Crossroads of Change: An Environmental History of Pecos National Historical Park

Volume I

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Cover photo clockwise from left: View from the porch of the Forked Lightning Ranch, Mission ruins in 2008, Santa Gertrudis cattle on the Forked Lightning Ranch circa 1960, Aerial view of Pecos Pueblo in 1929, Pecos River in 2008.

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Foreword

Of the nearly 400 units that make up the U.S. national park system, surely one of the most unusual stretches across some 6,670 acres of a high valley in northern New Mexico. Pecos National Historical Park is an apt name for the place, because it encompasses a splendid concentration of sites with exceptional cultural value: a centuries-old pueblo, a Spanish colonial mission church, a portion of the Santa Fe Trail, a Civil War battlefield, a stretch of historic Route 66, and a ranch that once belonged to a Hollywood movie star. These remarkable features alone make Pecos worthy of national park status—and yet by themselves, they do not account for the unique appeal of this place. What also makes Pecos alluring is its setting: piñon-juniper forest, grassland, the cottonwood riparian corridor of an important western river, all lying below mesas, mountain peaks, and the dramatic New Mexico sky. But even these striking natural features do not make Pecos complete. Rather, what makes Pecos such a fascinating and satisfying park is neither its history nor its environment but its remarkable combination of the two. Every chapter of the Pecos story unfolded in relation to—indeed, *because* of—the distinctive environmental characteristics of the place: its proximity to Glorieta Pass along a major travel route between mountains and plains; its soils, water, and plants; its wildlife, habitat, and livestock forage; its spectacular vistas stretching to the horizon.

It is this story—this *environmental history*—that Cori Knudten and Maren Bzdek seek to tell. Environmental history as practiced by Knudten and Bzdek resists the powerful temptation to divide the world into the categories of human and non-human, cultural and natural, domestic and wild. However useful such casual distinctions may be in everyday life, they break down on close examination. Even in national parks established primarily for their non-human natural values, the interplay of humans and their environment has caused change and created a history. At Pecos the importance of culture in environmental change stretches back for centuries. A succession of people came and erected buildings, produced food, raised children, told stories, practiced religion, fought wars, and imposed distinctive names on the land. Yet none of these activities occurred apart from the biophysical substance—the soil, rock, water, wood, and flesh—that composed the place. Inhabitants and newcomers molded the warm, brown earth into dwellings and religious structures, consumed wood in fires, raised new plants such as corn, hunted and fished, and introduced powerful agents of biological change such as horses and sheep. As the people traded, fought, cooperated, and reshaped their environment, they, too, changed. Their tools, clothing, foods, families, beliefs, even their very bodies, took new forms in relation to the retreat and regeneration of the forest, the expansion and contraction of the buffalo herds, the pain and destruction of epidemics, and a host of other transformations.

Knudten and Bzdek are well-suited to piecing together and telling the Pecos environmental history. Both have considerable experience in the scholarly study of western national parks and other sites. Both are attuned, by academic training and personal inclination, to recognize that the historical record inheres in plants and animals, rock and soil—the land itself—as well as in the memories that people relate and in the paper documents kept in our libraries and archives. And both, perhaps most important, know how to tell a good story.

Indeed, one of the hallmarks of environmental history—and beautifully demonstrated in this volume—is that it synthesizes facts about the past into a compelling account of change over time. No other discipline places such importance on conveying meaning and emotion in a fact-based narrative of the intricate interplay of people and land through time. As you read about Pecos and its environmental history, note how the authors enable you to glimpse the past through

the eyes of an Indian woman, a Franciscan friar, an Anglo trader, a Confederate soldier, a dude rancher, a Hollywood actress, and a modern American family. Although the primary purpose of this history is to assist the National Park Service in its stewardship of a single cultural and natural landscape, ultimately it offers to all readers a deeply human story of life in an extraordinarily significant place.

People and place, culture and environment, human and non-human nature: this indivisible strand conveys the history of land and life across five centuries and more at Pecos National Historical Park.

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Introduction

Hobe-wagi stood on the pueblo wall, gazing out over the meadows and dark green patches of piñon and juniper trees. Beyond her sight, the Pecos River followed a sinuous course, passing the fields of maize and wheat planted by the Pecos. Hobe-wagi had spent many hours along the river—gathering willows and pine boughs to construct the roofs of the pueblo, wading in the cool water on a summer's day. Now, she looked beyond it—into the rocky hills where her people had disappeared, fleeing the Spanish soldiers. Hobe-wagi had tried to flee as well, carrying a precious bundle of animal hides with her. But she had passed too many summers and winters at Pecos Pueblo and no longer possessed the fleet strength of her youth. The Spanish soldiers had captured her and brought her back to their commander, Don Diego de Vargas. In the chronicle of his expedition, Vargas carefully noted the date of his arrival at the pueblo and this Pecos woman's capture—Tuesday, the twenty-third of September, 1692. If he bothered to learn her name, he did not record it. In the absence of evidence, we will call her Hobe-wagi, the name of a Pecos woman that was recorded, although much later, in the early 1900s.[1]

Vargas had traveled to New Mexico to take back the territory for the Spanish, who had been driven out in the Pueblo Revolt twelve years earlier. Hobe-wagi told Vargas that many of the older residents of Pecos Pueblo had wanted to meet peacefully with the Spanish, but younger members of the pueblo insisted that abandoning their home was better than acquiescing to Spanish control once again. Vargas stayed at the pueblo for several days, hoping that the Pecos would return, and kept Hobe-wagi with the twenty-seven other captives his soldiers had detained. Vargas eventually gave up waiting. He set his captives free and departed for Santa Fe—without destroying or damaging the Pecos' home or their crops, a calculated decision that Vargas hoped would bring the Pecos to his side.[2]

With Vargas's departure, Hobe-wagi disappeared from recorded history once more. Yet the absence of a written record does not lessen the reality of her experiences. Hobe-wagi was born before the revolt, when a Franciscan priest resided at Pecos Pueblo and Spanish officials demanded tribute payments from the pueblo. As a girl, she awoke to the sound of the bells pealing in the mission church. She helped her family cultivate corn and wheat in the pueblo fields by the Pecos River. She gathered piñon nuts and looked forward to the trade fairs when Plains Apaches came to Pecos Pueblo to barter bison hides and meat for corn and pottery. Her grandmother may have been among the first Pecos to encounter Spanish cattle and sheep, but to Hobe-wagi, they were a common sight as they grazed on the mesilla. She witnessed the Pueblos' attempt to overthrow Spanish domination, a decision that meant rejecting many Spanish ideas about land and resource use as well.

About one hundred and sixty-four years later, Helen Kozlowski stood by the same river that Hobe-wagi had known. By that time, in 1858, the last residents of Pecos Pueblo had emigrated to Jemez Pueblo, and the walls of the pueblo were beginning to crumble. Helen walked along riverbanks that bore the imprint and effects of livestock hooves and grazing. Small homesteads divided the riverbank into parcels of individually owned property. Helen and her husband, Martin, occupied a piece of property along Glorieta Creek, a tributary of the Pecos River. Martin had purchased a hostelry along the Santa Fe Trail near the pueblo ruins and relocated his family from Missouri to New Mexico. Helen Kozlowski is almost as difficult to trace in the written historical record as the many women of Pecos Pueblo. Census records show that she came from Ireland, but her name is spelled variously as Helen, Ellene, and Elena.

Travelers often wrote about staying at her husband's ranch, but they rarely mentioned Helen. Adolph Bandelier, an archaeologist who visited the Upper Pecos valley in 1881, recorded one of the few direct references to her. Helen told him how her husband had taken some timbers from the abandoned mission church to use for constructing out-buildings at their hostelry.[3]

History's silence in regards to Hobe-wagi and Helen does not erase their experiences in the Upper Pecos valley. Helen Kozlowski helped run the family business, catering to the needs of travelers as well as tending to the family's few livestock and the crops they managed to grow in the high altitude environment. Helen looked out her door onto the Santa Fe Trail and the many people and animals that passed along it. The Kozlowskis' ranch hosted Union troops in 1862 when conflict over the land and resources of the western territories drew the region into the Civil War. In 1881 the Atchison, Topeka, & Santa Fe railroad extended its tracks through Pecos. Helen heard the whistle of the railroad and watched the engine smoke billow into the air. The Upper Pecos valley she knew was a landscape of small farms and ranches connected to the wider world by roads and rails.

Ninety years after Helen arrived in Pecos, Greer Garson Fogelson, the Hollywood film star, looked out on the Pecos River from the porch of her ranch house. Greer's husband, E. E. "Buddy" Fogelson, had purchased the Forked Lightning Ranch, a large parcel of land along the river that included the old Kozlowski homestead. Buddy had made his money in the oil industry, and he and Greer used their Pecos ranch as a vacation home. They owned a herd of Santa Gertrudis cattle that roamed along the banks of the Pecos River and Glorieta Creek. Greer was involved in managing the ranch but enjoyed numerous other diversions as well, including entertaining friends with chuckwagon picnics by the river. Sporting a red cowboy hat and bandana, Greer rode horses and drove trucks over the Pecos landscape.

By the time Greer moved to Pecos, wage labor had replaced farming and ranching as the dominant livelihood of the area. The growing metropolis of the capital city, Santa Fe, encroached ever closer into the forested hills around Pecos. Tourism had become important to the economy as well. Numerous visitors admired the ruins of Pecos Pueblo or fished along the Pecos River in the Santa Fe National Forest each year. Greer and Buddy supported the formation of a national monument at the old ruins of Pecos Pueblo, and before her death, Greer decided to transfer much of the Forked Lightning Ranch to the National Park Service. Although automobiles now drove down modern roads through the valley, to Greer, the Pecos environment remained a romantic landscape with deep connections to an idealized view of Southwestern history. She believed it was a landscape that should be protected.

Although the twentieth-century Pecos landscape would have appeared very strange to Hobe-wagi, certain characteristics of the Pecos environment have remained much the same over the centuries. The environment is semi-arid, with sixteen to twenty inches of precipitation falling per year on average, although this can vary greatly. Altitude also influences the valley's flora—elevation ranges between 6,700 feet and 7,500 feet, high enough that temperatures can drop quickly during the spring and summer, particularly at night. Piñon and juniper woodland dominates the vegetation types in the valley. A general term, piñon-juniper ecosystems can be quite diverse. Numerous openings, often extensive enough to be classified as grassland, break the forest cover. At Pecos the extent of grassland and piñon-juniper has varied over time. Pecos stands within a transition zone between piñon-juniper and mixed conifer woodland, characterized by ponderosa pine and Douglas fir.[4]

Figure 1. Upper Pecos valley and surrounding area, showing current Pecos National Historical Park units, population centers, and pueblo locations. (Reprinted, by permission, from Head and Orcutt, *From Folsom to Fogelson*, 1:3.)

Several centuries before Vargas arrived there, the Pecos built their pueblo on a small mesilla in roughly the center of a valley formed by the Glorieta Mesa on the west and the Tecolote range on the east. The Pecos River flows down the east side of the valley, descending through a narrow canyon from its headwaters in the Sangre de Cristo Mountains to the north. This section of the watershed is called the Upper Pecos to distinguish it from the very different environments the river flows through farther to the south. Throughout this history we use the terms “Upper Pecos valley” and “Pecos valley” interchangeably to refer to the area of study. A

small creek, known by various names but most commonly as Glorieta Creek or the Arroyo del Pueblo, enters the valley from the northwest and flows along the west side of the pueblo before joining the Pecos River. The presence of surface water for irrigation and human consumption was a crucial factor in the settlement of the valley. For both the Pecos and later settlers who depended on raising crops, control of the fertile floodplain was the key to their success.[5]

The dominant characteristics of the Pecos environment may have persisted over the centuries, but change occurred as well. The course of creeks and rivers shifted, fires swept through forests, and tree seedlings grew, matured, and died. The environment possesses its own long, slow history. Following the settlement of humans in the Pecos valley, many of the transformations in the environment occurred as a result of human actions. The Pecos created a landscape of farmed fields along the river; the Spanish introduced new species, such as wheat and cattle; Americans set aside the pueblo ruins as a place to be preserved and protected. Humans also influenced larger processes that had operated for millennia. The cattle and sheep that grazed the forests reduced the fuel load and altered the fire regime. Grazing and timber cutting increased soil erosion and contributed to more severe floods. Although many events remained independent of human influence—drought, flash floods, a lightning strike igniting a fire—the presence of humans at Pecos affected how they unfolded.[6]

Hobe-wagi's connection to this Pecos environment at first appears straightforward. She farmed crops, gathered fuel wood, and practiced a religion that invested the natural world with utmost importance. The connections between Helen Kozlowski and Greer Garson and the Pecos landscape may seem more elusive. What did the Union troops who camped at Kozlowski's in 1862 have to do with changes in the Pecos environment? How were Greer Garson's chuckwagon picnics connected to new perceptions of Pecos? Yet the troops represented the federal agenda for land use and development in the West; a vision rooted in ideas of private property and capitalism. Helen probably shared that vision and equated the railroad tracks, small farms, and ranches of Pecos to progress and civilization. Greer Garson's picnics reflected a fascination with a romantic, mythologized image of the Southwest—an image that encouraged tourism and its incorporation into the twentieth-century Pecos landscape. Even the relationship between Hobe-wagi and her home becomes more complex upon closer examination. The bison hides she carried probably came from the Plains Apaches—whose southern plains territory would soon be transformed due to the arrival of the horse. That transformation eventually brought the Comanches, and attendant environmental change, to Pecos.

Environmental historians attempt to elucidate these connections between people and their environments. As historian William Cronon explains, people's interactions with nature go beyond natural resources and the products people derive from them. Cronon uses the term "cultural system" to describe how the social and political organization, religious and philosophical beliefs of people determine their experience of and interaction with the environment. Cronon cautions that such terms as "cultural system" are necessarily broad, and although they allow for succinct communication about a complex subject, can also obscure the many differences between people within a cultural system. Likewise, "capitalism" describes the dominant cultural system of Helen Kozlowski or Greer Garson and helps pinpoint many characteristics of that system but also hides the numerous divisions and diversions within it. With that in mind, "cultural system" refers to the worldviews of the various groups who interacted at Pecos, as their cultures provided the reasons for why land and resource use occurred as they did. Similarly, viewing the Pecos environment as a constantly evolving "cultural landscape" also draws our understanding of humans and "nature" closer together. Humans have

been a part of the Pecos environment for thousands of years—removing them and imagining a strictly "natural" environment eliminates a crucial part of the story.[7]

Hobe-wagi, Helen Kozlowski, and Greer Garson represented dramatically different cultural systems. This environmental history covers the period from 1540 to the end of the twentieth century, a span of time that witnessed the arrival of many people and cultures in the Upper Pecos valley. The collision of these diverse cultural systems—as well as changes within each—often resulted in conflict, which manifested in the environment. The Pecos, Franciscan friars, Hispanic settlers, Anglo-Americans, and others who came to the valley all had different ideas about how to use the Pecos environment and whom that use should benefit. The collision of Anglo-American beliefs about private and federal property with Hispanic traditions of communal property in the nineteenth and twentieth centuries is one important example of that conflict.

The location of Pecos Pueblo and later settlements ensured that many different cultures encountered each other there. To the south of Pecos the mesas and hills give way to the broad expanse of the Great Plains, stretching out to the east. Directly to the northwest of the pueblo, Glorieta Pass provides a passage around the northern tip of Glorieta Mesa and into the Rio Grande drainage. Located between two centers of population and transitioning between two environments, Pecos served as a point of trade and contact. Connections radiated eastward to the Plains tribes, southward to Mexico, and finally eastward again as the expanding United States drew closer. These connections not only drew different cultures closer together—often in conflict—but also brought change to the Pecos environment.

The environmental history of Pecos, then, consists of three overlapping layers. The first is the cultural systems of the various people who passed through the Upper Pecos valley or called it home—how they thought of the environment and how they changed it. These attempts to alter and adapt to the environment within a specific worldview resulted in conflicts over the environment and its resources—the second layer. Pecos's position as a portal between different environments and cultures, the third layer, often served as the catalyst for these environmental and social transformations. The history of Pecos from 1540, when Coronado arrived at the pueblo, until the twenty-first century, reveals itself in the Pecos landscape. As a home, as a traveler's destination, as a battlefield, Pecos became a place that reflected the hopes and desires of its inhabitants and the consequences—both intended and unintended—of their lives.

Chapter One

Creating a Cultural Landscape, Prehistory-1598

Yellow willow leaves swirled in the water of the Pecos River as it wound its way past the fields of maize. Pecos men, women, and children moved through the fields in the autumn sunshine, harvesting their corn. Some of them may have glanced to the southwest, where a party of their friends and relatives had disappeared some days past. Word had reached Pecos Pueblo that Spaniards had entered the Pueblos' land. The Pecos, who had previously pondered the dim rumors of conquest to the south, now faced the potentially dangerous reality of the Spanish in their own territory. Pecos leaders decided to send a delegation to meet the Spanish. At best, the foreigners might prove to be strong allies—at worst, enemies. As they brought in their crops, the Pecos wondered which way events would turn.

Some two hundred and fifty miles southwest of Pecos Pueblo, the dreams of Francisco Vásquez de Coronado appeared on the brink of collapse, disintegrating into the dust. Chasing rumors of wealth that rivaled the riches of the Aztec empire, Coronado had led an expeditionary force north from New Spain in 1540. When he arrived at the Zuñi pueblo of Háwikuh, he discovered that the rumors were just that. No fabulous cities of gold awaited the Spanish. Instead, Coronado encountered a land whose Puebloan inhabitants struggled against the aridity of their environment to raise enough crops for subsistence and trade. Maize, hides, piñon nuts, pottery, turquoise—these were the valuable resources to the inhabitants of Háwikuh and the other pueblos. They promised small returns to the Spanish who hoped to find lodes of silver and gold to fuel their empire.

Coronado refused to give up hope. Poor as the Pueblos turned out to be, they could be conquered and transformed into Spanish subjects. The Franciscan friars who accompanied Coronado reminded him that the Spanish had a duty to bring Christianity to these barbaric heathens. Besides, Coronado believed that cities filled with wealth enough to satisfy any man's ambitions might still wait beyond the horizon. Traveling a day or two to the east, west, or north might bring him to the culmination of his dreams. And so, Coronado overcame the resistance mounted by the Zuñis at Háwikuh and set about subduing other pueblos in the region—preferably peacefully, but resorting to force if necessary. After all, God was on his side.[1]

While Coronado prepared to explore and conquer, the delegation from Pecos Pueblo arrived at Háwikuh. The Spanish called the leader of the Pecos delegates *Bigotes* because he sported mustaches. Bigotes was probably a war leader among the Pecos or occupied some equally prominent position within Pecos society. Historian John Kessell speculates that Bigotes often may have traveled away from Pecos Pueblo on trading expeditions and probably knew at least one other dialect besides his own. Bigotes told Coronado that the Pecos wished to be friends with the Spanish. He presented gifts, including several bison hides. Coronado appointed Captain Hernando de Alvarado to travel with Bigotes to Pecos Pueblo to formally establish relations with the pueblo and learn more about the region.[2]

Bigotes led Alvarado and a small detachment to Pecos Pueblo, arriving in September or October. The Pecos were busy bringing in the autumn harvest. Coronado's men studied the pueblo carefully, determining how much of a threat the Pecos would be if they suddenly turned hostile. In a history of the expedition, Pedro de Castañeda de Nájera recorded that Cicuye, the Spaniards' original name for Pecos Pueblo, modeled on the name used by the Pecos and other people in the region, "is a pueblo containing 500 warriors. It is feared throughout the land."

Another description from Coronado's expedition mentioned that Pecos was "larger" than all other pueblos and "very strong." The pueblo itself was "four and five stories high" and "surrounded by a low stone wall."[3] The environment around the pueblo also captured the men's interest. Castañeda stated that "Cicuye is located in a small valley between sierras and mountains covered with big pines. There is a brook which abounds in excellent trout and otters. Big bears and fine falcons multiply in this region."[4] To the Spanish, Pecos appeared to be a pueblo that, if not filled with gold, would be a valuable prize, particularly because it offered a gateway onto the eastern plains.

