 1540–1840* (Washington, D.C.: National Park Service, U.S. Department of the Interior, 1979).
4. James F. Brooks, *Captives and Cousins: Slavery, Kinship, and Community in the Southwest Borderlands* (Chapel Hill: University of North Carolina Press, 2002), 198.
5. Ibid., 130; Fray Angélico Chavez, "Genízaros," in *Handbook of North American Indians: Southwest*, ed. William C. Sturtevant and Alfonso Ortiz (Washington, D.C.: Smithsonian Institution, 1979), 9:198–200; Russell M. Magnaghi, "The Genízaro Experience in Spanish New Mexico," in *Spain and the Plains: Myths and Realities of Spanish Exploration and Settlement on the Great Plains*, ed. Ralph H. Vigil, Frances W. Kaye, and John R. Wunder (Niwot: University Press of Colorado, 1994), 119; Richard L. Nostrand, *El Cerrito, New Mexico: Eight Generations in a Spanish Village* (Norman: University of Oklahoma Press, 2003), 4; and F. Stanley, *The San Miguel del Bado, New Mexico Story* (Pep, Tex.: privately printed, 1964), 8. *Genízaro* (detribalized Indian) settlements in northern New Mexico were found at Abiquiu;

Albuquerque; Barrio de Analco in Santa Fe; Belen; a village just north of Santa Clara Pueblo; and in the Belen area at Los Jarales, Cerro de Tomé, Tomé, and Valencia.

6. Kessell, *Kiva, Cross, and Crown*, 443–48; and Frances Levine, *Our Prayers Are in This Place: Pecos Pueblo Identity Over the Centuries* (Albuquerque: University of New Mexico Press, 1999), 106.
7. Chavez, "Genízaros"; G. Emlen Hall, *Four Leagues of Pecos: A Legal History of the Pecos Grant, 1800–1933* (Albuquerque: University of New Mexico Press, 1984); Magnaghi, "The Genízaro Experience in Spanish New Mexico"; E. Boyd, "The Plaza of San Miguel del Vado," *El Palacio* 77 (fall 1972): 17–28; Brooks, *Captives and Cousins*, 130, 198; Hall, *Four Leagues of Pecos*, 5; Levine, *Our Prayers Are in This Place*, 101; and Marc Simmons, *Spanish Government in New Mexico* (Albuquerque: University of New Mexico Press, 1968), 151.
8. Levine, *Our Prayers Are in This Place*, 194.
9. For personal accounts of life on the Santa Fe Trail, see Josiah Gregg, *Commerce of the Prairies*, American Exploration and Travel Series, ed. Max L. Moorhead (Norman: University of Oklahoma Press, 1954); *Trader on the Santa Fe Trail: Memoirs of Franz Huning*, notes by Lina Ferguson Browne (Albuquerque, N.Mex.: University of Albuquerque, 1973); Susan Magoffin, *Down the Santa Fe Trail into Mexico: The Diary of Susan Shelby Magoffin, 1846–1847*, ed. Stella A. Drumm (New Haven, Conn.: Yale University Press, 1926); and *Matt Field on the Santa Fe Trail*, ed. John E. Sunder (Norman: University of Oklahoma Press, 1960). For a rare family history account of life in San José, see Alfonso Griego, *Good-bye My Land of Enchantment: A True Story of Some of the First Spanish-Speaking Natives and Early Settlers of San Miguel County, Territory of New Mexico* (Albuquerque, N.Mex.: privately printed, 1981).
10. Nostrand, "The Century of Hispano Expansion"; and Richard L. Nostrand, *The Hispano Homeland* (Norman: University of Oklahoma Press, 1992).
11. Hubert H. Bancroft, *History of Arizona and New Mexico, 1530–1888* (San Francisco, Calif.: The History Company, 1889), 342.
12. Stephen G. Hyslop, *Bound for Santa Fe: The Road to New Mexico and the American Conquest, 1806–1848* (Norman: University of Oklahoma Press, 2002), 229.
13. Stanley, *San Miguel del Bado, New Mexico Story*, 10.
14. Nostrand, *The Hispano Homeland*, 79.
15. Charles H. Montgomery, *The Spanish Redemption: Heritage, Power, and Loss on New Mexico's Upper Rio Grande* (Berkeley: University of California Press, 2002), 34.
16. Boyd, *San Miguel del Bado*, 22; Pedro Bautista Pino, *Three New Mexico Chronicles: The Exposición of Don Pedro Bautista Pino, 1812; the Ojeada of Lic. Antonio Barreiro, 1832; and the additions by Don José Agustín de Escudero, 1849*, trans. H. Bailey Carroll and J. Villasana Haggard (Albuquerque, N.Mex.: The Quivira Society, 1942), 65–66; and Malcolm Ebright, *Land Grants and Lawsuits in Northern New Mexico* (Albuquerque: University of New Mexico Press, 1994), 178–79.
17. Hyslop, *Bound for Santa Fe*, 276–77.
18. George Wilkins Kendall, *Narrative of the Texan Santa Fé Expedition: Comprising a Description of a Tour Through Texas, and Across the Great Southwestern Prairies, the Comanche and Caygüa Hunting-grounds, with an Account of the Sufferings from Want of Food, Losses from Hostile Indians, and Final Capture of the Texans, and Their March as Prisoners to the City of Mexico*, 7th ed. (New York: Harper,

1856); and Noel M. Loomis, *The Texan–Santa Fe Pioneers* (Norman: University of Oklahoma Press, 1958).

19. Stanley, *San Miguel del Bado, New Mexico Story*, 16.
20. Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 48–50, 70, 173, 210.
21. David Correia, "Las Gorras Blancas of San Miguel County," New Mexico Web History Project, *New Mexico Office of the State Historian*, http://newmexicohistory.org. In 2003 David Bustamonte pointed out a collapsed structure (structure 18, map 2) with standing walls on the west side of San Miguel where *las Gorras Blancas* (the White Caps) meetings occurred—tree-ring dates from door lintels confirmed the building was built around 1803 and could have later served as a meeting house. For more on the *Alizanza Federal de Mercedes* (Federal Land Grant Alliance), see Richard M. Gardner, *Grito! Reies Tijerana and the New Mexico Land Grant War of 1967* (Albuquerque: University of New Mexico Press, 1973), 4.
22. Thomas W. Kavanagh, *Comanches: A History, 1706–1875* (Lincoln: University of Nebraska Press, 1999), 287; and Kessell, *Kiva, Cross, and Crown*, 236.
23. William A. Keleher, *Turmoil in New Mexico, 1846–1868* (Santa Fe, N.Mex.: Rydal Press, 1952), 136 n. 85; Charles L. Kenner, *A History of New Mexico-Plains Indian Relations* (1969; repr., Norman: University of Oklahoma Press, 1994), 65; Stanley, *San Miguel del Bado, New Mexico Story*, 9–10; and David J. Weber, *The Mexican Frontier, 1821–1846: The American Southwest Under Mexico* (Albuquerque: University of New Mexico Press, 1982), 228.
24. Brooks, *Captives and Cousins*, 204–7, 221; Kenner, *A History of New Mexico-Plains Indian Relations*, 94, 96; Kessell, *Kiva, Cross, and Crown*, 410; Thomas Merlan and Frances Levine, "Comanchero: José Piedad Tafoya, 1834–1913," *New Mexico Historical Review* 81 (winter 2006): 44; and Nostrand, *The Hispano Homeland*, 137.
25. Pino, *Three New Mexico Chronicles*, 193 n. 319; Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 178; Gregg, *Commerce of the Prairies*, 21; and *Matt Field on the Santa Fe Trail*, 266 n. 116.
26. Pino, *Three New Mexico Chronicles*, 71; Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 178; Kessell, *Kiva, Cross, and Crown*, 458; Stanley, *San Miguel del Bado, New Mexico Story*, 15; and Weber, *The Mexican Frontier, 1821–1846*, 109.
27. Stanley, *San Miguel del Bado, New Mexico Story*, 10.
28. Pino, *Three New Mexico Chronicles*, 78; Merlan and Levine, "Comanchero: José Piedad Tafoya, 1834–1913," 45.
29. Griego, *Good-bye My Land of Enchantment*, 51–53.
30. Ibid., 2; Brooks, *Captives and Cousins*, 199.
31. Kavanagh, *Comanches: A History, 1706–1875*, 370; Levine, *Our Prayers Are in This Place*, 101, 104; Merlan and Levine, "Comanchero: José Piedad Tafoya, 1834–1913," 49; and Oliver La Farge, *Santa Fe: The Autobiography of a Southwest Town*, with the assistance of Arthur N. Morgan (Norman: University of Oklahoma Press, 1959), 51–53, 61–63.
32. David M. Brugge, *Navajos in the Catholic Church Records of New Mexico, 1694–1875*, 2d ed. (Tsaile, Ariz.: Navajo Community College Press, 1985), 56–76; Raymond Friday Locke, *The Book of the Navajo*, 5th ed. (Los Angeles, Calif.: Mankind Publishing Company, 1992), 195; and Keleher, *Turmoil in New Mexico*, 136 n. 85.