Available evidence suggests that Bigotes and other inhabitants of Pecos did indeed occupy a powerful pueblo. Unfortunately, such evidence is limited. The Pecos left behind no written records. Ethnographic sources, usually from the nineteenth and twentieth centuries, hint at what the culture of the Pecos may have been like, but these sources are problematic. By the time ethnographers collected such information, Puebloan culture had changed dramatically. Accounts of the Coronado expedition and other Spanish forays into New Mexico provide the only written sources from the period. The Spanish descriptions of Puebloan society reflect their own cultural biases, and no written records exist for the centuries prior to Spanish contact. The majority of sources for prehistoric Pecos are archaeological—evidence either from Pecos or pueblos in the surrounding area. Cultures differed among the Pueblos, but their subsistence strategies were similar enough to allow for comparisons. Despite the limitations, we can reconstruct a semblance of life at Pecos Pueblo in 1540 when Coronado arrived.

Pecos in 1540

When Bigotes surveyed the landscape from Pecos Pueblo, he beheld a world to which his people had adapted for centuries. The cultural system of the Pecos incorporated agriculture, hunting and gathering, and trade into a worldview that made clear connections between religion, society, and the environment. Although their cultural system allowed them to survive in their dry, high-altitude surroundings, the Pecos did not escape conflict over the environment and its resources. Differences in gender and position in society affected a person's access to resources, and thus their relationship to the world around them. The Pecos also changed their environment, sometimes with disruptive consequences. For example, when the Pecos population peaked about a century before Coronado arrived, mule deer declined precipitously as Pecos hunters strived to supply the needs of the pueblo.

The position of their pueblo on the threshold of the southern plains brought the Pecos into contact and conflict with other American Indian groups, particularly the Plains Apaches. For both the Apaches and the Pecos, trade was an important component of their cultural systems. Both resources and subsistence strategies changed hands, along with the inevitable cultural and social components invested in the process. The Apaches brought bison meat and hides to Pecos Pueblo and took back maize and pottery to the plains. Captives also circulated among the trade networks—people from the eastern plains arrived at Pecos Pueblo in the hands of their Apache captors and became incorporated into the pueblo, first as slaves but eventually merging into Pecos families as kin. Voluntary liaisons between men and women occurred as well. Each meeting—whether a young boy captured and traded into slavery at Pecos, a Pueblo woman marrying into an Apache band, or the numerous variations that must have occurred—provided an opportunity for one group to learn about the cultural system of another. The Apaches learned agriculture from the Pueblos and many Pueblos ventured out onto the plains to hunt bison for themselves.[5]

Bigotes knew the familiar taste of dried bison meat and corn, walked through well-known fields and forests, and remembered the stories about the supernatural beings that formed an integral part of his world. Although the environment that Bigotes and his fellow Pecos inhabited in 1540 possessed many constants, it also held the fluid potential for change. One year, the maize growing in the pueblo's fields by the Pecos River might be tall and verdant. The next, a late frost in spring or a long spell of dusty, dry days might wither the corn. When the Apaches arrived to camp in the field by the pueblo each autumn, the Pecos expected to trade, but the potential also existed for conflict. Perhaps the last few years had yielded only poor harvests, and the Pecos did not have as much maize to trade as usual. Would the Apaches turn to violence to obtain the food they needed? Hunting a deer, cooking a meal, birthing a child—all of these actions reverberated in the Pecos environment. The religious leaders of the pueblo, crouched in the confines of a kiva, sought to propitiate the proper deities and perform the correct ceremonies to keep their world in balance.

"They Possess Quantities of Maize": Early settlement and agricultural development in the Upper Pecos valley

Coronado's expedition brought disruption and uncertainty to the Pecos, but neither Coronado nor the two expeditions that followed him, captained by Antonio de Espejo and Castaño de Sosa, stayed long enough in New Mexico to have substantial effects on the Pecos' life or environment. Not until Don Juan de Oñate arrived in 1598 with a permanent colony of settlers and friars did the Spanish begin to induce change in the New Mexican environment. Because the Pecos environment had not yet undergone a dramatic transformation, Spanish descriptions of Pecos in the late 1500s provide further information about daily life at the pueblo in 1540. Baltazar de Obregón, in his 1584 *Historia*, provided an extensive description of the pueblo and its setting:

> From this Río de Tibuex, which they say is four hundred paces wide, the army marched toward Cicuic [Pecos], the best and most populous of the pueblos discovered by Coronado and Antonio de Espejo. It is congregated on a high and narrow hill and enclosed on both sides by two streams and many trees. The hill itself is cleared of trees. Half a league from the site is a heavy growth of cedars, pines and oaks. Entrance is on the east and west sides. It has the greatest and best buildings of those provinces and is most thickly settled by *gente vestida* [clothed people]. They possess quantities of maize, cotton [?], beans, and squash. It is enclosed and protected by a wall and large houses, and by tiers of walkways which look out on the countryside.[6]

A member of Castaño de Sosa's 1591 expedition recollected life at Pecos in winter:

> This pueblo had five plazas. It was also provided with such an abundant supply of corn that everyone marveled. There were those who maintained that the total must amount to more than thirty thousand fanegas, since each house had two or three rooms full of it, all of excellent quality. Moreover, there was a good supply of beans. Both corn and beans were of many colors; it seemed that some of the corn was two or three years old. In the houses, the natives also store quantities of herbs, chili, and calabashes, and many implements for working their cornfields….These Indians have a great deal of pottery….They also have plentiful supplies of firewood, and of lumber for building

> houses. Indeed, we were given to understand that whenever anyone wanted to build a house, he had lumber for that purpose ready at hand….There are two water holes, at the ends of the pueblo, which the natives use for bathing, since they obtain their drinking water from other springs about an harquebus shot away.[7]

Although the size and population of Pecos Pueblo impressed chroniclers, both of these accounts stress the abundant supply of stored crops, particularly maize, at the pueblo. In order to achieve the position of power that Pecos Pueblo enjoyed in Bigotes's time, the pueblo needed an adequate and consistent supply of food. The plentiful harvests of beans, squash, and corn that supported the large population resulted from techniques that had required years to develop.

Archaeological evidence from the Pecos area in the prehistoric period provides a glimpse into how the Pecos adapted to and changed their environment over time. Although limited evidence exists for human presence in the Upper Pecos valley until the Developmental period beginning in 600 C.E., Paleo-Indians did occupy the Southwest starting around 11,500 B.C.E. Archaeologists have located lithic scatters and Clovis and Folsom points in the region. Archaic era sites also have been found in the Upper Pecos valley. During the Developmental period (600-1200 C.E.), humans built habitations in the Pecos area meant for sedentary, long-term use. Pit houses, dating between 800-950 C.E., and a few small adobe structures of indeterminate use, dating to the eleventh and twelfth centuries, have been unearthed, but information about Pecos during this period remains scarce.[8]

During these early periods, societies in the Southwest began experimenting with agriculture, eventually transforming into sedentary, agrarian cultures. Indigenous species, particularly agave and little barley, may have been the first cultivated plants.[9] These were swiftly replaced by maize (corn), which was probably introduced to the Southwest from Mexico during the Archaic period (5500 B.C.E. to 600 C.E.).[10] More precise estimates place the date at 1000 to 1500 B.C.E., and by the end of the Archaic period, farming was integral to Puebloan life.[11] Corn seeds arrived the way many other resources did—passed from village to village through trade or social networks.[12] An introduced plant, maize became an accepted part of the Southwestern environment. The carefully planted and tended fields, along with the rock and adobe pueblos, represented the first visually prominent manifestations of the cultural system of the Upper Pecos valley residents. The wide distribution of a new plant species and the activities associated with farming, including clearing fields, altered the local environment. Farming encouraged the spread of other edible species. Maize replaced native plants and the disturbed soil supported the growth of such plants as *Chenopodium* (goosefoot), *Amaranthus,* and *Portulaca* (purslane). Abandoned fields harbored Indian ricegrass and cacti.[13] The introduction of cultivated maize also changed human society. Maize required an input of human energy and technology in order to flourish.[14] Cultivated fields created small spaces with unique cultural and environmental meanings. Puebloan society itself must have transformed in order to accommodate them.

Agriculture served as the primary mode of subsistence, and over time, the Pecos developed a number of strategies to cope with the undependable moisture and temperature extremes of their environment. Anthropologist Kurt Anschuetz cautions that Puebloan agriculture relied on a flexible combination of irrigation and dry farming techniques, and dry farming techniques should not be viewed as the more simplistic of the two methods. The Pueblos used a variety of methods to improve the fertility of the soil and trap moisture, even in areas far removed from the floodplains of rivers and creeks.[15]

The Pueblos could channel and check ephemeral moisture from rain or snow melt in several ways. Check dams retained water and diversion dams channeled water to a garden plot. They used terracing extensively to prevent the rapid runoff of water. The Pueblos also employed grid garden systems, in which borders made of earth or stone formed cells that captured moisture. Gravel mulching of plots increased the moisture retention of the soil. Proper location of a plot was essential for success—a plot situated at the head of a ravine behind a check dam ensured that an adequate supply of water would reach the plot, but at a slow enough rate to avoid damage to the plants. Some plots may have been located inside gullies where the surrounding walls trapped daytime heat, keeping the soil warmer overnight.[16]

Managing surface water distribution was an ongoing necessity. Excess water from spring runoff or a heavy summer rain that swelled the river could damage crops as much as a lack of moisture. The extent and sophistication of river or creek irrigation in precontact Puebloan society is difficult to determine. Several Spanish accounts mention "canals" in Pueblo fields, but, as Anschuetz says, cultural understandings of what agriculture was supposed to look like colored Spanish descriptions. The Spanish may have been describing a variety of irrigation methods. The Pueblos employed numerous water management strategies, including diversion dams, headgates, and ditches, to conserve precious water.[17]

Near Pecos Pueblo several archaeological sites show evidence of agricultural activity. Archaeologists have discovered terraces, check dams, grid gardens, and reservoirs near the pueblo.[18] Yet considering the large population size at Pecos Pueblo, the number of agricultural features is surprisingly small. Bulldozers used to remove trees in grazing pastures in the 1950s and 1960s negatively impacted archaeological sites around Pecos Pueblo. The location of fertile and irrigable land also contributes to the lack of agricultural evidence. Although the Pecos irrigated fields by Glorieta Creek, the majority of irrigable land lies to the northeast by the Pecos River in a low, swampy area known to Spanish settlers as a *ciénega* (spring). Archaeological investigations have not been conducted in the ciénega. Little evidence would be found as flooding, vegetation change, and the consistent use of the ciénega for farming and grazing over the centuries have erased much of the evidence for agricultural activity undertaken by the Pecos.[19]

Fertile soils occur in the floodplains along the Pecos River and Glorieta Creek. As the Pecos population grew, the pueblo residents put marginal soils into production as well. Archaeological evidence indicates that over time the distance increased between habitation sites and non-habitation sites, such as fieldhouses and other sites associated with subsistence activities. The Pecos may have located fields along Glorieta Creek extending quite a distance from the pueblo, utilizing any small patch of fertile ground that they found. The depletion of resources forced the Pecos to move cultivation sites farther afield.[20]

"The Best and Most Populous of the Pueblos": Climatic trends and population aggregation at Pecos Pueblo

As a probable leader of the Pecos, Bigotes may not have spent much time in the pueblo's fields, but many Pecos labored there throughout the year. These men and women anxiously watched for signs of rain in the summer, for although the Pecos developed agricultural strategies enabling them to thrive in their arid environment, growing a successful crop of corn each year was never a certainty. Maize requires around 120 growing days, although short season varieties do exist that can mature in 60 to 90 days. With an average of approximately 127 growing days, the Upper Pecos valley offers marginal conditions for corn agriculture.[21] Farmers in the valley,

living at an elevation of around 7,000 feet, faced the threat of frost in the spring, which could kill seedlings. Colder temperatures could also prevail through the spring months, inhibiting growth. Moisture was critical. A lack of moisture later in the growing season put greater stress on corn.[22] Puebloan groups usually stored enough corn to survive two- to three-year dry periods without significant problems. Droughts of five years or more significantly impacted food availability.[23]

The quantity and timing of annual precipitation affected not only the flora and fauna that depended on the moisture but also the very rocks and soil of the Upper Pecos valley. A sudden flash flood or a heavy snowmelt could carve new channels into the earth or deepen pre-existing stream channels. The climate of the area exerted a dominating influence. Today, two precipitation regimes characterize the Southwest. The Pecos valley sits just below the line dividing these two regimes. Pecos and areas to the southeast are within a pattern characterized by unimodal, summer-dominant precipitation. To the northwest a bimodal pattern dominates. Due to this pattern, the Pecos valley receives most of its moisture during the monsoon months of July and August. Evidence suggests that this pattern also existed in the past, at least as early as 750 C.E. Between 1250 and 1450 C.E., however, the northwestern regime collapsed into a number of variable patterns. The monsoonal pattern of the southeast persisted.[24]

Amounts of precipitation and average temperature varied over time. In general, the Southwest grew warmer and drier over the course of centuries. During the Paleo-Indian period (10,000-5500 B.C.E.), the climate was drier than it had been previously, yet still wetter and cooler than today. During the Archaic period (5500 B.C.E-600 C.E.), the climate continued to grow warmer and drier. Desert species established themselves as woodland species withdrew.[25] Any discussion of the role of climate, however, must consider local variations. Climatic conditions can vary dramatically from place to place and broad generalizations may not accurately depict the climate of a specific area.

In their *Cultural Resources Inventory of Pecos National Historical Park*, Genevieve Head and Janet Orcutt utilized the Palmer Drought Severity Index (PDSI) to determine drought years. The PDSI covers the Southwest region as a whole—the Pecos valley may have seen substantially different localized conditions. Head and Orcutt developed a dryness index for four of the PDSI periods at Pecos, corresponding to years 1200-1700 C.E., and analyzed five year conditions. Six dry periods occurred in the interval from 1200-1325 C.E. 1325 to 1450 C.E., witnessed seven dry periods. Precipitation was more variable during the first interval, and although the second interval included more dry periods, these were generally shorter.[26]

An analysis of tree rings from a location near the Arroyo Hondo Pueblo, located 4.5 miles south of Santa Fe, provides a more localized overview of climate, although the data does not extend further back than 985 C.E. No studies have been done specifically on the Pecos area, yet the close proximity of Arroyo Hondo suggests that the data would hold true for Pecos as well. The study, conducted in 1981, divided the precipitation regime into two groups—spring precipitation, encompassing March to June, and annual precipitation, encompassing July to February. Overall, spring precipitation fluctuated more than annual precipitation. The study provides a good example of the local variations in climate. A severe drought, called the "Great Drought," occurred in the Southwest from 1275-1300 C.E. Interestingly, the study did not find substantial evidence of the Great Drought at Arroyo Hondo, although lower and more variable moisture occurred in annual precipitation during the drought period. Multiple periods of low precipitation did happen periodically, but the area experienced times of increased precipitation as well. Higher than average spring moisture prevailed from 1400 to 1415, for example. Evidence

of a severe drought occurred in the years around 1420, which correlates with one of the dry periods in the PDSI, lasting from 1415-1428.[27]

The climate of the Upper Pecos valley—the periods of drought, welcome rains, and hot and cold spells—not only played a crucial role in agriculture but also affected population movement. Successful agriculture encouraged population growth in the Pecos area, but climatic changes also stimulated settlement at Pecos. Archaeologists have speculated that the sudden change in the precipitation pattern in 1250 to 1450 C.E. pushed groups who had settled in the Four Corners area further south.[28] From 1325 to 1450 C.E. an influx of people came to the valley, habitation sites increased in number, and finally the population aggregated at Pecos Pueblo. During the Coalition Period (1200-1325 C.E.), several pueblos were built in the Pecos valley, including Forked Lightning, Rowe, and the Black-on-White House, which occupied the later site of the Pecos Pueblo North Quadrangle. By the Early (1325-1400 C.E.) and Middle (1400-1525 C.E.) Classic Periods, people began to vacate these various habitation sites and congregate at the Pecos Pueblo, which was constructed in 1425 C.E. By 1450, all other pueblos in the valley had been abandoned.[29]

Archaeologists offer a variety of reasons for population aggregation. Alfred V. Kidder, one of the founders of Southwestern archaeology who conducted excavations at Pecos Pueblo from 1915 through 1929, argued that people gathered at Pecos Pueblo for reasons of defense. The location of the pueblo, on an isolated mesilla providing a view of the surrounding valley, allowed its residents to spot enemies at a distance. Competition over resources also may have encouraged aggregation. As habitation sites proliferated in the Pecos valley, competition over fertile soils, hunting territories, and gathering areas increased as well. Consolidating into one pueblo may have been an attempt to share resources communally. A larger and stronger pueblo could have forced other, smaller groups away from resources. Aggregation occurred during a period of stable rainfall patterns, allowing a large population to support itself. Other social factors that are impossible to reconstruct also may have contributed to the decision.[30]

The growth in population and concentration of that population in the Pecos Pueblo affected the environment in several ways. The Pecos quickly cultivated the most fertile soils in the area. The best soils occurred along the Pecos River and Glorieta Creek, particularly at the Pecos River ciénega. A large expanse of well-watered soil, the ciénega was a coveted resource. As the population in the valley grew, the Pecos needed to put marginal land into production. Anthropologist Katherine Spielmann estimated that about 640 hectares (approximately 1581 acres) of land suitable for cultivation were available in the vicinity of Pecos Pueblo.[31] The highest number of people in the Pecos area occurred from 1325-1450 C.E. Population within the pueblo itself, when other sites had been vacated, peaked during 1450-1475.[32] The fourteenth and fifteenth centuries, then, may have been a time period when the human population of Pecos pushed local resources to their limit.

Estimating population numbers for Pecos Pueblo and the Southwest in general presents problems. No firm agreement exists about the actual population at Pecos Pueblo when the Spanish arrived in 1540. Archaeologists estimate population size by measuring floor space and the number of occupied rooms in a pueblo, then multiplying that number by the average number of people in a Puebloan family group. Because people inhabited pueblos for a long period of time, with some rooms falling into disuse or changing function and new ones being added on, fixing a date of habitation onto individual rooms can be challenging without extensive excavation. At Pecos, archaeologists have used stratigraphy and ceramic assemblages along with maps based on Kidder's excavations to divide occupation into four periods. For the fifteenth and

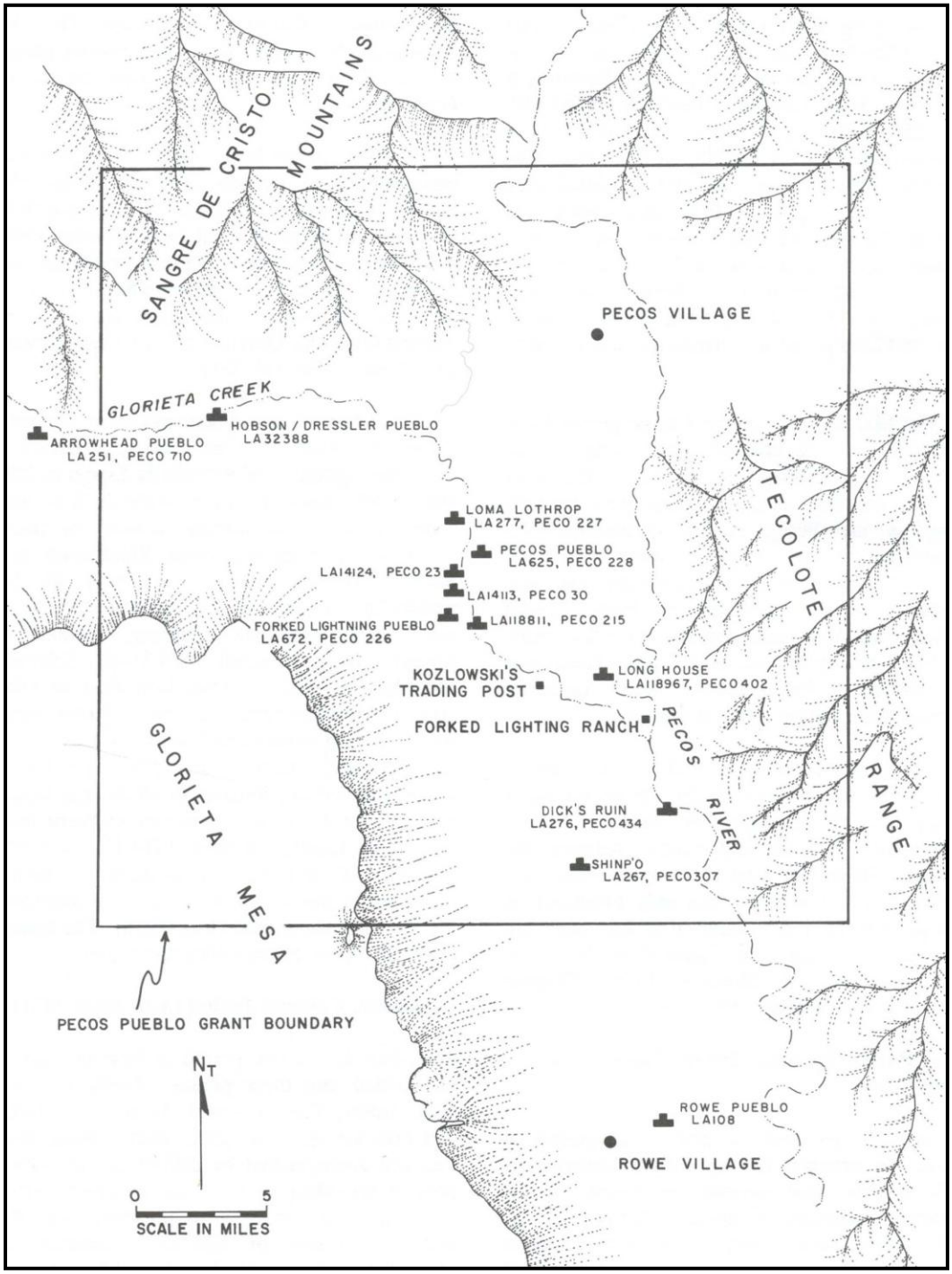

Figure 2. Locations of prehistoric settlement sites in the vicinity of Pecos Pueblo. (Reprinted, by permission, from Head and Orcutt, *From Folsom to Fogelson*, 1:7.)

sixteenth centuries, anthropologist Eden Welker organized the pueblo into "'apartments' of six rooms each," and then multiplied the number of apartments by an average of five members per family.[33] The actual size of Pecos family groups is unknown, however. The estimate of five is based on modern Puebloan families. The "room-based" method results in a peak population of between 850 and 970 people according to Kidder and 800 according to Welker.[34]

These numbers are well below Spanish sources, which described the Pecos population as approximately 2,000 in 1540. The archaeological estimates are more compelling than those in Spanish sources for several reasons. To achieve a population of 2,000, ten people would have been crowded into each apartment at Pecos Pueblo.[35] According to Spielmann, a population of only 1,000 would have needed 600 hectares of cultivatable land to survive, which draws near to the maximum of 640 hectares available in the Pecos area.[36] The Spanish had reason to overestimate the Pecos population—a higher number made their conquest sound more impressive. On the one hand, the unusual architecture of Pecos Pueblo, which exhibited a linear form with rooms centered on a plaza, as opposed to the "rambling" architecture of other pueblos, may have made it appear that the pueblo housed more people than it actually did.[37] On the other hand, the first detailed census of the pueblo, conducted in 1694, recorded 736 inhabitants at the pueblo after almost a century of close contact with the Spanish and exposure to disease epidemics, suggesting that perhaps a higher population estimate for Pecos Pueblo may be correct.[38]

Regardless of the actual population at Pecos Pueblo, the Spanish observation that it was "the best and most populous of the pueblos" was probably accurate. The Pecos Pueblo did house a substantial population, and the Pecos had developed strategies to support that population. Much of their success rested on agriculture. An analysis of bone chemistry data from Pecos burials, ranging in date from roughly 1200 to 1850 C.E., revealed that seventy-five to eighty-five percent of the Pecos diet consisted of maize. Studies of the Arroyo Hondo pueblo concluded that in years of adequate rainfall, maize could provide one hundred percent of required calories.[39] The Pecos stored quantities of maize and other plants to serve as buffers during years when crops failed.[40] Severe droughts in the 1200s and 1400s are not reflected in the bone chemistry data, suggesting that the Pecos had sufficient provisions.[41]

"Plentiful Supplies of Firewood": Influences on tree density around Pecos Pueblo

The Pecos' subsistence did not rest on maize alone. The Pecos made use of all the resources at their disposal. Farmers grew beans and squash. Weedy annuals, such as goosefoot (*Chenopodium*), amaranth or pigweed (*Amaranthus albus*), and beeweed (*Cleome serrulata*), grew in disturbed soils, such as the borders of cultivated fields, and provided supplements to the Pecos diet. The Pecos could also use sunflowers, Indian ricegrass, and cactus fruits, among many other edible plants. The piñon nut provided an important source of protein in the Pecos diet. Substantial yields occur around every four to seven years and, like maize, the nuts can be stored. Plants possessed importance beyond their role as a food source. Pueblos used plants to make such diverse items as cordage, mats, sandals, and loom anchors. Ethnographic sources record a number of plants used by Pueblos for various purposes. Yucca root could be made into soap. Cota, *Thelesperma gracile*, could be boiled into a beverage and was consumed widely before coffee and tea became common. Piñon sap, when combined with lard, formed a salve for skin abrasions.[42] In their study of the faunal remains of Arroyo Hondo Pueblo, Richard Lang and Arthur Harris caution that although agriculture was an important element of the Puebloan lifestyle, nonagricultural foods comprised a substantial portion of their diet. Because Pueblos are often seen as an agricultural people, it is easy to underestimate their other subsistence activities.[43]

The Spanish observed that the Pecos possessed "plentiful supplies of firewood, and of lumber for building houses. Indeed, we were given to understand that whenever anyone wanted to build a house, he had lumber for that purpose ready at hand."[44] The primary building materials

were mud and stone, but the Pecos used wood as well, particularly for roofs. While excavating the north pueblo complex, Kidder discovered beams of yellow pine, covered first with cedar or more pine, and then with small twigs of cedar, willow, wild cherry, or rushes.[45] Although wood was important for building purposes and for making tools and weapons, the Pecos used the greatest amount of wood to feed their fires. The Pecos used all easily available wood, including piñon and juniper for firewood. The Spanish remarked that the mesilla was "cleared of trees" and that only half a league away did "a heavy growth of cedars, pines and oaks" begin. The term "cedar," used by both the Spanish and Kidder, probably refers to junipers. "Oaks" may refer to the Gambel oak, which grows in the area, or may be a catchall term for deciduous trees in general. By 1540 the Pecos had inhabited the area for centuries and the pueblo population had grown quite large. The Pecos searched for wood in an ever-widening circle around the pueblo.

Plant and pollen evidence from the church ruins, dating to as early as the seventeenth century, shows that the same assemblage of plants are present today, so it is unlikely that any radically different species were present in the prehistoric Upper Pecos valley.[46] It is difficult to know exactly what the landscape looked like, however, particularly the ratio of grassland to woodland. Opinions on the matter differ. In their study of Arroyo Hondo, Lang and Harris state that the piñon juniper woodland around the pueblo was "somewhat more open than that of today's."[47] Spielmann, however, states that "grassland in the vicinity of Pecos today is probably the result of historic clearing and would not have been present in the prehistoric period."[48] The Pecos did not need grassland for pasture, but mule deer and elk used open areas for grazing. Grassland areas are commonly part of piñon-juniper woodlands.

The Pecos certainly harvested trees and may have affected forest density by using fire to clear away trees and brush. No evidence for the Pecos' use of fire for clearing exists. Any conclusions must rely on an extremely limited number of sources, many of them discussing Indian tribes or locations far removed from the Upper Pecos valley. Probably any purposeful burning by the Pecos was limited in extent and did not affect the overall landscape. Instead, lightning provided the primary source for fire ignitions. Striking during dry spring weather and summer storms, lightning-caused fires match the fire scar record of the Southwest far better than anthropogenic causes. If Pueblos had been using fire to clear vegetation, the logical time to set such fires would have been in the fall or winter when conditions made the fire easier to control. Evidence, however, shows that most fires occurred in the spring and summer.[49]

Historic and scientific literature supports the conclusion that fire played a role in the landscape of the Southwest, but exactly how remains open to debate. Fire evidence from tree ring data is abundant for the Southwest in general, but, as with climate, local conditions can cause tremendous variability in the fire regime. Topography, soils, and climate all affect the likelihood and intensity of fires. For piñon-juniper woodlands, with their innate diversity in types and amounts of vegetation, the question grows even more complicated.[50]

Climate and the fuel load in the understory play an important role in determining fire frequency, as does the intensity and duration of the fire itself. More fertile soils support greater plant growth and a subsequent build-up in fuels. A series of unusually wet years would have increased plant growth even further. If a drought followed the abnormal rain, the chances of a severe fire would have increased. Short-term weather also could have an effect. Tree ring data shows that the majority of fires in the summer monsoon region of the Southwest occurred in the spring months of April to June, before heavy rains had arrived, or during the summer when thunderstorms brought lightning. Unusually hot or dry weather in the spring increased the

chances of fire. All of these elements—soil fertility, plant growth, precipitation—have significant local variations. Broad generalizations cannot be made about fire regimes.[51]

Drought also could threaten vegetation communities, including the piñon-juniper woodland. Piñon and juniper population dynamics are not well understood today. What may have occurred hundreds of years ago is hard to extrapolate, but forces such as drought, fire, insects, and disease always would have affected the trees. Severe droughts in recent years, particularly the 1950s, killed numerous piñon and juniper. Extensive droughts in the past also may have resulted in widespread tree mortality. In contrast, wet periods may have promoted tree growth. Episodes of disease probably played a periodic role in reducing piñon and juniper numbers as well.[52] The Pecos had scoured the area immediately around the pueblo clear of trees and large brush—perhaps extending as far as the half-league described by the Spanish. Farther away from the pueblo, it is impossible to know the precise density of piñon-juniper woodland and grassland. The tree cover probably fluctuated over time due to drought, fire, and disease.

For the Pecos, the piñon and juniper formed a familiar landscape. Walking around the pueblo, a Pecos passed under the boughs of piñon pines, encountered meadows where the sun shone brightly, and pushed through willows on the banks of the river. The Pecos valued piñon and juniper as well as the many other species that grew in these ecosystems. Bigotes probably enjoyed the sweet fruit of the prickly pear cactus, drank doveweed tea to cure a headache, and snacked on nodding wild onion bulbs while on his travels.[53]

"Big Bears and Fine Falcons Multiply in This Region": Wildlife populations and hunting

Useful plants such as fragrant junipers and slender willows were only one component of the Pecos' world. The Spanish noted the "big bears," possibly grizzlies, and "fine falcons" around Pecos Pueblo, but mule deer, rabbits, foxes, and others roamed the slopes of the mesas and nosed along the riverbank. The Pecos hunted many of them—meat provided an important supplement to cultivated foods, particularly as a source of protein. Animal bones discovered by Kidder in the large midden heaps on the east slopes of the pueblo provide evidence of meat in the Pecos diet. Unfortunately, Kidder did not undertake a systematic study of faunal remains and only left statements about the types and number of animal bones discovered. Mule deer comprised the most substantial number of bones in the midden—over three-quarters of those found. Rabbit bones occurred in large numbers, followed by antelope, mountain sheep, and elk. Kidder also discovered bison bones, which increased in number after about 1470 C.E.[54] All of these species occur in the Upper Pecos valley or within a distance that pueblo inhabitants could travel easily.

The Arroyo Hondo study, which examined animal bones in greater detail than any studies at Pecos Pueblo, recorded a number of species that currently inhabit piñon-juniper and grassland ecosystems, such as desert cottontail rabbits, white-footed mice, coyotes, and foxes. Spotted ground squirrels, Gunnison's prairie dogs, and Ord's kangaroo rats clambered about prehistoric Arroyo Hondo in large numbers but rarely appear today. Black-tailed prairie dogs, yellow-faced pocket gophers, white-tailed jack rabbits, and Richardson's ground squirrels also were present in greater numbers in the prehistoric period. Grizzly bears and gray wolves also appear at Arroyo Hondo Pueblo—species that faced local extinction in the nineteenth and twentieth centuries.[55] Arroyo Hondo residents raised turkeys, and some evidence exists that turkeys may have been raised at Pecos Pueblo as well. However, by the time of Spanish arrival, the Pecos no longer kept turkeys.[56]

Social and practical considerations influenced the hunting methods of Puebloan groups. Spielmann discusses the hunting practices of the Pecos. Ethnographic evidence from other Puebloan groups shows that the people conducted communal rabbit hunts in the fall and spring—when corn was planted and when it was about to be harvested—to reduce rabbit depredations of the crops. Rabbits probably served as a year-round source of food, as the Pecos also set traps and snares in winter. Men hunted deer, elk, and antelope, which often required travel away from the pueblo. Spielmann estimates an average of one deer per hunter per year, using an average number of 210 hunters at Pecos Pueblo. The Pecos may have conducted communal deer hunts as well. Due to the concentrated nature of the population at Pecos Pueblo, it is likely that deer in the immediate area were over-hunted, requiring hunters to travel greater distances to find game.[57] At Arroyo Hondo, hoofed mammal bones declined over time, while small mammals and bird species both increased and diversified. This suggests that the population of hoofed mammals near the pueblo fell due to overhunting, forcing the people to broaden their subsistence strategies.[58] Evidence from Gran Quivira Pueblo, where the quantity of antelope bones declined over time, also supports this conclusion.[59]

The antelopes nearest Pecos were on the plains, thirty-five miles to the east, near present day Las Vegas, or thirty-seven miles to the southeast near Anton Chico. A person could only carry so much meat back to the pueblo, however. In fact, the archaeological record of bison and antelope may show fewer numbers than people actually consumed. Because they often removed the meat from the bones and dried it during the hunt, the skeletal evidence found in the pueblo midden heaps does not reflect the total quantity consumed for the mammal species hunted farther afield. Spielmann suggests that bison meat may have served as a replacement for mule deer when local deer populations crashed due to overhunting.[60] Social factors also impacted large mammal hunting. Other Puebloan groups in the area, in the Galisteo Basin or on the other side of Glorieta Mesa, for example, may have controlled their own hunting territory, limiting the reach of Pecos hunters. Once again, evidence concerning hunting among Puebloan groups is limited, but we should not assume that the Pecos could freely make use of all the resources in the area.[61] Based on the faunal remains at Arroyo Hondo, the researchers estimated that the pueblo's potential hunting ground consisted of about eighty square miles.[62]

The Pecos River and Glorieta Creek afforded the Pecos plentiful fishing opportunities. The Spanish mentioned "a brook which abounds in excellent trout and otters."[63] The description could refer to either the Pecos River or Glorieta Creek. The trout was probably the Rio Grande cutthroat trout.[64] General descriptive terms such as "trout" or "bear" do not specifically pinpoint a species, but when combined with other evidence, suggest reasonable assumptions. In 1540 the riparian ecosystems of both the Pecos River and Glorieta Creek would have possessed good physical stability, although the presence of agricultural fields as well as the use of plants, such as willows, may have resulted in a less dense riparian growth near the pueblo.

"They Worship the Sun and the Water": Prehistoric Pecos religion and culture

Hunting deer, gathering piñon nuts, planting maize—the Pecos incorporated all these interactions with the environment into their society and culture. By eating a meal or lighting a ceremonial fire, the Pecos wove the environment into their cultural system. Existing evidence of Pecos society is limited and is extrapolated from archaeological studies as well as ethnographic sources from the Jemez, the people whom the last residents of Pecos Pueblo joined at their pueblo 60 miles west of Pecos in 1838. Often historians and anthropologists have grouped together the Pecos and Jemez as part of the same Towa language group, but linguistic evidence

suggests the Pecos may have spoken a Tewa dialect.[65] Additionally, the immigrants from Pecos Pueblo who melded into Jemez society brought cultural traditions modified by three centuries of contact with the Spanish. Consequently, the mores of the 1838 Pecos did not perfectly reflect the society of the pre-contact Pecos.

Placing the culture of nineteenth-century Pueblos into the context of their ancestors poses obvious difficulties. Although we cannot surmise the specifics of Pecos culture in 1540, we can suggest a few broad generalizations. Certainly agriculture was a mainstay for the Pecos. When they transitioned to an agrarian society, access to arable land became increasingly important. As the population grew, community members would have competed for access to land and those with greater social power, such as religious figures, may have controlled larger amounts of land. Possibly, land acquisition was similar to current systems of land control amongst the Pueblos. For example, clan affiliation can determine access to land. In a matrilineal society like the Jemez, land is passed down to both sons and daughters.[66]

The demands of agriculture induced a variety of changes in Pecos culture, particularly in gender roles. Although both women and men participated in farming, the tasks and social standing associated with each gender no doubt differed. Women planted "kitchen gardens," which contained more specialized plants such as herbs for religious ceremonies. The importance of the garden may have bestowed greater cultural status on their caretakers. Men may have farmed the land farther away from the pueblo. Certain plants may have been associated with a particular gender. Perhaps the social regime in field houses, where people stayed seasonally to tend crops, differed from that which operated at the main pueblo. If a nuclear family lived in a field house, they may have adopted different gender roles than those in the pueblo, where extended family relationships dominated.[67] We cannot answer any of these speculations conclusively, but they demonstrate the many intersections of culture and environment.

On a reconnaissance mission at Taos Pueblo, Hernando de Alvarado remarked that "they worship the sun and the water." Although no one on the Coronado expedition commented on the religious practices of the Pecos, all of the Pueblos practiced a form of religion centered in nature. Natural landforms, such as lakes or mountains, possessed spiritual significance. During interviews with Pecos descendants in the 1990s, one elder recounted the story of a bull that emerged from a lake in the mountains above the Upper Pecos River canyon. The Pecos brought the bull back to the pueblo and chained it, but the bull broke the chains and returned to the lake. Pecos descendants still hold an annual Pecos Bull ceremony. As historian Tracy Brady says in a discussion of Tewa religious beliefs in the Upper Rio Grande area, "Through sacred places, the people had direct access to and connection with the sacred world." Such perceptions differed dramatically from the Christian religion where "God . . . residing in heaven, could make his presence known anywhere, and so Christianity was arbitrary with regard to place." In contrast the Pueblo's religion depended on stories attached to specific places. The Pecos performed dances at certain times of the year in conjunction with planting, harvesting and other activities. Knowing when to offer a certain prayer, plant corn, or expect the first snows required a deep attenuation to astronomical cycles. The stars, sun, and moon also figured into Pecos spirituality. For the Pueblos, religion was not a separate component of their lives but featured prominently in all daily activities.[68]

"Very Heavy Hair Like the Mane of a Wild Lion": Pecos Pueblo's connections to the Southwestern Plains

From the moment Bigotes brought bison hides to Coronado, the Spanish wanted to know more about these strange "cattle." When they reached the plains to the east of the Upper Pecos valley, the Spaniards encountered bison personally. Pedro de Castañeda de Nájera, the official chronicler of the expedition, struggled to describe the animal. He related it to animals familiar to his audience: "They are bearded like very large he-goats.…From the middle of the body back they are covered with very woolly hair like that of fine sheep. From the belly to the front they have very heavy hair like the mane of a wild lion." The Spanish quickly realized the utility of bison hides for warm clothing, sturdy tents, and other items.[69]

The Pecos understood the value of bison hides and meat. They did not rely solely on their own hunting and farming capabilities to supply their needs. The pueblo's position at the gateway to the plains situated them within a network of exchange that brought additional resources and cultural contacts within the pueblo walls. Tribes of Southern Athabaskan nomads—ancestors of the Indians who became known as Plains Apaches—arrived in the fall from eastern New Mexico and west Texas to trade with pueblos on the eastern frontier, including Pecos. The Pecos traded corn, pottery, turquoise, cotton, and other items for bison meat, fat, and hides. Archaeological evidence suggests that this interaction began at Pecos Pueblo in the mid-fifteenth century—about one hundred years before the Spanish arrived. At this time artifacts attributed to Plains groups begin to appear at Puebloan sites with greater frequency. The Pecos and other eastern Pueblos monopolized this trade, as few Plains Indian artifacts occur at interior pueblos.[70] The trade testifies to the success of Pecos agriculture as well as the importance of meat in their diet. The Pecos had enough corn to trade without threatening their own supply. Through trade they obtained protein that maize did not provide. Spielmann estimates that bison meat "could have provided up to 20% of annual Pecos protein needs."[71] Interestingly, bone-chemistry data suggests there was little change in either overall meat intake at Pecos or the type of meat (bison or mule deer) consumed from the pre-trade period (1200-1450 C.E.) to the trade period (1450-1600 C.E.). When local mule deer populations were depleted, the Pecos replaced them with bison. Because there is no evidence that meat intake declined during times of high population, the Pecos may have supplied their own community with bison meat before trade with Plains Indians groups became common.[72] Historical accounts from the Pueblos state that bison migrated into the Rio Grande valley.[73] The Pecos may have traveled there to hunt or obtained meat through trade with Rio Grande pueblos.