33. Brugge, *Navajos in the Catholic Church Records of New Mexico, 1694–1875*, iii frontal table, 118 table 11.

34. Nostrand, *The Hispano Homeland*, 79 n. 14.
35. Boyd, "The Plaza of San Miguel del Vado," 19; James T. Glasscock, "The Genizaro Outpost of San Miguel del Vado," 1973, New Mexico State Records Center and Archives, Santa Fe, N.Mex.
36. Ahlstrom, "The Interpretation of Archaeological Tree-ring Dates," 37–38. See also Marvin A. Stokes and Terah L. Smiley, *An Introduction to Tree-Ring Dating* (Tucson: University of Arizona Press, 1968), 3–5.
37. Samples were generally taken from the widest diameter of an element and/or from areas that appeared closest to the last outer growth ring, especially if bark was present. Samples were mostly collected as cores extracted with electric drills using specially designed hollow drill bits of half inch, five-eighths inch, or seven-eighths inch diameter. The drill holes were plugged with wooden dowels stamped with the documentation field specimen number.
38. See Ahlstrom, "The Interpretation of Archaeological Tree-ring Dates"; and Jeffrey S. Dean, "Independent Dating in Archaeological Analysis," *Advances in Archaeological Method and Theory* 1 (1978): 223–55.
39. Richard V. Ahlstrom, Jeffrey S. Dean, and William J. Robinson, "Evaluating Tree-ring Interpretations at Walpi Pueblo, Arizona," *American Antiquity* 56 (October 1991): 628–44.
40. Charles P. Loomis, "El Cerrito, New Mexico," *New Mexico Historical Review* 33, no. 1 (1958): 53–75; and Nostrand, *El Cerrito, New Mexico*.
41. Notes and records are kept by the author but will eventually go to the Maxwell Museum, University of New Mexico. The database is maintained by Eileen Bacha in Ohio and the author. Funding for the analyses was provided by the New Mexico Historical Preservation Division, Santa Fe, and the Santa Fe Trails Association, Larned, Kansas.
42. Thomas C. Windes, "1,100 Years of Construction Wood Use in the Upper Pecos Valley," in *From Folsom to Fogelson: The Cultural Resources Inventory Survey of Pecos National Historical Park*, ed. Genevieve N. Head and Janet Dale Orcutt, Intermountain Cultural Resources Management Professional Paper, no. 66 (Santa Fe, N.Mex.: Anthropological Projects, Cultural Resources Management, National Park Service, Department of the Interior, 2002), 2:507–644.
43. Ibid., 2:519–20. The discovery of tree-ring notes, dating to the 1970s but filed away and forgotten, on the villages of Pecos and San Miguel led to the rediscovery of the remaining buildings used for samples. The Pecos Mission ruins were a favorite locale for gathering old beams, which ended up in the buildings and churches in the village of Pecos, in homes in Santa Fe, and carried off by travelers and the military during stopovers along the Santa Fe Trail. In June 2011, park staff told of the recent return of a church beam from the East Coast.
44. Brooks, *Captives and Cousins*, 199, 200; Pekka Hämäläinen, *The Comanche Empire* (New Haven, Conn.: Yale University Press, 2008), 81–85; Kenner, *A History of New Mexico-Plains Indian Relations*; and Kessell, *Kiva, Cross, and Crown*, 435–36.
45. Levine, *Our Prayers Are in This Place*, 11.
46. Hämäläinen, *The Comanche Empire*, 76–78, 100–101.
47. Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 173–74; and Frances Leon Swadesh, "Hispanic Americans of the Ute Frontier from the Chama Valley to the San Juan Basin, 1694–1960" (PhD diss., University of Colorado, 1966).

48. Montgomery, *The Spanish Redemption*, 47; Nostrand, *El Cerrito, New Mexico*, 3, 6; and Nostrand, *The Hispano Homeland*, 72.
49. Nostrand, "The Century of Hispano Expansion," 363; and Kenneth Ray Weber, "A New Mexico Village and the Metropolis: A Study of the Economy and Social Organization of a Rural Satellite" (PhD diss., University of Oregon, 1972), 227. For an illustration of a hypothetical enclosed plaza, see Nostrand, *El Cerrito, New Mexico*, 28, fig. 2.2. Santa Fe in 1849 was described by Franz Huning as a typical Mexican town surrounded by high adobe houses with a central plaza in *Trader on the Santa Fe Trail*, 20.
50. A local resident, Julian Bustamonte, claimed the plaza was once enclosed with buildings and by a defensive wall. Julian Bustamonte, personal communication with author, 2001. See also Swadesh, "Hispanic Americans of the Ute Frontier from the Chama Valley to the San Juan Basin, 1694–1960," 166–67.
51. Nostrand, "The Century of Hispano Expansion," 363.
52. Swadesh, "Hispanic Americans of the Ute Frontier from the Chama Valley to the San Juan Basin, 1694–1960," 164, 167. Frances Leon Swadesh references Pino, *Three New Mexico Chronicles*, n. 286, but this is incorrect.
53. Nostrand, "The Century of Hispano Expansion," 363.
54. Kenner, *A History of New Mexico-Plains Indian Relations*, 63–64; and Kessell, *Kiva, Cross, and Crown*, 410.
55. Bernardo de Miera y Pacheco is quoted in Hämäläinen, *The Comanche Empire*, 80. For a similar observation made in 1772, see Swadesh, "Hispanic Americans of the Ute Frontier from the Chama Valley to the San Juan Basin, 1694–1960," 162. Both sources relate the Hispanic preference of living near their fields rather than in clustered settlements.
56. Swadesh, "Hispanic Americans of the Ute Frontier from the Chama Valley to the San Juan Basin, 1694–1960," 160–201; and Frances Leon Quintana, *Los Primeros Pobladores: Hispanic Americans of the Ute Frontier* (Notre Dame, Ind.: University of Notre Dame Press, 1974), 141.
57. Comanche activities described here and the abandonment of Galisteo are found in Hämäläinen, *The Comanche Empire*, 76, 85, 160–67, 370. See also Kelley Lee Jenks, "Vecinos en la Frontera: Interaction, Adaptation, and Identity at San Miguel del Vado, New Mexico" (PhD diss., University of Arizona, 2011), 368–76, 421.
58. Kessell, *Kiva, Cross, and Crown*, 424; George Kubler, *The Religious Architecture of New Mexico: In the Colonial Period and since the American Occupation*, 4th ed. (Albuquerque: University of New Mexico Press, 1972), 105; and Stanley, *San Miguel del Bado, New Mexico Story*, 8.
59. Pino, *Three New Mexico Chronicles*, 130–31, 197 n. 345; and Kessell, *Kiva, Cross, and Crown*, 404–5.
60. Simmons, *Spanish Government in New Mexico*, 151; and Hämäläinen, *The Comanche Empire*, 175.
61. *The Southwestern Journals of Adolph F. Bandelier*, vol. 1, *The Southwestern Journals of Adolph F. Bandelier, 1880–1882*, ed. Charles H. Lange and Carroll L. Riley (Albuquerque: University of New Mexico Press, 1966), 351; Kessell, *Kiva, Cross, and Crown*, 122–23, 550 n. 14; and Windes, "1,100 Years of Construction Wood Use in the Upper Pecos Valley," 528–29.

62. Spears Architects conducted a detailed recording of San Miguel del Vado Church's architecture just before the church's exterior plaster was removed. Spears Architects, "San Miguel Del Vado Church: Historic Preservation Treatment Plan" (Santa Fe, N.Mex.: Spears Architects, 1999).
63. Brooks, *Captives and Cousins*, appendix B.
64. Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 173–74.
65. Gregg, *Commerce of the Prairies*, 77.
66. This photo is curated in the photo archives of the Museum of New Mexico, Santa Fe, under negative no. 9673. It is reproduced in Levine, *Our Prayers Are in This Place*, 6, fig. 11; and Windes, "1,100 Years of Construction Wood Use in the Upper Pecos Valley," 624, fig. E.16.
67. For defensive window descriptions in the Chama Valley, see Quintana, *Los Primeros Pobladores*, 32.
68. Kessell, *Kiva, Cross, and Crown*, 424; and Kubler, *The Religious Architecture of New Mexico*, 105.
69. Kessell, *Kiva, Cross, and Crown*, 449.
70. Kent Howard Gompert, "The Sandoval Decision of 1897: Who Owns the Common Land of the San Miguel del Bado Grant?" (master's thesis, University of New Mexico, 1987), 20.
71. Ebright, *Land Grants and Lawsuits in Northern New Mexico*, 179.
72. Levine, *Our Prayers Are in This Place*, 99. However, Franz Huning estimates a mere six hundred to eight hundred people resided in San Miguel in 1849. See Huning, *Trader on the Santa Fe Trail*, 25.