Although trade with Plains Apaches provided both groups with needed resources, the relationship was not necessarily friendly. Spielmann speculates that the Apaches sometimes may have forced the Pecos to trade or risk raiding and harassment. When Apaches came to Pecos Pueblo to trade, they remained outside the pueblo, camping in the wide meadow to the east and perhaps only invited into the pueblo in small numbers. Although some hostility probably existed, trade also formed social ties between the two groups. Intermarriage gave both sides more reasons to keep their relationship peaceful and strengthened strategic alliances. For example, in the 1700s some of the Pecos joined Jicarilla Apache bands, and Apaches sometimes joined the Pecos Pueblo—these interactions probably occurred in earlier periods as well.[74]

The Pecos profited from and apparently controlled to some extent the lucrative trade with Plains nomads. Farming corn had proven to be successful as well. The diverse environments around their pueblo provided numerous other resources. For a time, the cultural system of the Pecos supported a high population, including numerous warriors who gave the pueblo a

reputation as a force to be reckoned with. Although Pecos Pueblo had already begun to decline from its peak population by the mid-1500s, it was still one of the most important pueblos in the region. The Spanish recognized the importance of Pecos when they entered the scene in 1540.

"We Shall Forcefully Enter Your Country": Early Spanish expeditions to New Mexico

During his visit to Pecos Pueblo in 1540, Hernando de Alvarado read aloud the *requerimiento* to the Pecos, informing them of their new status as subjects of the Spanish crown and the promised death and destruction if the Pecos resisted Spanish rule. If the Pecos refused to submit, "We shall forcefully enter your country," the requerimiento proclaimed, "and shall make war against you in all ways and manners that we can." After dispatching with such necessities, Alvarado and Father Padilla, the Franciscan who accompanied him, pursued the topic that truly interested them—did the Pecos have any gold and if not, did they know anyone who did? The Pecos relinquished two captives from the eastern plains to Alvarado, who wished to extend his search for wealth. One of the men, called *El Turco* by the Spanish, claimed that in the kingdom of Quivira, a journey of some days to the northeast, gold and other fantastical sights abounded. El Turco told Alvarado that Bigotes possessed a gold bracelet from Quivira.[75]

When Alvarado questioned him, Bigotes replied that El Turco had lied. He refused to accompany Alvarado back to Coronado's main encampment. Alvarado seized Bigotes, clapped him in chains, and returned to Coronado with word of his discoveries in the east. After a winter spent fighting various pueblos and forcibly taking supplies to feed his hungry men, Coronado returned to Pecos Pueblo in the spring of 1541. He freed Bigotes in a gesture of good faith and, with El Turco in tow, set out for Quivira. Quivira was no more than a settlement of Wichita villages on the Arkansas River. Although the Wichita prospered in their subsistence culture, they possessed no gold. Coronado had El Turco strangled, but before he died, El Turco claimed that the Pecos had ordered him to mislead the Spanish.[76]

Ahead of Coronado, Captain Tristán de Arellano returned to Pecos Pueblo and found the pueblo's inhabitants in wait, armed and ready to resist. A prolonged battle ensued, but the Spanish emerged the victors. Arellano waited by the subdued pueblo until Coronado arrived, and the army returned to camp at the pueblo of Tiguex. By the following spring, Coronado's disillusioned men convinced him to return to Mexico. Bigotes and the other Pecos resumed their normal activities, although they doubtless stayed alert for any news of the invaders' return.[77]

Two more Spanish expeditions did arrive at Pecos Pueblo. Antonio de Espejo traveled north with a small party in November 1582. Like Coronado, Espejo resorted to force to obtain needed provisions. Pecos did not offer Espejo a warm welcome, but when the Spaniards forced their way into the pueblo, the Pecos relented, offering food in the hope that Espejo would do no harm. Eight years later, don Gaspar Castaño de Sosa led a colony to New Mexico and once again turned to the Pueblos for food and shelter—perfectly willing to resort to violence if help was not offered freely. Again the Pecos resisted and fled the pueblo when Castaño captured it.[78] For all the violence and disruption these Spanish expeditions brought, all three failed to establish a permanent Spanish presence in New Mexico.

Bigotes experienced firsthand the cultural gulf separating Spaniards and Pecos. The insistent Spanish demands for gold, a metal the Pueblos did not value; the tame Spanish horses and bleating sheep, both animals the Pecos had never seen before—these were integral elements of the Spaniards' culture. Under Coronado and his successors, the first horses left their hoof prints in the ground around Pecos Pueblo, and the Spanish and Pecos fought over the food supplies the Pecos had spent many arduous hours coaxing to grow or hunting in the forests.

These early contacts between Pecos and Spanish were brief, but they hinted at how contentious conflicts over resources could become when two diverse cultural systems encountered each other.

Chapter Two

A New Way of Life, 1598-1680

Fray Andrés Juárez stood by the banks of the Pecos River, watching as his charges carried out their daily tasks. He noted with approval the stalks of wheat growing next to the traditional fields of maize. One of the Pecos boys employed as a herder wandered by, urging sheep from the mission flock to drink in the river. In the distance, Juárez heard the bells pealing in the church that now stood side by side with the ancient pueblo on the mesilla.

As Juárez presided over the daily Mass in that church, he looked out over the faces he had come to know so well during his thirteen-year ministry at Pecos Pueblo—the longest of any Franciscan friar at the pueblo. Juárez had arrived at Pecos in 1622, following his first assignment at Santo Domingo. Now he was preparing to leave Pecos for a new ministry at Nambé Pueblo. Reflecting on his time at Pecos, Juárez must have felt a sense of achievement. He had overseen the completion of the massive church that now dominated the mesilla. He had done his best to teach the Pecos about God and encouraged them to live in a civilized manner according to the Spanish definition of the term—growing wheat, tending to cattle, herding sheep, attending Mass, speaking Spanish. Although many rejected his ministry, Juárez would leave behind concrete proof, obvious in the very landscape of the valley, of his attempts to fulfill his duty to God and his king, Philip IV.

Juárez grew up in the Spanish town of Fuenteovejuna, near Córdoba. He crossed the Atlantic in 1611, volunteering to become a missionary in the remote territory of New Mexico. Thirteen years prior to his departure, Don Juan de Oñate established the first successful colony in New Mexico. At least Oñate called it a success. Many of the colonists, struggling to survive, revolted and tried to return to Mexico. The Franciscans pleaded with the Crown not to abandon this new territory, and so royal officials replaced Oñate with a new governor, Pedro de Peralta. For Peralta, Fray Juárez, and other Spaniards who drifted north in the early 1600s, New Mexico appeared to be an isolated frontier filled with heathens. To the Spanish, this northernmost foothold of their empire was still an alien environment. No horses, cattle, or sheep grazed around the pueblos. Corn, not wheat, grew in the fields. Few of the vegetables and fruits familiar to the Spanish ripened in the sun-drenched earth. The Pueblos gave unintelligible names to the surrounding landforms. They worshiped strange gods.[1]

The Spanish did not intend their new environment to remain unfamiliar for long. They herded cattle and sheep with them from Mexico. They planted wheat, grapes, and radishes. The Franciscan friars not only planned to instruct the Pueblos in the tenets of Christianity, but also expected them to embrace a completely Spanish lifestyle. At Pecos, Fray Juárez made sure that his charges planted wheat and tended his kitchen garden filled with European herbs and vegetables. Sizeable herds of livestock grazed around the pueblo, supplying Juárez with meat and revenue. To survive, the Spanish colonists did sometimes abandon Spanish ways and adopt Pueblo ones. Many, particularly the poorer members of the colony, ate maize, learned to speak Puebloan dialects, and intermarried with the Pueblos. To the Spanish officials and Franciscans, however, such accommodation spelled certain ruin. They tried to keep Pueblos and Spaniards separate, while attempting to erase the Puebloan lifestyle and substituting the Spanish one in its place.

Their efforts bore varying degrees of success. The Pueblos did plant wheat and raise cattle under Spanish direction. Some Pueblos learned to speak Spanish. Some incorporated

Christianity into their beliefs. Overall, though, the Pueblos resisted Spanish domination, often in subtle, non-violent ways. While a Pecos might come to Mass in Fray Juárez's church during the day, he also attended a ceremony in a kiva during the evening. While the Pecos might bring their required tribute of maize, piñon nuts, and hides to the governor at Santa Fe, they also exploited the adversarial relationship between Spanish secular and religious officials to their own advantage. Although the Spanish tried to turn the Pueblo's world into a European one, a hybrid culture and environment resulted instead.

Pecos, 1598-1680

Spanish attempts to force their cultural system onto the Pecos and the Pecos' attempts to resist revealed themselves in the Pecos environment. By the end of the seventeenth century, cattle and sheep had become a common sight grazing around the pueblo, trampling the fragile riverbanks of Glorieta Creek and the Pecos River. Wheat crops grew alongside corn each summer. Messengers on horseback galloped over Glorieta Pass, bearing news and orders from the governor in Santa Fe. The Franciscan church stood on the mesilla, its massive walls a visual statement of Spanish power. A few yards away from the church, however, the Pecos maintained their kivas. They continued to imbue the landscape with spiritual power. Although new species had been added to the familiar ones, they still grew corn and used indigenous plants for food and medicines. The Apaches continued to come to Pecos Pueblo for trade, setting up their camp below the pueblo, even if Spaniards now joined in the trading and Franciscans urged the Apaches to accept conversion. [2]

The mixing of different people, plants, animals, and cultural systems at Pecos Pueblo in the seventeenth century typifies the contact that occurs in a frontier region. Historian David Weber defines a frontier as "a social phenomenon, representing an interaction between man, his institutions, and the physical and spatial environments of an area of low population density where two cultures or two nations meet."[3] Although a frontier does not necessarily require a "low population density" (which would depend on how one defined "low") and is not limited to two cultures or nations, this definition captures the interconnected nature of Spanish and Indian relationships, which affected not only their cultures but also their physical environment. The concept of borders is implicit in the idea of a frontier region. People construct borders in the spaces they inhabit. Borders can be physical: the wall of a pueblo, the edge of a cultivated field. They also can be conceptual: the boundary between two territories, the association of a particular space with a certain activity or person. The Spanish, Pecos, Apaches—all those who came into contact at Pecos Pueblo—constructed borders and often came into conflict over them.

The cultural systems of the Spanish and the Pecos collided during the seventeenth century. The Spanish attempted to exert control over the Pecos and their environment by introducing new species, a new religion, and a new form of government. The Franciscans were expected to convert the Pueblos into *gente de razon* (rational people) who not only believed in the Christian God but also wore Spanish clothes, tended livestock, and spoke Spanish.[4] The Spanish also exercised power by exploiting resources—demanding tribute payments from the Pecos in the form of piñon nuts, hides, and corn. The Pecos contested the dominion of the Spanish. But the pueblo's position on the threshold of the plains and its sizeable population made it a valuable conquest, and the Spanish exerted all their power to remain in control.

The Pecos entered the seventeenth century in a position of relative comfort, facing the Spanish within the boundaries of a familiar world. Assuredly the nature of this world created uncertainties—drought, crop failure, potential famine—but they could overcome these with

cultural and social strategies developed over centuries of living within that environment. During the decades of Spanish colonization, the familiar world of the Pecos eroded. Now they had to divert their hard-won resources to satisfy Spanish tribute demands. As a consequence, no longer could they weather droughts and famine successfully. No longer could they labor solely for themselves. A Franciscan friar took up residence at their pueblo and required them to work in his fields and care for his sheep. He urged them to abandon their gods. Strange diseases swept through the pueblo and the Pecos were powerless against them. These pressures accumulated until many Pecos joined other Pueblos in revolt in 1680. By the time of the Pueblo Revolt, the Pecos landscape reflected a century of immense change. The muddy banks of Glorieta Creek bore the hoof prints of sheep and cattle, the aromatic scent of chocolate drifted out of the friar's quarters, and the underground kivas hid the whispers of those who wanted to see the Spanish driven from the land.

"The Friar Makes Them Sow Some Grain and Raise Some Cattle": The introduction of exotic species

Fray Juárez came to New Mexico expecting to suffer deprivations and hardships, but he did not intend to forego all the trappings of a civilized life. For Fray Juárez, this meant enjoying wine, olive oil, and fine linens transported to New Mexico every few years via a lengthy wagon train. He also expected the Pecos to sow wheat, plant vegetables and herbs in the kitchen garden by the convento, and tend the mission herds of cattle and sheep. Fray Alonso de Benavides, in an account of New Mexico written in 1634, recorded that every friar ordered the Pueblos at his mission to "sow some grain and raise some cattle" in order to "support…all the poor of the pueblo."[5] Although some produce was distributed to the poor and held in reserve for times of famine, the Franciscans never allowed the Pecos to begin herds of their own. Like all the missions in New Mexico, Pecos produced crops and livestock controlled by the priests.

By introducing new species of plants and animals to the New Mexican environment, Fray Juárez and other Spaniards participated in what historian Alfred Crosby has termed "ecological imperialism."[6] The Spaniards already had experienced the benefits accrued from introducing European species to American shores in their conquest of South America. They discovered that possessing a self-propagating food supply freed them from some of the burdens of feeding exploratory missions. The Spanish brought cattle, sheep, pigs, and goats, all previously unknown in the Americas, across the Atlantic. The animals swiftly adapted to the new environment. Pigs, in particular, reproduced quickly and the Spanish deliberately left the animals on various islands or locations on the mainland to serve as food for other Spaniards following in their footsteps. The Spanish introduced horses as well, which gave them tremendous psychological and physical advantages over the natives of the Americas. Cattle and horses multiplied rapidly in the conducive environments of Central and South America. Because comparable animals had long been extinct in the Americas, cattle and horses found an untapped source of grass, an ecological niche, that permitted a population explosion. Sheep, although requiring more care, adapted well to arid environments and quickly became an important component of Spanish settlement in South America and eventually North America as well.[7]

Coronado brought horses, cattle, and sheep on his expedition to New Mexico—theoretically enough to keep his force supplied with meat and perhaps also serve as the foundation stock for herds on the frontier.[8] When Coronado's entire force encamped at Pecos Pueblo in May of 1541 it was probably the first time that these animals appeared in the environment around the pueblo. The Spanish had no intention of sharing their livestock with the

Pueblos. They recognized full well the advantages gained from the animals, particularly the horse, and did not want potential vassals or enemies to seize horses and overturn the balance of power. Coronado did leave a small herd of sheep with Brother Luis de Úbeda, who remained behind at Pecos Pueblo to begin saving heathen souls. Neither Brother Luis nor the sheep survived long.[9] There was no mention of a sheep herd at Pecos by the later expeditions of Espejo and Sosa.

The Spanish felt that the livestock which supplied them with food and other necessities should be part of any colonizing force. In 1596 Don Juan de Oñate received approval from the crown to lead the beginnings of a colony northward. Over five hundred settlers and thousands of head of stock followed Oñate to New Mexico. Oñate had been born in Mexico. His father, Cristóbal de Oñate, had discovered and made his fortune in the Zacatecas silver mines. Oñate possessed the fortune to fund an expedition, and the Crown instructed Oñate to bring along sufficient supplies so that settlers and soldiers would not be driven to seize food from the Pueblos. The previous expeditions of Coronado, Espejo, and Castaño de Sosa had forcibly taken food from the Pueblos to sustain themselves through the winter. Inevitably this policy caused friction and conflict. Memories of the harsh measures used by the Spanish to procure supplies remained vivid in the minds of the Pueblos throughout the subsequent decades.[10]

The Spanish recognized the harmful effects of these uncontrolled expeditions. By the time Espejo was traveling to New Mexico, the Crown officially had switched from a policy of conquering natives to a policy of pacifying them, as set forth in the 1573 Comprehensive Orders for New Discoveries. The Orders attempted to make the process of empire building less fatal to indigenous inhabitants. In reality the Orders were ineffective. No one on the frontier enforced them; colonizers and explorers did what they deemed necessary for survival.[11] Espejo, for example, forcibly took maize and other supplies from Pecos Pueblo when the Pecos refused to give it to him.[12] Castaño de Sosa, too, turned to the Pueblos to keep his colonists fed. He attacked Pecos Pueblo on December 31, 1590, defeating the pueblo's warriors and taking supplies. Had Castaño managed to forge a viable colony, the Crown might have ignored his actions. But Castaño failed and the viceroy ordered him brought back to Mexico in chains, along with the dispirited and hungry colonists. [13]

Although Castaño failed, his expedition maintained the Crown's interest in New Mexico and the potential for a colony. The Crown cast about for suitable candidates to lead—and pay for—another colonizing expedition, and settled on Oñate. Oñate attempted to follow the spirit of the Orders, but bureaucratic delays kept him in Mexico for two years. The colonists consumed the food meant for the road and for surviving the first months in their new home. By the time the settlers—and the cadre of Franciscan friars who joined Oñate— reached New Mexico, their circumstances forced the settlers to demand sustenance from the Pueblos' food stores.[14] The settlers did so reluctantly—they had come prepared to grow crops more familiar to them.

Some Spanish cultigens already had arrived in New Mexico. By 1598 some Pueblos were growing watermelons, a plant introduced by Europeans.[15] The dispersal of new plant species had begun immediately after the Spanish arrived in the Americas. When Columbus returned in 1493, he brought with him "seeds and cuttings for the planting of wheat, chickpeas, melons, onions, radishes, salad greens, grape vines, sugar cane, and fruit stones for the founding of orchards."[16] Oñate's settlers carried many of these same seeds with them when they traveled north in 1598. The Spanish probably introduced clovers (*Melilotus* and *Trifolium* species), used to feed livestock, and mullein (*Verbascum thapsus*), a medicinal plant, to New Mexico fairly early.[17]

The colonists who migrated to New Mexico envisioned a future where they planted and ate familiar European grains, fruits, and vegetables.

In attempting to recreate European life in North and South America, the Spanish also undertook what historian David Weber has termed a "cognitive conquest" of the American environment.[18] The discovery of entirely new continents, people, plants, and animals with no resemblance to anything in Europe or Asia bore potentially devastating ramifications for Christian theology because they cast doubt on biblical theories of creation. How could such extremely different people and animals exist in the Americas when God had created all life in the same time and place? Although the discoveries in America did lead some to question their beliefs, the majority of people accepted the only conclusion that made sense to them: the Indians were heathens whose souls would be lost if they were not converted. The Spanish placed unfamiliar animals and plants into pre-conceived categories as well. Explorers described the new species they found by relating them to European flora and fauna and even European myths. Europeans fit not only Native Americans but also the environment into their worldview without substantially changing it.[19] The Pueblos encountered a familiar world slowly being made unfamiliar, while the Spanish made an unfamiliar world familiar.

Despite the biological and psychological tools at their disposal, Oñate's colony faced an uphill struggle. Colonists, unused to the cold temperatures of winter and the opposite extremes in summer, described the climate as "eight months of winter and four of hell."[20] The Pueblos accepted the settlers and friars grudgingly, if at all. Although Oñate immediately drafted 1500 Pueblos to dig irrigation canals at the newly established capital of San Gabriel de Yunge, the fields of the Spanish were not immediately fruitful.[21] Many of the things the Spanish settlers must have viewed as necessary for a civilized life—iron tools, bread, linen cloths—did not exist except for what they had managed to bring themselves.