73. Levine, *Our Prayers Are in This Place*, 37, table 1, 141–47, appendix 4.
74. For Matt Field's estimated village population of San Miguel in 1839, see *Matt Field on the Santa Fe Trail*, 254.
75. For estimating population, see David Brown and Peter Rothery, *Models in Biology: Mathematics, Statistics, and Computing* (New York: J. M. Wiley and Sons, 1993); and Kenneth M. Weiss, *Demographic Models for Anthropology*, Memoirs of the Society for American Archaeology, no. 27 (Washington, D.C.: Society for American Anthropology, 1973), model tables 35.0–40.0. The author would like to thank Dr. Joseph Powell, University of New Mexico, for statistical help.
76. Hall, *Four Leagues of Pecos*, 64.
77. Brooks, *Captives and Cousins*, 296–300; and Levine, *Our Prayers Are in This Place*, 101, 106; Brugge, *Navajos in the Catholic Church Records of New Mexico, 1694–1875*, iii frontal table, 118, table 11.
78. Levine, *Our Prayers Are in This Place*, 97, table 17.
79. Ibid., 69, 106.
80. Gregg, *Commerce of the Prairies*, 332, 336.
81. Nostrand, *The Hispano Homeland*, 106, table 5.1.
82. Nostrand, *El Cerrito, New Mexico*, 27–30; and Chris Wilson and Stefanos Polyzoides, *The Plazas of New Mexico*, photographs by Miguel Gandert (San Antonio, Tex.: Trinity University Press, 2011).
83. Kenner, *A History of New Mexico-Plains Indian Relations*, 65; Nostrand, *El Cerrito, New Mexico*, 27–30; Stanley, *San Miguel del Bado, New Mexico Story*, 9–10; and Weber, "A New Mexico Village and the Metropolis," 227.
84. Nostrand, *The Hispano Homeland*, 79–86.

85. Marc Simmons, *Following the Santa Fe Trail: A Guide for Modern Travelers* (Santa Fe, N.Mex.: Ancient City Press, 1984), 192.
86. Windes, "1,100 Years of Construction Wood Use in the Upper Pecos Valley."
87. Wilson and Polyzoides, *The Plazas of New Mexico*.
88. Charlotte Plantz, personal communication with author, 6 August 2005 and 22 August 2011. Plantz is a resident of San José.
89. Stephen Townsend, "A Cultural Resources Inventory for a Proposed Sewage Collection System and Treatment Facility Location, San José, San Miguel County, New Mexico," Souder, Miller, and Associates, *Townsend Archaeological Consultants, Las Vegas*, contract no. 2006–17 (Santa Fe, N.Mex.: Laboratory of Anthropology, Museum of New Mexico, 2006). This report covered testing for a sewer line across the plaza. Prehistoric sites were recorded on a small hill along the southern side of the village.
90. Griego, *Good-bye My Land of Enchantment*, 97.
91. LeRoy Salazar, personal communication with author, 6 August 2007.
92. Levine, *Our Prayers Are in This Place*, 97, table 17.
93. Wilson and Polyzoides, *The Plazas of New Mexico*.
94. Brooks, *Captives and Cousins*, 199; Hämäläinen, *The Comanche Empire*, 80; and Simmons, *Spanish Government in New Mexico*, 151.
95. Thomas C. Windes and Elizabeth A. Bagwell, "A Village on the Edge: San Miguel del Vado, New Mexico" (paper, Historical Archaeology, Southwest Style Symposium, Society of American Archaeology, Montreal, Canada, 2 April 2004).
96. Locke, *The Book of the Navajo*, 195; Stanley, *San Miguel del Bado, New Mexico Story*, 10; and Weber, *The Mexican Frontier, 1821–1846*, 92.
97. Hämäläinen, *The Comanche Empire*, 80; Nostrand, "The Century of Hispano Expansion," 363; and Quintana, *Los Primeros Pobladores*, 145.
98. Susan C. Boyle, *Comerciantes, Arrieros, y Peones: The Hispanos and the Santa Fe Trade*, Southwest Cultural Resources Center, Professional Papers, no. 54 (Santa Fe, N.Mex.: National Park Service, Southwest Regional Office, Division of History, 1994).
99. Brugge, *Navajos in the Catholic Church Records of New Mexico*, table 8, table 11, and table 17.
100. During his visit to San Miguel in 1839, Josiah Gregg described the scarcity of tools and the use of a hatchet to fashion boards. Gregg, *Commerce of the Prairies*, 144.
101. Windes and Bagwell, "A Village on the Edge: San Miguel del Vado, New Mexico."
102. James G. Cusick, ed., *Studies in Culture Contact: Interaction, Culture Change, and Archaeology*, Occasional Paper, no. 25 (Carbondale: Center for Archaeological Investigations, Southern Illinois University, 1998).