Clinging to a precarious existence, the Spanish settlers began to consider abandoning the colony. Fray Francisco de San Miguel supported leaving, stating that "if we stay any longer, the natives and all of us here will perish of hunger, cold, and nakedness."[22] Oñate was determined to stay. He repressed dissension among his colonists and the Pueblos. When the Pueblos resisted Spanish control at Acoma in 1598, Oñate's men seized the pueblo and inflicted a harsh punishment on the inhabitants. Finally, when Oñate was away on an expedition onto the eastern plains, most of the colonists fled south. The Crown investigated the situation. Although many favored abandoning the colony, the Franciscans protested, claiming that thousands of Indians had been baptized and thousands more awaited salvation. The Crown relented and declared New Mexico a colony of the Crown, supported by the royal treasury, not individuals. More friars, settlers, and supplies trundled north under the leadership of Governor Pedro de Peralta, prepared once again to turn the northern frontier of their empire into a civilized, fruitful region.[23]

"They Do Not Die Because of Us": The effects of disease among the Pueblos

The Spanish deliberately introduced numerous species to the Americas, but they unknowingly introduced a number of plants and animals as well. Weed seeds traveled in the mud on human and animal feet and in their waste products. Rats, which the Spanish would have happily left behind, also came in the ships to America. But the species with the most immediate ramifications were European disease pathogens, which had devastating consequences for Indians encountering them for the first time.[24] Disease became the dark shadow of the Spaniards' ecological imperialism. In New Mexico some diseases may have preceded Spanish arrival, transported through existing networks of trade. The long-term presence of Spaniards and more

constant contact between Spaniards and Pueblos made exposure far more common, however. A Jesuit missionary, Fray Juan Bautista de Velasco, commented in 1593 that the natives "do not die because of us." He claimed that even the natives did not blame the friars because they assisted the sick during epidemics.[25] Despite the priest's words, many natives and Spaniards probably connected the arrival of the Spanish to the epidemics. Fray Juárez hoped to baptize every Pecos before death, and during the seventeenth century burials became distressingly common. The presence of new diseases and their shocking effects shattered the Pecos' world as much as Spanish demands for tribute, labor, and religious conversion.

Smallpox was the most deadly, but other diseases such as typhus or measles also were effective killers. Confronting new diseases for which they had no cure disrupted Native American societies. The sudden loss of numerous members of a pueblo overturned social networks and hierarchies. The epidemics also affected the Pueblos' ability to gather, hunt, and farm food. Starvation could follow the plague when too few remained healthy to harvest or plant crops. Europeans, who had already formed immunities to these diseases, watched as thousands of Pueblos perished. Like their animals and technologies, the seeming invulnerability of Europeans to disease also gave them a psychological advantage in their conquest.[26]

Records of specific epidemics at Pecos Pueblo before the Pueblo Revolt do not exist, but the pueblo obviously suffered the effects of disease. In 1622 Fray Juárez claimed that he ministered to "2,000 souls, a few less," at Pecos. Although Juárez had the time and ability to conduct a detailed census at the pueblo, he either did not do so or the records do not survive. Not until 1694—after the Pueblo Revolt and Spanish Reconquest—does a record exist of a careful census, conducted by Fray Diego de Zeinos at Pecos. Zeinos recorded a total of 736 inhabitants. From the time of the permanent Spanish presence established by Oñate, and possibly before, the Pecos lost people to smallpox, measles, and other illnesses.[27]

The downward trend in population at Pecos Pueblo over the sixteenth, seventeenth, and eighteenth centuries is clear, although, as discussed in the previous chapter, the pueblo population during the first years of Spanish contact remains uncertain. Several historians, including John Kessell, consider the Spanish estimates of around 2,000 people at Pecos in the mid-1500s as approximately correct. This figure remained in use throughout the seventeenth century. For example, in 1680, Vetancourt recorded "more than 2,000 Christians" at Pecos, while in 1692, Diego de Vargas estimated the population at about 1,500. Fray Juárez estimated around 2,000 people in 1622, while in the same time period, Fray Alonso de Benavides said there were "more than 2,000 souls" at Pecos. Yet the 1694 census conducted by Zeinos recorded 736 people at the pueblo. The Spanish continued to inflate population numbers during the eighteenth century as well. Fray Andres Varo estimated "more than 1000, counting children and adults," at Pecos in 1749 while a year later, a detailed census reported 449 people. [28]

Although we cannot confirm the exact Pecos population during the sixteenth and seventeenth centuries, the population began declining in the sixteenth century and continued to do so until 1838 when the last Pecos left to join the Jemez.[29] Similar stories occurred throughout Puebloan society. In a study of conditions in New Mexico before the Pueblo Revolt, historian Andrew Knaut states that "estimates place the number of inhabited pueblos at the time of European contact in 1539 between 110 and 150. In 1581 nine members of the Chamuscado-Rodríguez expedition counted 61 pueblos in their travels through the area and agreed on a total population for those towns of 130,000 persons." Oñate placed total Pueblo population at 60,000 by 1600. Even allowing for inaccuracy, population had declined drastically.[30]

By disrupting Puebloan society and compromising the Pueblos' ability to resist the Spanish, disease gave Europeans an advantage, however unplanned. The presence of other European species also benefitted the Spanish. The ability to eat mutton and beef, to grow wheat and make it into bread, allowed them to feel more comfortable and in control of their environment. Of course, not every settler enjoyed equal benefits. Wheat, for example, did not grow well everywhere and could be difficult to obtain. Many settlers subsisted on a maize-based diet, just like the Pueblos. Spanish officials discouraged eating like the Pueblos, adopting Puebloan customs, and engaging in sexual or conjugal relationships with them. Officials wanted to maintain Spanish culture, but also hoped to use their cultural distance to maintain authority among the Pueblos. The Spanish realized that their control of certain resources and tools—guns, cattle, horses—gave them an advantage that would be lost if the Pueblos gained free access to them. Laws prohibited mission Indians from traveling to Spanish towns and forbade Europeans, blacks, mestizos, or mulattos from spending more than three days at a pueblo.[31]

In the seventeenth century, a small Spanish population and a fairly rigid policy of intolerance towards Puebloan religion on behalf of the Franciscans did prevent the accommodation and cultural interaction that became a hallmark of the colony in the eighteenth century. Despite Spanish attempts to keep the borders between their culture and the Pueblos' firm, their encounter with a new environment meant that change was inevitable. The Spanish tasted bison meat and realized that bison hides were a valuable resource. Piñon nuts, too, became a coveted item. Bison hides and piñon nuts traveled down the trail to Mexico to mingle with goods from other countries and continents. The Spanish also adapted to life in a new place. Although they may have planted wheat and grazed sheep, they could not completely transform the New Mexican environment into a copy of Spain or Mexico. Instead, the Spanish incorporated the environment into their own culture—giving Spanish names to mountains and rivers, enjoying the warmth of piñon wood fires, identifying new birds, plants, and animals. During his thirteen years at Pecos Pueblo, Fray Juárez became familiar with thunderclouds piling over the slopes of Glorieta Mesa in the summer, the hard ground that changed to mud as the snows melted, and the sound of the Pecos language.

"Devoted to the Service of the Church": The Franciscan ministry at Pecos Pueblo

The Franciscan friars who resided at Pecos Pueblo induced many changes in the environment of the Pecos valley, but the Pecos created many of the changes themselves. They tended the herds of sheep, cattle, and horses owned by the Franciscans. The Pecos—not the priests—planted the fields of wheat and kitchen gardens filled with European herbs and delicacies. A few served as cooks and servants. Fray Benavides claimed that at every mission, "more than twenty Indians, devoted to the service of the church," labored for the friar.[32] The Franciscans did not establish a mission at Pecos Pueblo until 1617, but once they did, change followed rapidly. Fray Pedro Zambrano Ortiz served as the first friar at the pueblo and constructed a small church on the north end of the mesilla, which would be replaced by his successor, Fray Ortega. By 1620 to 1630, large numbers of European artifacts, specifically "domestic animals, china dishes, and metal implements" appear in the archaeological record.[33] The growing European influence coincides with Fray Ortega's and, particularly, Fray Juárez's ministries. Although the Spanish capital moved to Santa Fe in 1610, settlers did not move beyond Santa Fe—and closer to Pecos Pueblo—until late in the eighteenth century. In fact, Spanish settlement in New Mexico remained low throughout the seventeenth century. By the time of the Pueblo Revolt in 1680, probably only about 1,000 Spaniards lived in New Mexico.[34]

The governor in Santa Fe demanded tribute from Pecos Pueblo, but it was the Franciscans who spearheaded the changes in the Pecos environment and culture.

Both Spanish officials and Franciscans entertained high hopes for the colony, but as the seventeenth century progressed it became apparent that New Mexico would provide only poor returns to the Crown.[35] The labor of the Pueblos proved to be the most profitable resource in New Mexico, and one that both Franciscans and governors used to their advantage. The construction of the mission church by Pecos Pueblo, under the direction of Fray Ortega and Fray Juárez, demonstrates the onerous demands the Spanish often made of the Pueblos. The most visually obvious manifestation of Spanish influence at Pecos, the church had walls forty-five-feet high and ten-feet thick. It required about 300,000 adobe bricks, each weighing about forty pounds. Timber was needed for scaffolding and roof construction. Pecos laborers did everything from cutting the wood, to forming the bricks, to laying them in place. The Pueblos considered the task of laying adobe walls to be the province of women. Fray Benavides recorded how if the priests forced a man to do the work, "he runs away from it, and the women laugh."[36] Building the church kept both men and women away from their fields and other tasks. While the Pecos were building the church, the friar occupied rooms in a structure located to the south of the main pueblo. Probably during the early 1600s, the Pecos added rooms and stories to the structure until it stood as a second pueblo on the mesilla. Historian John Kessell speculates that Pecos sympathetic to the Christianizing mission of the Franciscans may have inhabited the south pueblo.[37]

Although the Pueblos labored for Franciscans, debates over the merits of resisting Spanish control probably consumed many of the Pecos' private councils during the seventeenth century. The Pueblos were by no means a conquered people. Revolts flared up occasionally, although the Spanish succeeded in suppressing them.[38] Even if the Pueblos did not actually fight the Spaniards, they resisted adopting Spanish religion and culture on a daily basis. For example, Spanish officials often criticized the Franciscans for failing to master the Pueblo languages, but keeping their language secret allowed the Pueblos to preserve their own customs despite the watchful eyes of the friars.[39]

Although many of the Pecos rejected Spanish religion, they could see the advantages the Spanish enjoyed in the resources and materials they possessed. The Spaniards' metal axes and tools made such tasks as cutting firewood or hoeing weeds much easier.[40] Draft animals such as oxen also eased the human labor demands of agriculture. Horses transported goods and people quickly and easily across vast distances. Sheep and cattle provided new sources of food and clothing. These advantages were obvious to the Pecos but not available to them. The Franciscans, who owned some of the largest herds of livestock in the colony, kept tight control over their animals. Controlling the livestock gave the Franciscans leverage in their constant fights with secular officials, and the friars probably also sold some for their own profit. Governor Rosas complained in 1641 that "every convento is a livestock operation and general store owned by the friars."[41] The Parral mining district, seven hundred miles south of Santa Fe, was the largest market for New Mexican livestock in the seventeenth century.[42] The friars' livestock only benefitted the Pueblos and Spanish settlers when famine demanded that the friars distribute meat to the poor.

At Pecos Pueblo the Franciscans ordered the construction of several corrals adjacent to the church to hold the mission's livestock. The Pecos probably built "two corral-like courtyards" immediately. Later, between 1640 and 1670, the friars oversaw the construction of another large corral complex to the south of the convento. This corral included three pens for stock against its

east wall.[43] Existing accounts do not reveal what kinds of animals the friars kept at Pecos, but it was probably a mixture of sheep, cattle, oxen, horses, and possibly goats. No specifics exist for the numbers of livestock, but evidence from other missions suggest approximate numbers for Pecos. In 1669 Acoma Pueblo suffered the loss of eight hundred sheep, sixty cattle, and an unspecified number of horses in an Apache raid.[44] As a large pueblo, Pecos must have had numbers equal or greater.

Just as the presence of the mission changed the visual landscape at Pecos Pueblo, the presence of livestock altered the environment as well. Although not in sufficient numbers to cause widespread damage, the animals kept at the Pecos mission must have affected their immediate surroundings, in particular the riparian vegetation around Glorieta Creek where they watered and grazed. Their presence on the mesilla and along the creek banks probably accelerated soil erosion. The Pecos herders pastured livestock in other areas around the pueblo as well, although it is doubtful they followed the late-nineteenth- and twentieth-century practice of summering livestock in the mountains and herding them back to the valley in the winter. During the seventeenth century, threats of Apache raids increased, keeping both people and animals close to the pueblo. Manure could be used to fertilize the soil, boosting the agricultural output of the Pecos' fields. Livestock introduction also brought exotic plants to the environment—dispersed in dung, mixed in with feed, or intentionally cultivated. Alifaria or heron's bill (*Erodium circutarium*) is one species known to have arrived in the Southwest during the sixteenth century that spread throughout what became New Mexico and Arizona.[45] Goathead (*Tribulus terrestris*) probably followed the introduction of livestock. The Spanish planted clover species as grazing fodder as well.[46] Although no evidence exists for such cultivation at Pecos, seeds could escape into the wild and thrive on their own.

The sheep and cattle that the Pecos tended for Fray Juárez also affected ecosystem dynamics in the Upper Pecos valley. When grazing in the piñon-juniper woodland, cattle and sheep favored the herbaceous understory species. The decline of these species may have enhanced piñon and juniper growth around the mesilla. On the other hand, Pecos demands for firewood may have counteracted any new growth. In the fall, the Apaches now came to trade on horseback and grazed their horses in the meadows around the pueblo. Wagons trundled between Pecos and Santa Fe. The increased amount of traffic around the pueblo, particularly horses, oxen, and wagons, may have discouraged plant growth and kept the area around the mesilla clear.

The decline of herbaceous species in the piñon-juniper woodland also may have altered the fire regime in the area. In a study of fire regimes near Albuquerque, Christopher Baisan and Thomas Swetnam took samples from a piñon-juniper forest near settlement sites. In the first period, which extended up to 1680, tree ring evidence indicated frequent fires, but fires that did not burn large expanses of woodland. The high frequency of fires did not correlate with modern evidence of lightning caused fires in the same area, suggesting that humans may have increased the fire frequency. The authors caution, however, that it may not be possible to compare the modern woodland with past vegetative and climatic conditions. Following the Pueblo Revolt, from 1681 to 1784, the interval between fires almost doubled and fires became more intense, burning larger portions of woodland. The authors speculate that this may have been due in part to livestock grazing, which reduced understory vegetation, leading to less frequent fires. Severe fires often occurred when a dry year followed a period of high precipitation. At Pecos, where livestock numbers probably were high, a change towards less frequent, more intense fires may have started early in the seventeenth century.[47]

The Pecos continued to cultivate the fields in the ciénega and elsewhere along the river as well as by Glorieta Creek and areas that required dryland farming techniques. As the population at Pecos Pueblo decreased throughout the century, fields may have been abandoned due to a lack of labor. It is doubtful that any would have been abandoned by choice. If cultivated land did decrease, the first fields removed from production would have been those on marginal lands farther from the river and creek. However, the Pecos may not have been able to reduce their farming due to Spanish demands on their food supply. In either case, probably no more fields were cultivated than when the pueblo was at the height of its population.

Because the Pueblos lived in the most fertile areas of New Mexico, the Franciscans automatically gained control of this valuable land upon the founding of a pueblo mission. The crops raised in Franciscan-controlled fields spelled the difference between starvation or survival for Pueblos and colonists alike. The Pueblos, in particular, had to turn to the Franciscans for food as the produce from fields they had formerly used now went straight to the mission stores.[48] The Franciscan domination of arable land engendered bitter feelings among the Spanish settlers and officials who also desired the land and labor of the Pueblos, which they accused the friars of monopolizing.[49]

"From Pecos They Have Brought Only Twenty-Three Fanegas of Piñon Nuts": Spanish demands for tribute

Unlike his successor Fray Juárez, Fray Pedro de Ortega was born in Mexico to wealthy, aristocratic parents. Ortega renounced the wealth he stood to inherit and joined the Franciscans. He traveled north in 1617, accompanying a party that included the new governor for the colony, Don Juan de Eulate. Ortega and Eulate did not get along. While traveling north, Eulate supposedly extolled the virtues of marriage over celibacy. Fray Ortega rebuked Eulate, who went on to comment that the "religious didn't work, that all they did was sleep and eat, while married men always went about diligently working to earn their necessities." Ortega stiffly replied "that the sleep of John had been more acceptable to Christ Our Lord than the diligence of Judas."[50] The other Franciscans disliked Eulate as well, and his tenure in New Mexico—like that of many other governors—was rife with discord between Eulate and the friars.

Ortega and Eulate's relationship did not improve. When Fray Ortega began construction of the mission church at Pecos, he requested the loan of oxen from settlers—probably those near Santa Fe, the nearest Spanish settlement to Pecos—to help with the work. Eulate disliked any indication that the friars were bettering their situation at the expense of his own and confronted one of the settlers who had loaned oxen to Fray Ortega. Eulate demanded that the settler retrieve his oxen immediately or face a fine of forty fanegas of maize.[51] When Ortega smashed the idols of the Pecos and removed a dissident named Mosoyo from the pueblo, placing him in the service of a Spanish family, Eulate ordered the man released. Mosoyo had claimed that Eulate did not want the Pecos to follow the orders of the Franciscans. Although Eulate probably had never stated the matter so plainly, he did what he could to undermine the Franciscans' authority.[52]

The bickering and constant power struggles that characterized the relationship between Spanish religious and secular officials in New Mexico centered on the question of who would control the land and resources of the colony. The governors accused the friars of exploiting Pueblo labor and being more concerned about making a worldly profit than saving souls. The friars, in return, accused the governors of squeezing the most tribute they could from the Pueblos and forcing them to provide unpaid labor. The Pueblos often became mired in the middle as both the governors and Franciscans tried to win their loyalty. The Pueblos understood the hostile

relationship between church and state and often used it to their advantage. The waited, for example, until a governor had fallen into disfavor before requesting compensation for the various tasks for which they had not received payment.[53]

As did the Franciscans, Spanish officials placed demands on the Pecos that changed the environment and the Pecos' relationship to it. Under the *repartimiento de indios* ("allocation of Indians," i.e. forced labor system), Spanish officials could legally assign Pueblos to public works projects. Theoretically, the duration of the work was to be limited and they were to be paid for their labor. In reality, as was usual on the frontier, officials often ignored these regulations.[54] They put the Pueblos to work digging irrigation canals, planting crops, and transporting goods. The Spanish often pressed the Pecos into service. While building the church for Fray Juárez, the Pecos had acquired an array of carpentry skills. Soon, Pecos workmanship and Pecos lumber became a coveted resource throughout the colony. Correspondence between Governor López de Mendizábal and Diego González Bernal, the *alcalde mayor*, or district officer for the region encompassing Pecos Pueblo, refers to the carpenters of the pueblo. In 1660 the Governor mentioned the "boards I ordered made and ready at Pecos this week."[55] Cutting timber for the church as well as for building projects throughout the colony may have extended the cleared area around the pueblo or depleted some species, such as ponderosa pine, in the vicinity. Logging and building homes for the Spanish kept the Pecos from tending their own fields and repairing their own pueblo.

Even more burdensome than physical labor were the Spanish demands for tribute. Each Pueblo household owed a yearly tribute to the Spanish consisting of a fanega of maize and a cotton blanket or deer or bison hide. The governor raised tribute levels in 1643 to one fanega and one blanket or hide each quarter, owed by each eligible individual, not household. Pueblos like Pecos also collected piñon nuts to satisfy tribute payments. In 1660, Governor Mendizábal wrote to Diego Bernal, complaining that "they have brought only twenty-three fanegas of piñon nuts" from Pecos, reminding Bernal that fifteen had yet to be delivered.[56] Governors also distributed pueblos as *encomiendas* to well-placed Spanish officials and settlers, usually those on good terms with the governor. These *encomendera* collected tribute as well. Although encomenderas were not authorized to demand personal service or labor from the Pueblos, they often did.[57]

Probably the first Spaniard to receive Pecos Pueblo as an encomienda was Francisco Gómez, a soldier and colonist who arrived in New Mexico during Oñate's brief rule as governor. By the 1660s, his son, Francisco Gómez Robledo, had inherited the encomienda. Gómez Robledo also held shares, and the resulting tribute, in three other pueblo encomiendas—Taos, Shongopovi, and Acoma—but he amassed the most tribute from the Pecos. In the 1660s Robledo received "170 units per collection, or 340 per year, 'in buckskins, mantas, buffalo hides, and light and heavy buffalo or elkskins'" from Pecos.[58] In contrast he received only fifty units from a half share in Acoma per year. Gómez Robledo did not own the entire pueblo. Pedro Lucero de Godoy received tribute from twenty-four households at Pecos Pueblo, and the friars at the Pecos mission had access to ten households.[59] Caravans from Mexico, arriving around once every three years, brought needed supplies to the Franciscans and took back the livestock, hides, and piñon nuts that had been collected from the Pueblos. Unsurprisingly, the friars and governors quarreled over whether the governors could use the wagons to transport goods back to Mexico for free.[60]

As the population declined at Pecos, meeting the demands of the Spanish became increasingly onerous. In an environment where the climate and growing season too often conspired against a successful harvest, the obligation to surrender part of their food in tribute payments created a precarious situation for the Pecos. Fluctuations in climate did not help—

before the Spanish arrived, the Pecos could weather such times through their stored food resources, but those resources now were gone. During the Little Ice Age period from the 1500s through the 1700s, the climate was wetter and colder on the whole in North America.[61] The Palmer Drought Severity Index for the Southwest shows that the seventeenth century was indeed somewhat wetter than previous periods, although as always, the climate varied locally.[62] Records at Arroyo Hondo also show the seventeenth century as a period with less variation in precipitation.[63] Although more moisture would have been beneficial, the colder weather may have shortened the growing season, particularly at the high altitude of the Pecos area. When early frosts or dry summers destroyed their crops, the Pecos looked ahead to a winter bereft of the resources that had sustained them previously.

Spanish efforts to dominate the Pueblos were aided by Puebloan cultural systems. Unlike the nomads on the nearby plains, the Pueblos lived in sedentary farming communities. The concentrated populations made it easier for the Spanish governors to exert control and for the Franciscans to indoctrinate them. The Pueblos also faced more dire consequences if they attempted to resist. It was much easier to destroy the resources of a sedentary people—their fields and homes and stored foods—than those of a constantly moving population. Although the Spanish attempted to convert the nomadic Apaches, it was not until the Apaches needed Spanish aid against the Comanches that the Spanish enjoyed any sort of success.[64]

The Pecos could not avoid the Spanish. The location of Pecos Pueblo—at the gateway to the plains, whence, the Spanish quickly learned, came valuable bison hides—made it an irresistible target. It provided a starting point for exploration to the east and, once the capital moved to Santa Fe in 1610, stood between the capital and potential threats from the plains. Its large population and prosperous situation made it appealing to both Franciscans and secular officials. The Franciscans could save many souls at Pecos and whoever received Pecos as an encomienda enjoyed substantial profits.

"There Is Not a Fanega of Maize or Wheat in All the Kingdom": The ravages of famine and raiding

Each autumn, Fray Juárez watched from the doors of the church as a cavalcade of Plains Apaches arrived at Pecos, setting up their tepees in the meadows east and south of the pueblo, preparing to trade. Amid the barking dogs and heaps of bison hides, Fray Juárez saw the potential for gaining further converts. He wrote to the viceroy that "many times when [the Apaches] come they will enter the church and when they see there the retablo and the rest there is, the Lord will enlighten them so that they want to be baptized and converted to Our Holy Catholic Faith." Juárez seized the initiative and traveled onto the plains himself to meet the Apaches in their own territory.[65]

During Juárez's (mostly futile) attempts to bring the Apaches Christianity, the Apaches remained on fairly friendly terms with the Pecos. As the seventeenth century progressed, however, their relationship changed. Accounts of Apache raiding in the colony appear in the first decade of the 1600s.[66] At Pecos raiding became a frequent occurrence by the 1640s and 1650s and intensified in the 1670s.[67] The shift in the Apaches' relationship with the Pecos arose from the environmental and cultural changes sweeping the region. The resources brought by the Spanish—sheep, cattle, metal tools—proved powerful inducements to increase raiding. The Apaches' acquisition of the horse by the late 1600s also changed their relationship with the Pecos. The horse allowed the Apaches to expand their raiding capabilities. They could travel faster and take more with them. Pecos Pueblo was a tempting target, particularly with the

increasing amounts of Spanish livestock and manufactured goods at the pueblo.[68] Mounted on horses, the Apaches struck quickly and then disappeared with their captured goods. In the year of 1640 alone, Apaches stole 20,000 fanegas of maize from the Pueblos and Spanish of New Mexico.[69] The Apaches were not united—some bands continued to trade peacefully while others raided—but those who did attack kept the colony in a constant state of fear. In addition, Spanish demand for deer, elk, and particularly bison hides meant that the Pecos now had more at stake during the annual trade fairs with those Apaches who remained at peace. Tribute payments had depleted their trade stores of maize, yet the Spanish still wanted bison hides as well. Obtaining those may have reduced food supplies at Pecos Pueblo to an even greater extent.[70]

As the 1660s and 1670s progressed, Pecos and the other pueblos bowed under the combined pressure of Spanish demands and Apache raiding. Drought during these decades worsened their plight. Fray Bernal, agent of the Inquisition in New Mexico, sent a saturnine letter to his superiors in Mexico explaining why he could not send a prisoner to them:

> The whole land is at war with the very numerous nation of the heathen Apache Indians. . . . No road is safe. One travels them all at risk of life for the heathen are everywhere. They are a brave and bold people. They hurl themselves at danger like people who know not God, nor that there is a hell.
>
> The second calamity is that for three years no crop has been harvested. Last year, 1668, a great many Indians perished of hunger, lying dead along the roads, in the ravines, and in their hovels. . . . The same calamity still prevails, for, because there is no money, there is not a fanega of maize or wheat in all the kingdom.

Forced to subsist on cowhides, the Spanish were suffering as well, Bernal stated.[71]

The famine that Bernal spoke of began in 1667 and, in some areas, lasted through 1672. As with most shortages, the famine did not affect everyone equally. Poorer Pueblos and Spanish settlers suffered to a greater extent than those who had managed to achieve some success in farming. The Franciscans, who had always maintained that they hoarded grain and livestock precisely for times such as these and not for their own profit, initiated an extensive supply system. They sent supplies from mission stores by heavily guarded wagon trains to settlements and pueblos in need of aid throughout the region. Pecos sent "twenty fanegas of wheat" to the general food supply of the colony, the only pueblo that still had supplies to spare.[72] At the missions, the Franciscans distributed supplies to pueblo inhabitants. An average amount was "72 bushels of all grains and beans, 3 cows, 10 sheep, and 20 fleeces of wool per month."[73]

Despite the aid of the Franciscans, the diets of the Pueblos, including the Pecos, declined in quality both during famines and when harvests improved. The demands of tribute and trade as well as the loss of control of arable land depleted the Pecos' food supply. Bone chemistry data from burials at Pecos Pueblo shows how these new stresses affected their diet. By 1675 the amounts of maize consumed had decreased. Spielmann estimates that wild plants probably made up the difference, supplying perhaps twenty percent of the Pecos diet. Apache and Spanish demands for maize compelled the Pecos to turn to other food sources, while Spanish demands for hides forced the Pecos to overhunt local herds of mule deer, perhaps decreasing populations to the point where venison no longer figured extensively in the Pecos diet. At Gran Quivira Pueblo in the seventeenth century, life expectancy among pueblo inhabitants decreased. The archaeological record shows a higher reliance on small mammals for food.[74] The same situation may have occurred at Pecos.

Although perhaps an exaggeration, Fray Bernal's lugubrious description reveals how the imposition of Spanish rule disrupted the Pueblos' world. Pecos, for example, had weathered many droughts before without facing starvation. Disease, which had disrupted labor networks and depleted population, had undermined the Pueblos' resistance. The Spanish horse gave their enemies new strength and speed. The tributary and labor demands of the Spanish reduced the Pueblos' ability to provide for themselves. The Franciscans and their God were disrupting the religious order and destabilizing the Pueblos' world. In 1680 these stressors reached the breaking point and the Pueblos revolted, driving the Spanish out of New Mexico.

The success of the revolt depended on concerted action, but despite the fact that many Pueblos did join together to oust the Spanish, divisions remained. Among the Pecos, some warned the Spanish of the impending revolt several days in advance. The governor ignored their warnings. Other Pecos killed Fray Juan de la Pedrosa as well as a Spanish family and united with warriors from San Cristóbal, Galisteo, and other pueblos in an attack on Santa Fe.[75]
The terrified Spanish who survived the attacks fled south to safety, leaving the Pueblos once more in possession of the territory. At Pecos, either the pueblo inhabitants themselves or members of other pueblos who had come to help fight the Spanish in Santa Fe set fire to the roof of the mission church. The wooden beams burned in the conflagration, bringing the roof crashing to the ground. When the ashes had cooled, the Pecos tore down part of the high walls. The church that had stood for eighty years as a symbol of Spanish domination was now a burned ruin, tumbled onto the stones of the mesilla.

As they clambered around the fallen walls, the Pecos surveyed a landscape that no longer harbored Spanish interlopers, but that bore the unmistakable marks of almost a century of Spanish influence. Wagon tracks led to Santa Fe. Erosion along the banks of Glorieta Creek marked where cattle and sheep grazed, and the animals themselves clustered in large corrals to the south of the pueblo. European plants grew in the fields and gardens. Many resources—piñon nuts, deer hides, timber—had declined in the valley to satisfy the Spanish. Despite Spanish demands and the presence of livestock, however, resource exploitation had not approached a critical level, as it would in the nineteenth century. The Pecos population had decreased and no Spanish colonists had attempted to settle in the valley. Still, the Pecos environment had changed. Although some Pueblos wanted to completely erase all signs of the Spanish from the land, there was no going back. Bleating sheep, stalks of wheat, smallpox—these had become familiar to the Pecos. They had not become Spaniards, but neither their culture nor their environment could revert to the days before Fray Juárez stood before them and offered them bread while speaking strange words to his God.

Chapter Three

A Comanche Borderland, 1680-1821

Juan de Dios Peña straightened from his work, resting his shovel on the mound of dirt. The beginnings of a new *acequia*, or irrigation ditch, connecting his fields to the Pecos River lay before him, the result of his labors that morning. He and the other settlers on the Cañon de Pecos grant had possessed their new lands for only a few months, but they were preparing to plant crops and had started constructing homes. Shielding his eyes against the sun glare on the water, Peña stared down the river to the south. The Pecos Pueblo still stood on its mesilla, but by 1815, the year Peña moved to the Pecos valley, only a few families remained in residence. Peña frowned as he contemplated the fertile lands in the ciénega by the Pecos River. The Pecos hardly planted any crops there now. The ciénega was far superior to his own lands, and yet it was going to waste. Scuffing the toe of his boot in the dirt, Peña contemplated the possibility of appropriating some of the land. It would benefit the Crown, after all. With better land, he and the other settlers could raise more crops and help make New Mexico a prosperous colony. Pushing the matter to the back of his mind, Peña returned to his task. He wanted to finish the acequia that afternoon as tomorrow he planned to ride down to San Miguel del Vado, a trip of some twenty miles, to do some trading.

Much had changed in the Pecos valley since the Pueblos rose in revolt in 1680. In the immediate aftermath of the revolt, the Pecos had destroyed the huge church built by Fray Juárez and built a kiva directly adjacent to the ruins.[1] The Pueblos did not, however, completely reject all Spanish influences. El Popé, the leader of the revolt, urged the Pueblos to give up everything introduced by the Spanish, but the Pueblos kept the livestock, crops, and doubtless many of the tools and implements that the Spanish had brought.[2] In the absence of Spanish control, the Pecos could use the livestock and food for their own benefit. Some Pecos may have supported El Popé's ideas and counseled the destruction of these Spanish animals and plants. The priest's kitchen garden at the Pecos mission, for example, may have been destroyed along with the church. Although the Pecos chose to keep some of the new resources brought by the Spanish, they did not want to see the Spanish again. Hobe-wagi, the Pecos woman who lived during the late seventeenth century, must have hoped that the Spanish would not return. In the triumphant days after the successful revolt, Hobe-wagi never would have envisioned a time when Hispanic settlers would move into her people's valley and begin taking their land.

Yet many of the Pecos may have feared the Spaniards' return, and events proved their apprehensions correct. The Pueblos succeeded in forcing the Spanish out of New Mexico, but the Spanish had no intention of permanently giving up the colony. Maintaining a precarious foothold in El Paso, the Spanish prepared to reconquer the province. Don Diego de Vargas began the process in 1692 and within four years had brought the Pueblos back under Spanish control, overcoming another revolt in 1696. At Pecos he captured Hobe-wagi, who lived to see the return of a Franciscan friar to the pueblo and the construction of a new church on the mesilla. Relations between the Spanish and the Pueblos did not revert to their pre-Revolt status, however. The Spanish did not resume the encomienda system and no longer required tribute payments from the Pueblos. Despite easier relations with the Spanish, the Pecos failed to regain their earlier prosperity in the eighteenth century. Although Hobe-wagi may not have lived long after Vargas's reconquest, her children and grandchildren continued to experience disease epidemics that

reduced the pueblo's population. Hobe-wagi's descendants also encountered a new people who invaded the region—the Comanches.

Hobe-wagi's granddaughter may have fled in terror as Comanche raiders attacked harvesters in the fields by the Pecos River. She watched the Comanches drive away the pueblo's cattle and horses. The Spanish governor sent some troops to the pueblo's aid, but the Comanche empire dominated New Mexican affairs throughout the eighteenth century. The Comanches kept Hispanic settlers like Juan de Dios Peña from settling in the Upper Pecos valley. The Comanches also forced the Pecos to remain close to their pueblo, reducing their effects on the surrounding environment. Not until the Spanish finalized peace accords with the Comanches in 1786 did the situation change. Freed from the threat of the Comanches raids, Hispanos such as Peña petitioned the Crown for lands in the northern reaches of the colony.[3] By that time, few Pecos remained in their ancient pueblo. As more Hispanos came to the area, they set the stage for a return to more intensive land use, but one that assumed a different form than that practiced by the Pecos. Peña and the other settlers expected to turn the valley into a prosperous settlement with many individual homes, gardens, and fields. Peña wanted to provide for his family but also desired to acquire capital through trade—with Mexico, the Comanches, and even the forbidden French and Americans to the east. Hobe-wagi lived in an environment that had been changed through Spanish contact but still bore many of the same patterns of land use—population concentrated in the pueblo, dry and irrigated fields scattered throughout the valley, camps of Apache arriving to trade—that had persisted through several centuries. The presence of the Comanches disrupted these patterns. Later, peace with the Comanches allowed the establishment of a new, Hispanic cultural landscape in the Pecos valley, created by Peña and other settlers.

Pecos, 1692-1821

During the eighteenth and early nineteenth centuries, the Pecos environment became part of a borderland. The term "borderland" implies the existence of at least two political entities competing for control of the space. Historians Jeremy Adelman and Stephen Aron define a borderland as "the contested boundaries between colonial domains," thus emphasizing the importance of imperial power relations in the transformations that occur in such a region. [4] The Pueblos, who rarely acted as a politically unified whole, cannot be described as an imperial power. By the eighteenth century, though, the powerful Comanche empire contested the imperial designs of the Spanish. The French and later American empires to the east also influenced events in New Mexico. On the eastern edge of Spanish New Mexico, the Pecos area continued to serve as a contact point where people from these empires interacted—sometimes peacefully but often violently.

Although Spanish officials in Mexico and Spain worried about French expansion in North America, the Comanches became the true power on the Southwestern plains in the eighteenth century, and the inhabitants of New Mexico knew it. Much as the Spanish had arrived in New Mexico with a cultural system that placed new demands on the Pecos environment, the Comanches, too, approached the region from a different perspective. The acquisition of the horse had changed Comanche culture, turning them into hunters who traversed the plains in pursuit of bison. Possessing an abundance of protein and horses, the Comanches relied on obtaining carbohydrates and manufactured items, particularly guns, from others, either through trade or raiding. As historian Pekka Hämäläinen argues, the Comanches operated with a different imperial system than the Spanish, one that focused on resource exploitation as opposed to

territorial occupation. Northern New Mexico, although never settled by the Comanches, became in effect a colonial satellite whose resources were reoriented to the east.[5]

As their interactions with the Comanches—whether peaceful or violent—grew increasingly frequent, the inhabitants of northern New Mexico drew further away from Spanish Mexico, its government, and its culture. Spain continued to view New Mexico as an important component of its empire and hoped to use the northern provinces as a buffer against French and later American imperial ambitions, but the resources Spain provided never matched its expectations. A restrictive commercial policy kept New Mexico underdeveloped and encouraged the colonists to explore other trade relationships to satisfy their material needs. Only a few presidial soldiers were stationed in the province for defense, leaving the New Mexicans to fend for themselves. Instead of becoming a strong component of Spain's American empire, New Mexico fell into the orbit of the Comanche empire. Pecos's geographical location placed it on the swirling forefront of the borderland between the Comanches and Spanish. For a time, the Apaches on the plains to the east and north of Pecos bore the brunt of Comanche attacks. The Apaches abandonment of their lands put Pecos Pueblo in a vulnerable position, and the Comanches raided Pecos frequently.

The arrival of new peoples and a new cultural system in the Pecos vicinity once again changed the physical environment. An initial burst of activity following Vargas's reconquest resulted in new construction on the mesilla, an increase in livestock, and perhaps an intensification of farming and timber cutting. With the beginnings of Comanche depredations, Pecos entered a contentious period that resulted in a decrease in human effects on the landscape. Livestock practically disappeared, fields were abandoned, and the population declined. The Spanish probably constructed a presidio to the west of the pueblo at this time, but overall the Pecos retrenched, huddled into the relative safety of their pueblo.

The situation changed when Spanish and Comanche leaders signed peace accords in 1786. For a brief moment, Pecos Pueblo resumed its status as a key community on the eastern border of New Mexico. Trade fairs and increased livestock numbers affected the pueblo environment, but the pueblo population still did not increase. The low population kept the effects of the revival localized to the immediate vicinity of the pueblo. The peace with the Comanches, which lasted until Mexico declared its independence from Spain in 1821, had other, more lasting consequences as well, such as the expansion of Hispanic settlement. The establishment of San Miguel del Vado, a town twenty miles southeast of the pueblo, usurped Pecos Pueblo's position as the first settlement encountered by parties arriving from the eastern plains. The presence of San Miguel encouraged other settlers to move into the area and construct homesteads in the vicinity of the pueblo, encroaching on the lands of the few remaining pueblo inhabitants. Although Peña and his fellow settlers did not possess the means for any large-scale exploitation of the land, their arrival heralded a return to intensive land use that once again impacted the Pecos environment.

"A Cross Was Left for Them, Placed as a Sign of Peace": The Spanish Reconquest of New Mexico

Under Vargas's leadership, the Spanish returned to New Mexico determined to avoid a repeat of the events twelve years before. The Spanish did not want resentful, bitter subjects who plotted their overthrow. They wanted peace in the colony; peace that would allow them to reestablish their livestock industry and farming enterprises and encourage settlers to come to the region. Therefore, although Hobe-wagi no doubt felt fearful and anxious when Vargas captured

her, she need not have worried. After several days parleying back and forth with the hidden Pecos produced no results, Vargas simply left. He did not despoil the pueblo or kill any of his prisoners. "A cross was left for them, placed as a sign of peace," Vargas recorded. Although Vargas had been willing to fight and lay siege to the pueblo when he first arrived, the lack of opposition forced Vargas to consider other strategies. He hoped that his peaceful gestures would bring the Pecos to his side.[6]

His hopes proved well founded. After receiving the submission of several other pueblos, Vargas returned to Pecos Pueblo. This time the Pecos welcomed Vargas and his men. The shift in the pueblo's position reflected the flexibility of Puebloan politics, which differed dramatically from Spanish practices. As historian John Kessell points out, El Popé, leader of the 1680 revolt, disparaged the Spaniards, but attempted to consolidate his power in a Spanish manner. He tried to make himself the sole leader of the Pueblos, bringing them all into a unified conglomerate.[7] The Pueblos, though, had never operated in such a manner. Their slow decision-making process, in which many people discussed potential actions and one person's decision did not necessarily bind another, offered flexibility and adaptability but also limited the Pueblos to some extent. The centralized Spanish power network allowed them to make decisions quickly, relying on one authority figure who, although he answered to others, could also act at their behest.[8] When the Spanish vacated the colony in 1680, internal divisions once more flared up among the Pueblos.

Hobe-wagi's explanation to Vargas of internal strife within Pecos Pueblo—of older members who wished to accommodate the Spanish versus younger members who wanted to resist—reflect these political and social divisions. Vargas attempted to exploit these differences at Pecos and gain firm control of the pueblo after receiving its capitulation. He installed a number of political figures, including Juan de Ye as the Pecos governor. Juan de Ye proved to be an invaluable ally of Vargas, warning him of potential rebellions and bringing 140 Pecos warriors to help the Spanish retake Santa Fe. He lost his life in an attempt to negotiate a peaceful agreement between the Spanish and the rebellious Taos pueblo.[9]

The willingness of the Pecos to submit to Spanish control once more also resulted from the continued erosion of power and population at the pueblo. The twelve years between the revolt and the reconquest had not been easy ones for the Pueblos. Over the previous century, the Spanish had severely disrupted the Puebloan way of life. Merely removing the Spanish did not ensure a return to older ways, particularly during a time of violence and internal strife. The diseases the Spanish had brought did not disappear either. Overall, the Pueblo population in New Mexico declined from 17,000 to 14,000 between 1680 and 1700.[10] The population continued to fall at Pecos Pueblo, too. The Spanish also disrupted trade, which had always been important to Pecos. The Pecos did not always find it easy to resume old trading patterns. The Spanish left behind livestock and goods after the revolt, but also took with them the protections offered by their soldiers and their guns. Some evidence suggests that in the absence of the Spanish, the Pueblos established a thriving livestock trade, horses in particular, with the Apaches and other Plains Indian tribes.[11] Other evidence points to an increasingly violent relationship that disrupted potential trade. Juan de Ye apparently pleaded with Vargas to help Pecos reestablish their trade fairs with the Apaches. When several Apaches came to survey the situation, Vargas did everything he could to convince them of the Spaniards' honorable intentions. By the end of August 1694, a trade fair was being held at Pecos Pueblo with Apaches, Spaniards, and pueblo residents participating.[12]

Whether or not the Pueblos did establish a livestock trade of their own, Vargas found too few livestock when he returned to satisfy Spanish ambitions. Many livestock may have been

killed after the revolt or the Pueblos may simply have allowed the herds to decline to levels they could easily maintain. In any case, few animals remained at the pueblos, and Vargas distributed livestock, including 4,000 sheep, to the settlers who came with him. Vargas also gave two hundred head of sheep to the Franciscans to aid in rebuilding their missions at the pueblos, including the one at Pecos. Several decades passed before numbers were high enough to renew livestock exports to Mexico, however. [13]

Although the Spanish did not reinstitute the encomienda and tribute system, they did pressure the Pecos to work for them. Often the tasks related to the Pecos' carpentry skills and the supplies of timber in the area. In 1723 a judicial review of governor Martínez's administration revealed that he owed the Pecos payment for two thousand boards they had cut and hauled for him and "for the personal labor that had caused them to lose their crops."[14] A 1776 account by a visiting Franciscan recorded that "most of [the Pecos] are good carpenters" and that the "sierra provides them with timber."[15] Trees remained important for other resources as well. A letter from Fray Manuel de San Juan Nepomuceno y Trigo in 1754 refers to the piñon trees in the mountains between Pecos and Santa Fe that "every three years affords delight to the taste with [their] crop of piñones."[16]

The return of a Franciscan friar to Pecos placed labor demands on the Pecos once again. Fray Diego de la Casa Zeinos resumed the ministry at Pecos in 1694 and oversaw the construction of a new, temporary church that utilized the north wall of the old church, still standing over seven feet high. In 1705 Fray José de Arranegui compelled the Pecos to build a more permanent structure on top of the church ruins. The Pecos also rebuilt the convento and corrals.[17] They constructed new corral complexes south of the church to hold the livestock, perhaps adding onto corrals that survived the revolt. One set of rooms probably served as mangers for oxen and had a gate that opened onto the fields around the pueblo.[18] Archaeologists have located the remains of a stone corral on the west side of Glorieta Creek, and although it is not clear exactly when the corral was built, it is definitely of post-revolt construction.[19]

The Franciscans required the Pecos to once again plant crops for them in addition to their other labors. Fray Trigo recorded that the Pecos "sow for the father four fanegas of wheat and one cuartilla of corn….They pay no obventions, but they furnish for the assistance of the father and the convent four boys, a bell-ringer, a porter, a cook, three grinding-women and the wood needed for use."[20] The Pecos had not, of course, abandoned agriculture after the revolt. When Vargas came to Pecos Pueblo he noted that it was "well supplied with all sorts of vegetables and maize." Sending his men out to search for the recalcitrant Pecos, Vargas recorded how the "squads spread over the mountain and range bordering the milpas [fields] across the river from the pueblo."[21] With the return of the friars, the Pecos either planted additional fields or dedicated existing fields to the friar's sustenance. Evidence of other agricultural pursuits surfaces occasionally. A report by Fray Miguel de Menchero in 1744 refers to Pecos Pueblo as having "one hundred and twenty-five families.…A river flows through the settlement, and on its banks there are plum trees of the kind called in Spain 'yolk of egg,' whose fruit is very savory and pleasant to the taste."[22] Apparently these were plum trees planted on either the banks of Glorieta Creek or the Pecos River.

For a brief period, the presence of the Franciscans at Pecos Pueblo resulted in an increase in the numbers of livestock at the pueblo and possibly a slight intensification in farming. The Franciscans of the eighteenth century, though, did not possess the same power as their predecessors. Conflict continued between the friars and the governors, but new attacks on Franciscan power appeared as well. The bishop in Durango took an interest in New Mexico and

began arguing that the province would fare better under his control. He accused the Franciscans of charging ridiculous prices for marriages and burials. They still had not learned the Pueblos' languages and had failed to truly instill Christianity in their charges. Many of the bishop's allegations bore a measure of truth. After a brief, intensified campaign against Puebloan religion, the Franciscans stopped attempting to eradicate traditional Puebloan lifestyles. By the 1720s, a policy of accommodation became the norm. The barriers separating Pueblos and Spanish, which had been so important to Oñate a century before, eroded. Partly, the Spanish feared inciting the Pueblos into mounting another rebellion. But the presence of a new enemy—one that targeted Spanish and Pueblo alike—also brought them together. As the Comanches moved into the southwestern plains, Spanish settlers, Franciscans, and Pueblos had to join in common defense or perish.[23]

When Hobe-wagi was born, the massive church constructed by Fray Juárez still stood next to her pueblo. She lived to see that church destroyed but also witnessed the return of the Spanish to Pecos. Many of the Spaniards' old requirements and demands, which Hobe-wagi remembered, reappeared as well. Once again the Pecos had to build a church, plant wheat for the friar, and tend to his livestock. Life at Pecos resumed many of the same patterns of the seventeenth century. In the last years of her life, Hobe-wagi resigned herself to the fact that once again her home bore the unmistakable marks of Spanish influence and their demands on the environment. Hobe-wagi may have lived to hear of the first Comanche attacks in New Mexico, but she could not have imagined how these new people would change her home. Soon, the Pecos environment began to reflect Comanche, as well as Spanish, influence.

"I Have Fortified These Two Pueblos of Pecos and Galisteo": The growing power of the Comanche Empire

The consequences of the Pueblo Revolt did not end at the borders of New Mexico. Many Pueblos, disillusioned after the failure of the 1696 revolt, had fled New Mexico and joined the Apaches on the plains. The influence of Puebloan culture had already affected the Apaches, who adopted irrigated farming beginning in the 1500s. The addition of many Pueblos in the late 1600s accelerated the process. The Apaches expanded their territory, moving farther onto the central plains, where they encountered the Comanches, who were migrating south. The Comanche were transforming into a pastoral society, having acquired horses from the Utes around 1690. The Pueblo Revolt had placed livestock, including horse herds, into the control of the Pueblos. It is not certain to what extent the Pueblos traded horses with Plains Indians or if the first Comanche horse herds had originated in New Mexico. The presence of large livestock herds in New Mexico, particularly after the return of the Spanish, did provide an incentive for the Comanche to begin pushing southwards.[24]

Accounts of Comanche raiding first appear in New Mexico around 1706.[25] The Apaches, who had kept up an alternating policy of raiding and trading with the Hispanos and Pueblos, found themselves under a sustained attack. They began retreating from the plains and appealed to the Spanish for aid. The Apaches promised to convert to Christianity and maintain settled villages if the Spanish kept the Comanches away. The prospect of having a friendly Indian group as a buffer between their northern provinces and threats such as the Comanches or French appealed to the Spanish. In 1719, 1723, and 1724 expeditions of Spanish soldiers and native auxiliaries set out for the plains but failed to prevent Comanche attacks. Hesitant Spanish officials in Mexico City did not fully support the policy, and by the late 1720s the Comanches

had driven the Apaches from the plains. Several Apache bands settled near Pecos, reflecting social ties stemming from the years of trade with the pueblo.[26]

The Comanches soon dominated the southern plains. Their reliance on buffalo hunting meant that they needed to supplement their diet with carbohydrates—food that the Pueblos and Hispanic settlers possessed. The Utes, living in the mountain valleys and plains to the north and west of New Mexico, allied with the Comanches in 1706 and joined them on their raiding expeditions.[27] The Comanches also developed a profitable trade to the east with such groups as the Wichitas and Taovayas, who in turn passed goods into French Louisiana. The Comanches needed livestock and human captives for this trade, which they could also obtain in New Mexico.[28] Pecos Pueblo's position on the eastern border as well as its close ties with the Apaches made it a favorite target for the Comanches. By the mid-1730s, raiding was endemic at the pueblo. In 1746 a Comanche attack resulted in several killed and horses stolen. In 1748, the same year an epidemic struck, the Comanches, Pecos, and Spanish fought before the walls of the pueblo. The Spanish recognized that losing Pecos would leave Santa Fe open to attacks from the plains, and in the 1740s, a Spanish squadron took up residence west of the convento, although they were often required elsewhere.[29] Governor Tomás Vélez Cachupín alerted the viceroy of defensive measures he had installed at Pecos Pueblo and nearby Galisteo Pueblo in 1750: "I find it necessary to garrison them with thirty presidial soldiers….I have fortified these two pueblos of Pecos and Galisteo with earthworks and towers at the gates capable of defending them against these enemies."[30] Archaeologists have found evidence of construction that could relate to the garrison and may have been the small presidio. Located between the church and Glorieta Creek, the evidence consists of a compound of Spanish construction with several small corrals.[31]

The escalation of violence in New Mexico in the eighteenth century altered not only relations between the Pueblos and Spanish but their relationship with the land as well. Deep canyons, the steep walls of mesas, dense concentrations of trees—these landforms now held the potential for both defense and sudden attack. Although raiding had been a component of inter-tribal relations in northern New Mexico for centuries, the endemic nature of Comanche and Ute raiding in the eighteenth century strengthened the associations between the environment, fear, and death. Historian Ned Blackhawk argues that "by the mid-eighteenth century the colony's relations of violence had become so normative that the physical and natural worlds were now imbued with violent meanings."[32] The piñon-juniper forests around Pecos, for example, not only offered wood and food to the pueblo's inhabitants but also offered cover for raiders sneaking up on the pueblo.

Not all relations between the Comanches and Pueblos consisted of violence, however. Like the Apaches, the Comanches also sought to trade with the Pueblos. Taos became an important trading center for the Comanches. In fact, the Comanches became a source of manufactured goods, including guns, for New Mexico. The Comanches obtained British and French guns through a variety of channels and soon possessed such a surplus that they were able to trade the guns in turn. These, along with horses, mules, and captives that the Comanches may have acquired elsewhere in New Mexico, changed hands at Taos.[33]

The Comanches' ties to the French territory of Louisiana worried the Spanish, who constantly feared an attempted French takeover of their northern colonies. To the annoyance of the colonists, any news of French incursions on the plains created greater excitement in Mexico City than the deaths of hundreds at the hands of the Comanches. Many Spanish officials recognized, however, that it was often French traders providing the Comanches with the weapons that made them so deadly.[34] During the 1700s, several Frenchmen made the long

journey over the plains to New Mexico in pursuit of trade, not territory. In 1739 French traders arrived in Santa Fe via Taos. Others followed, including four who arrived at Pecos Pueblo in 1750. These Frenchmen probably traveled on a path similar to what later became the Santa Fe Trail. New Mexicans, hungry for manufactured goods, welcomed the French. Governor de Mendoza entertained the first party of French traders who arrived in New Mexico, and he sent them off with a list of goods the province urgently required. When suspicious Spanish officials heard of the contact, they made it clear that Frenchmen who came in the future would be removed precipitously. Mendoza's successor, Vélez Cachupín, followed Spanish policy and arrested any French traders who arrived.[35]

Cachupín proved to be an able administrator and pursued a peace with the Comanches. Spanish policy towards Comanche attacks had been inconsistent, depending on the governor in office at the time. Cachupín negotiated a treaty in 1752 that gave the Comanches open access to the trade fairs at Pecos Pueblo, which must have continued in the 1730s and 1740s despite raiding. The treaty also terminated any Spanish aid to the Apaches, and the remaining bands retired from the Llano Estacado and resettled near Pecos. The Apaches and Pecos apparently drew quite close at this time, and when the Apaches "went for their brief hunting forays they often left their women and children behind in the town." The Utes also formed an alliance with the Spanish after their accord with the Comanches fell apart. The 1752 peace was kept until Cachupín departed whereupon relations with the Comanches degenerated into raiding and violence once more. Cachupín reestablished peace upon his return in 1762, but when he permanently left New Mexico in 1767 the peace was once again broken and was not reestablished for twenty years.[36]

As Fray Trigos wrote in his 1754 letter, by the mid-eighteenth century Pecos Pueblo was "invaded continually by barbarians."[37] The pueblo's ties to the Apaches, its position on the eastern edge of the province, its livestock and agricultural produce—all made it a favored target for Comanche raids. Traveling away from the pueblo—over the pass to Santa Fe, for instance—became a dangerous enterprise. Herding livestock or working in the fields away from the safety of the pueblo walls now incurred substantial risks. Governor Cachupín ordered soldiers garrisoned at the pueblo. The construction of a presidio at Pecos Pueblo as well as earthworks and towers for the pueblo's defense were visible signs of the changes wrought by the Comanches on the landscape. Under Comanche pressure, immediate human alterations to the Pecos environment diminished—fewer livestock grazed along the river banks, and fields farther away from the pueblo lay fallow. Cachupín's two peace treaties in 1752 and 1762 offered a brief respite, but when the second peace failed, Pecos Pueblo faced an intensified onslaught from the Comanches.

"This Pueblo Is Very Much Besieged by the Enemy": Diminishing effects of human and livestock populations at Pecos Pueblo

The failure of the accords between the Comanches and Spanish had devastating consequences for New Mexico. Settlers abandoned villages and ranchos under the pressure of Comanche raids. The numbers of livestock in the province declined as the Comanches funneled New Mexican herds to eastern markets. Pecos Pueblo remained a favored Comanche target.

By the 1760s, accounts of the fall trade fairs at Pecos disappear from Spanish records.[38] Sporadic but continuous raiding kept the inhabitants of the pueblo in a constant state of terrified uncertainty. The Spanish in Santa Fe tried to help the pueblo as their limited manpower permitted. On March 10, 1769, reports of a potential Comanche attack galvanized alcalde mayor

Sena, who hurried to Pecos Pueblo with a squad of soldiers. The Pecos, thinking the threat had disappeared, released the stock from the sheltering corrals near the pueblo. The Comanches struck immediately. Four Pecos died and Sena recorded that the Comanches "did run off 42 horses and kill part of the cattle, while the cattle still in the corrals were unharmed."[39]

Besides stealing livestock from the pueblo, the Comanches also made it dangerous for the Pecos to farm in their fields by the Pecos River, far from the protection of the pueblo. In September 1771, when the wheat was ready for harvest, a squad of Spanish soldiers escorted the Pecos to their fields. The Comanches did attack, but the Pecos and their Spanish protectors managed to retreat to the pueblo with both the wheat and livestock. The Pecos were not always so lucky. In August 1774, one hundred Comanches attacked the Pecos working in their milpas. Nine died and seven others were captured.[40]

The cumulative effects of raiding wrecked the Pecos' daily lives. Fray Francisco Atanasio Domínguez, touring New Mexico in 1776, recorded the sufferings of the people of the province. He included a lengthy account of conditions at Pecos Pueblo:

> The Indians have arable lands in all the four principal directions, but only those which lie to the north, partly east, enjoy irrigation. The rest are dependent on rain. These irrigated lands are of no use today because this pueblo is so very much besieged by the enemy, and even those dependent on rain which are at a distance cannot be used. Therefore, but a very small part remains for them. Since this is dependent on rain, it has been a failure because of the drought of the past years, and so they have nothing left. As a result, what few crops there usually are do not last even to the beginning of a new year from the previous October, and hence these miserable wretches are tossed about like a ball in the hands of fortune."
>
> On the other hand, Governor don Pedro Fermin de Mendinueta, Knight [of the Order of Santiago], has come to their aid with twelve cows, which, added to eight old ones they had before (which were all the enemies had left them), make twenty. As for horses, they have twelve sorry nags all together when they once had a very great number.[41]

Comanche depredations forced the Pecos to abandon their irrigated fields in the ciénega of the Pecos River. The raids also completely demolished the livestock herds at the pueblo, which had once probably numbered in the hundreds.

Periodic disease epidemics continued to ravage the pueblo and the decrease in population compounded the effects of the Comanche hostilities. Spanish burial records from the Pecos mission record population losses correlating with ten epidemics in the period from Vargas's reconquest in the 1690s up to 1821. The books first show an epidemic in 1695, some type of fever that claimed older Pecos in particular. Eight years later, in 1704, another epidemic struck, taking eighteen members of the pueblo. A 1728 epidemic claimed fifty-six lives. Scarcely over a year later, in 1730, another outbreak, possibly smallpox, took another fifteen. Epidemics followed at ten year intervals, in 1738, 1748, and a possible outbreak in 1759. A 1780 epidemic of smallpox occurred throughout New Mexico, taking over 5,000 Pueblos, including some at Pecos.[42]

The cumulative effects of these epidemics were devastating. The loss of adults depleted the Pecos' ability to farm and hunt. The deaths of children, which increased in later epidemics, prohibited population recovery. A detailed census of the pueblo was completed in 1750 and

1790. In 1750, 449 people lived at Pecos Pueblo. By 1790, only 152 were left.[43] The Pecos had little defense against these outbreaks. Although the Spanish introduced a smallpox vaccine to New Mexico in 1804, it was already too late.[44]

The Pecos had few weapons against disease, but they did often take up arms and join the Spanish in fighting the Comanches. Spanish forces always consisted of both soldiers and native auxiliaries and sometimes other allied warriors such as Apaches or Utes. Spanish policy prohibited providing guns to Pueblo subjects, but officials often ignored the regulations. Still, the expeditions could hardly mount a serious attack on the formidable Comanche empire. The Spanish scored occasional victories, but these were counterbalanced by frequent defeats or inaction. As the continuing deaths and attacks at Pecos Pueblo attest, Spanish attempts at defending New Mexico failed miserably. Indeed, despite numerous attempts to fortify their frontier, the Spanish military never had a hope of defending the vast borders of the province with the inadequate forces allotted to them.[45]

The intensified Comanche raiding and depopulation at Pecos in the two decades following 1767 reduced the effects of humans and domesticated animals on the Pecos environment. The accounts of Comanche raiding reveal that in 1769 the Pecos had about 42 horses and an unidentified number of cattle.[46] All of these livestock were concentrated in the area around the pueblo, extending down to Glorieta Creek and perhaps on the other side of the arroyo. As Comanche raids worsened, the Pecos probably kept the livestock close to the pueblo to avoid losing them during attacks. This contributed to continuing erosion along Glorieta Creek and on the mesilla. The number of livestock diminished, however, as the Comanches drove off animals. Fray Dominguez's detailed 1776 account reveals that the Pecos had only twenty cows and twelve horses. The decreased numbers correlated with a subsequent reduction in the effects of those animals on the landscape.

One consequence of the swift decline in livestock numbers may have been the infill or regrowth of piñon and juniper into heavily grazed areas, such as the immediate vicinity of the pueblo. Research into the effects of grazing has often connected increased livestock numbers with subsequent increases in tree density. Other evidence, though, suggests that a sudden decrease in livestock following heavy grazing may catalyze tree expansion. In a study of the effects of grazing in the Valle del Mezquital, Mexico in the sixteenth century, Elinor Melville argues that an "abrupt drop in numbers and density of grazing animals" caused trees and shrubs to spread further into the valley. Changing fire regimes also influenced vegetation. Melville suggests that "the sudden relief from intense grazing pressure, and probably from fire as well allowed for a rapid increase of mesquite-dominated desert vegetation" in the Valle del Mezquital.[47] At Pecos Pueblo the decline of livestock provided an opportunity for piñon and juniper infill in formerly grazed areas, which has been observed in the twentieth century in the post-ranching period. Piñon and juniper may have been reclaiming areas where they once had grown prior to human clearing activities, or the range of the species may have expanded.

The Pecos also abandoned numerous fields due to the persistent raiding, which allowed invasive species to establish in the disturbed soil. Although at the beginning of the eighteenth century the Pecos still farmed in their milpas by the Pecos River, Dominguez revealed that Comanche raiding forced them to abandon these. Obtaining sufficient water also became a problem. Dominguez commented that "along the small plain between the sierra and the pueblo a very good river of good water and many delicious trout runs from north to south, but the water is not taken for use in the pueblo because it is about half a league away and there is very great

danger from the Comanches. Therefore they have opened some wells of reasonably good water below the rock, and that is used for drinking and other purposes."[48]

The Pecos continued to farm nearer to the pueblo, however. Dominguez provided a detailed description of the various milpas near the pueblo that he observed in 1776:

> There are five plots, some larger than the others, distributed as follows: There is a beautiful kitchen garden for green vegetables below the cemetery to the west. It is dependent on rain, and has a good wall attached to and entered from the cemetery. North of this kitchen garden are two separate large milpas. The one near the kitchen garden is dependent on rain, and the one beyond it gets irrigation from a river we shall soon see. There is another large milpa dependent on rain beyond the kitchen garden to the west. To the south, another like the aforesaid, also dependent on rain. Located in this way in the directions mentioned, they are about a quarter of a league from the pueblo, and I give no account of their crops because the Indians give me none. Indeed, they do say uproariously that wheat, maize, etc., are sown, except for chile, and that a sufficient amount is harvested. For the present the aforesaid plant them for themselves, and when there is a father, they do the work for him.[49]

Human population, too, declined steadily at Pecos Pueblo. The amount of resources needed to support human settlement and livestock—including timber and grass—would not have been as substantial as during the first decades following Spanish conquest when Pecos Pueblo was near the height of its population and the Franciscan friars introduced large livestock herds Other pueblos in the region also failed—the inhabitants of Galisteo Pueblo abandoned it at this time.[50] Spanish settlement of the Pecos valley, which later brought higher numbers of people and livestock to the area once again, remained out of the question. Men such as Juan Peña did not care to risk their lives by settling in an area preyed on by Comanches. Although some Apache bands came to live in the area, they concentrated on hunting and gathering and did not establish any permanent settlements. Overall, the second half of the eighteenth century witnessed a diminished human presence in the Pecos valley. If any of Hobe-wagi's children survived, they experienced a landscape that bore the evidence of decades of Comanche raiding—abandoned fields, only a few cattle and horses, the constant fear of wondering when Comanches might appear out of the trees or come galloping along the banks of the river.

"They Know Now More Than Ever the Truth of Our Peace": The Comanche peace of 1786

Just when it appeared that Pecos Pueblo might collapse entirely, the situation began to improve. Realizing that they could not defeat the Comanches, the Spanish attempted to build a strong trade relationship with them instead. Through trade, the Spanish hoped to make the Comanches reliant on Spanish goods and thus unlikely to threaten their suppliers—a policy often employed by the French and British, termed "peace by deceit."[51] The victory of Juan Bautista de Anza in 1779 over Cuerno Verde, a Comanche war leader, gave the Spanish a starting point for negotiations. The Comanches suffered reversals at this time that also made them more amenable to peace. They had renewed war with tribes to the east and several smallpox epidemics had raged throughout Comanchería. In addition, the American Revolutionary War drew French and British traders to the east and away from their trade with the Comanches. Although the process took almost a decade, in 1786 Ecueracapa, a prominent Comanche political figure, arrived in Santa Fe as the spokesperson for the Comanches, charged with negotiating a peace. Shortly before his

arrival, Comanches had once again raided Pecos Pueblo. Ecueracapa executed the leaders of the raid to demonstrate Comanche goodwill.[52]

The Comanches entered the negotiations as the stronger party. Among a series of demands that gave the Comanches license to trade when and where they wanted in eastern New Mexico, Ecueracapa requested, once again, "the establishment of fairs and free trade with Pecos." He also required safe passage through Pecos to Santa Fe and the termination of Spain's peaceful relations with the Apaches. After their first meeting, Anza moved the treaty negotiations to Pecos Pueblo. While the leaders discussed the terms of the peace, Pecos, Comanches, and Spanish mingled in the meadow east of the pueblo. Numerous Comanche bands had arrived and camped in the vicinity. Anza formally opened a trade fair upon the conclusion of negotiations, admonishing all parties to behave themselves. After a successful afternoon of trading, Anza commented that the Comanches "proclaimed publicly that they know now more than ever the truth of our peace."[53]

The Comanche peace ushered in a brief period of prosperity for Pecos Pueblo. Seasonal trade fairs occurred once more. Along with Taos, Pecos became the primary point of contact with the Comanches. Traders sought out horses in particular. The Comanches "traded so many horses that Taos and Pecos were soon reported having 'a considerable number.'" Pecos Pueblo also served as a meeting place for Comanche and Spanish emissaries. Jupes and Yamparikas, two divisions of the Comanches, came to the pueblo in 1787, also seeking a treaty with the Spanish as the first had primarily been negotiated with the Kotsotekas. Various intermediaries who could translate for the Spanish and Comanches took up residence at the pueblo, including José Mares, a plains explorer, who appeared in the 1790 Pecos census.[54] Peace did bring an end to Pecos Pueblo's friendly relations with the Apaches. The Comanches demanded that the Spanish join them in making war on the Apaches, who became the common enemy of Spanish, Pueblos, Utes, and Comanches alike.[55]

The 1786 peace brought some changes to Pecos Pueblo and the surrounding environment, but it did not inaugurate a revival of the pueblo. Although the number of livestock increased due to trade fairs, the numbers never reached seventeenth and early eighteenth century numbers. A few Pecos families resumed farming in the ciénega, but much of the land was not returned to agricultural production. The small number of inhabitants remaining in the pueblo—only 152 by 1790—no longer needed as many fields or livestock. The diminishing presence of Franciscans at Pecos also contributed to the decline in agricultural and livestock production. Despite the physical presence of the church, friars came to Pecos irregularly during the eighteenth century and never stayed long. Although they were supposed to live at the pueblo, the friars often remained in Santa Fe, visiting the pueblo at infrequent intervals. After the peace, the growing Hispanic population in the area captured the friars' attention. In 1782 the Franciscans formally declared Pecos Pueblo a *visita* of Santa Fe, meriting only the occasional services of a visiting friar.[56]

"We Have Registered a Place that Today is Barren and Unsettled": Hispanic settlement in the Upper Pecos valley

With the Comanche threat removed, Hispanos moved beyond established Spanish towns, forming new communities on the northern and eastern borders of the province. Men like Juan de Dios Peña looked to these regions and envisioned the possibility of forming prosperous farming and ranching communities. With the abandonment of pueblos and the reduced population, land the Pecos had formerly worked or inhabited lay unclaimed. The diminished power of the

Franciscans also opened areas to settlers who no longer had to compete with the friars' monopoly of arable lands or their large livestock herds. Hispanic population expansion proved to have more lasting consequences for Pecos Pueblo and its environment than the brief resumption of trade with the Comanches. In the final years of the eighteenth century, a new system of land ownership and use arrived in the Pecos valley with the Hispanic settlers.

Pecos and Spanish conceptions of land ownership had born no resemblance to each other when contact first occurred in the sixteenth century. Over the succeeding years, a system ascribing ownership to the Pueblos evolved based on a conglomeration of Spanish legal traditions that became locally accepted practice in New Mexico by the mid-1700s. Technically, the Spanish Crown never stated that the Pueblos owned any land—a 1689 document allegedly granting land to the Pueblos later was proved a forgery. However, as vassals of the Spanish Crown, the Pueblos theoretically could possess land, and the Spanish were obligated to protect their wards from disposing of that land to their own detriment. The initial Spanish policy of keeping settlers and Pueblos separated resulted in the notion that the four leagues surrounding a pueblo could not be settled or used for grazing.[57] By the 1700s everyone in New Mexico—including the Pueblos themselves—had come to believe that these four leagues were the land that a pueblo actually owned. Whether or not the Spanish Crown had ever intentionally granted the leagues, they became Pueblo property in the minds of everyone concerned. As historian Emlen G. Hall says, "ironically, in Hispanic eyes New Mexico pueblos came to own only what non-Indians could not acquire."[58]

The concept of the pueblo league, or grant, instituted foreign ideas of land ownership to Puebloan society. Although certain people or families may have controlled land, and the pueblos probably occupied recognized territories, formal, legal measures of that land did not exist, nor the idea that the pueblo as a whole "owned" a piece of property. Hispanic land practice, however, did make such distinctions through a mix of communal and individual ownership. The Spanish Crown awarded grants to settlers and within each grant, officials parceled out individual pieces of property. The grants also included large pieces of communal land for grazing, hunting, and foraging activities. Some Spanish land grants were expressly for grazing purposes while others were community grants, meant for the establishment of a permanent village.[59]

Discussion circulated in Spanish circles about the usefulness of communal land as concepts of individualism gained greater prominence in the nineteenth century. Hispanic settlers believed in the necessity of communal lands to successful settlement, particularly in an arid, marginal environment like New Mexico. Peña and the other settlers who began moving to the Pecos valley expected to make full use of the land—in their own individual, irrigated fields and also by grazing their animals in the surrounding meadows and forests, which also provided ample timber and firewood. By the beginning of the nineteenth century, the Pecos no longer used all the arable land available to them, particularly the fertile fields by the Pecos River. Hispanos began using the term *sobrantes*, meaning "extra" or "surplus" for these "unused Pueblo Indian lands" in 1731. Because these lands often were the best in any given area, they were tempting to incoming settlers. Settlers argued that if a pueblo was not using the land, it should be given to someone who would.[60]

The Pecos ciénega was not in immediate danger from the first Hispanic settlers who came to the valley. The San Miguel del Vado grant, awarded to a group of colonists in 1794 who quickly founded a village of the same name, was about twenty miles to the southeast of the pueblo. Although the settlers did not threaten Pecos lands, they did threaten its status as the gateway to the plains. Located slightly closer to the plains, the village replaced Pecos Pueblo as

the primary eastern point of call for Comanches and other traders. Not only its location, but the people who inhabited San Miguel made it attractive. Composed primarily of people with mixed Spanish and Indian heritage, many of whom had lived as slaves among the Comanches before being bought by New Mexicans, the town's population understood the Comanche language and perhaps even possessed kinship ties with the Comanches.[61]

The resident Pecos friar began spending most of his time at San Miguel and by the early 1800s had moved there permanently. Although it attracted many traders and settlers, San Miguel remained a fairly primitive outpost. Fray Merino, the resident priest in 1801, described his district in a report, presumably encompassing both the remaining inhabitants of Pecos Pueblo and the residents of San Miguel. The friar depicted a settlement with a bare, subsistence economy. As historian John Kessell relates the friar's report, "Hispanos and Indians grew maize, wheat, and a few vegetables in fields irrigated by the Río Pecos, but only enough to subsist. They ran only a few head of cattle and no sheep or goats 'because the enemies do not let them increase.'…There were no industries or commerce worth mentioning, no bridges over the river, and no good timber for the royal navy."[62] The enemies mentioned by the friar were the Apaches who, in the wake of the peace accords, had become the common adversary of Comanches and Hispanos alike.[63] Although San Miguel may not have been prosperous according to the friar's criteria, it did grow steadily, and its presence encouraged more settlers to come to the Upper Pecos valley.

In 1813 three men, Francisco Trujillo, Diego Padilla, and Bartólome Márquez, applied for a grant between San Miguel and Pecos Pueblo, which became known as the Los Trigos grant. The application gave vague boundaries for the grant, but the applicants claimed the grant did not overlap with the Pecos league. However, the settlers eventually encroached on the league's southern border. To the north of the pueblo, in 1815, Juan de Dios Peña and several others petitioned for land. They submitted a statement to the governor, recording that "we have registered a place that today is barren and unsettled…outside of the property of [Pecos Pueblo]." Originally called the Cañon de Pecos grant, it became known as the Alejandro (or Alexander) Valle grant later in the nineteenth century. The Crown awarded both grants in 1815. Settlers at Los Trigos began building and planting in October. On the northern grant, settlers immediately started eyeing the Pecos ciénega and its abandoned fields a short distance downstream.[64]

The local alcalde constitucional, Matías Ortiz, measured both grants when he formally placed the settlers in possession. Both measurements favored the Hispanos over the residents of Pecos Pueblo. Although the applicants had claimed otherwise, both grants overlapped the northern and southern boundaries of the league. The Pecos understood that the new grants threatened their territory. In 1818 they lodged a formal protest with the alcalde mayor at San Miguel, Vicente Villanueva. They accused a settler, Juan de Aguilar, of going beyond the boundaries of the northern grant and building on pueblo land. Villanueva came upriver to the pueblo and conducted a survey himself. He found that indeed, Aguilar was on the Pecos grant. Aguilar protested in turn, claiming that Villanueva had used faulty survey methods.[65]

The process of surveying reveals both the desires of the Hispanos to claim the land legally and also the arbitrariness of their claims. Surveys of Pueblo leagues were supposed to start at the church, which usually stood in the center of the pueblo. At Pecos Pueblo the church stood a distance to the south. Some surveyors started at the church anyway or in the cemetery adjacent to it. Villanueva actually altered the rule to fit the situation at Pecos by beginning at the north corner of the pueblo complex. Hispanos and Pecos also debated the proper length of a rope and whether the surveyor stretched it tightly. Villanueva argued that the Pecos survey should go

above depressions in the ground, such as arroyos, which would give the pueblo more land than if a surveyor did not stretch the rope over such features. Other surveyors merely went down into such depressions, considerably shortening the league measurement.[66]

Despite the protests of the Pecos, Hispanic settlement in the valley continued. It proceeded slowly at first. The three original families of the Los Trigos grant may have constructed temporary summer homes and had gardens and livestock on the grant by 1821. These were located approximately "ten miles below the Pecos ciénaga."[67] An epidemic in 1800 struck not only Pecos but also the Hispanic community downriver at San Miguel del Vado and perhaps other settlers closer to the pueblo. Subsequent disease outbreaks appeared to strike Hispanos and pueblo inhabitants with varying force. An 1802 epidemic among the Hispanos did not seem to affect the Pecos. An 1816 outbreak also affected the Hispanos more severely, although it took Pecos lives as well.[68] Despite disease and the difficulties of starting over in a new place, Hispanic settlement continued to increase while the pueblo population declined. By 1821 only fifty-four people remained at the pueblo. In contrast, around 170 Hispanos lived in the area in 1800, and their numbers increased to 738 by 1821.[69]

As more settlers came to the region and peace allowed for easy movement between communities, traffic between Pecos, Santa Fe, and San Miguel del Vado intensified. In the late eighteenth century the Cañada de los Alamos grant lying near what later became Cañoncito was awarded to Hispanic settlers. These settlers, or others moving eastward from Santa Fe, began grazing their livestock around Cañoncito. With settlers north of the Pecos grant as well, on the Cañon de Pecos grant, livestock grazed in far more areas than in any previous period, with the possible exception of the mid-1600s. Although livestock numbers grew steadily in New Mexico after 1786, their effects were localized.[70] Around Hispanic settlements, such as San Miguel, or pueblos like Pecos, and along trade routes, the environment probably did become degraded to some extent. Because animals were usually kept close to settlements, the region as a whole and the watersheds of the Pecos River and Glorieta Creek were not damaged. Other activities, too, did not foster large-scale resource exploitation. Although Juan Peña no doubt hoped to prosper, he and the other settlers only managed to maintain a subsistence lifestyle. Tools remained primitive—wooden hoes and perhaps rudimentary plows for breaking the soil.[71]

Despite the simple existence of Pecos valley residents, the decades following the Comanche peace did bring many changes to the environment. The landscape of the valley changed. Individual homes; long, rectangular fields supplied by acequias; the distinctive "coyote fences" of thin, vertical juniper poles pressed tightly together—these visual manifestations of Hispanic land use created a new cultural landscape. Grazing from the livestock owned by the Pecos and later by the Hispanic settlers who began to move into the area may also have affected the fire regime. In their study of a piñon-juniper woodland near Albuquerque, Christopher Baisan and T. W. Swetnam found that following the Pueblo Revolt, the fire interval decreased and fires became more intense. Following 1784, fires abruptly disappeared for around forty years—a date that coincides with the Comanche peace and an increase in Spanish settlement.[72] Historian David Weber states that the Spanish discouraged the use of fire by Indians, but the only specific evidence he mentions is for California. No evidence exists on how the Spanish may have changed the use of fire by the Pecos.[73]

Evidence for how the Spanish themselves may have used fire is also limited. In a dispute between the Suma Indians and the Hispanic residents of El Paso in 1764, the Suma accused Hispanic sheepherders "of grazing their flocks on Suma land and…setting fire to trees and shrubs to produce better grazing ranges."[74] In her study of the Valle del Mezquital, Elinor

Melville found that in Central America, burning vegetation in valley bottoms before the rainy season to improve pasturage was a common practice.[75] Some of the new settlers in the Pecos valley may have employed fire, perhaps continuing practices of the Pecos. Or they may have suppressed fire, either deliberately or through a decrease in fuel due to timber harvesting and grazing.

Climate also played a role in the fire regime. Periods of high moisture followed by a dry year often lead to higher fire frequency. Baisan and Swetnam found evidence of a severe fire in 1748, recorded as a dry year throughout the Southwest; rainfall had been high the two years before.[76] Tree ring data from Arroyo Hondo shows 1740 as an extremely dry year. From 1745 to 1760, however, rainfall was higher than normal.[77] An increase in vegetation, coupled with fewer livestock and human effects on the landscape, may have resulted in more frequent fires in the Pecos area for a few years. This situation possibly reversed itself following 1786 as once again, higher numbers of livestock and people returned to the Pecos valley.

"Don Pedro Pino Fue, Don Pedro Pino Vino": Spanish territorial policy

Although nominal subjects of the Spanish empire, the Hispanos who settled in the Upper Pecos valley and elsewhere in northern and eastern New Mexico may have felt deeper ties to the Comanche empire. As San Miguel del Vado replaced Pecos Pueblo as New Mexico's eastern entry point, many Hispanos began venturing out onto the plains to trade with the Comanches rather than waiting for the Comanches to come to them. Known as *comancheros*, they met with Comanche rancherías far from Spanish officials and their taxes and regulations. *Ciboleros*, Hispanic bison hunters, also took to the plains during the long peace with the Comanches. The cibolero became an important cultural figure in eastern New Mexico where Hispanic villages began to resemble their Comanche counterparts. Bison meat became a food source for villagers who consequently devoted less time and energy to farming. The Comanche language, too, became almost universal in eastern New Mexico.[78]

Spanish officials were none too pleased with the direction of affairs in their northern province. Spanish elites did not approve of the cultural ties between Hispanic settlers and the Comanches. Spanish officials had also deluded themselves into believing that peace with the Comanches had given their empire a nation of subject Indians between its northern provinces and the encroaching United States. The United States had purchased the Louisiana Territory in 1803, and Spain was alarmed at the expansionist ambitions of the new country. The Americans made it clear that they believed the Louisiana Territory extended far to the west—much farther than Spain was willing to admit. Spain hoped that the Comanches would serve as a buffer, preventing American expansion. It became apparent, however, that the Comanches did not consider themselves subjects of Spain. They accepted Spanish gifts—a heavy burden for the poor provinces of New Mexico and Texas—but did not deem themselves bound to Spanish politics. They were happy to cultivate trade relationships with the Americans to obtain the manufactured goods that New Mexico and Texas could not provide.[79]

Although New Mexico was pulled eastward, away from the center of Spanish power to the south, Spain did not relinquish its northernmost colonies. In the late 1700s, under the Bourbon emperor Carlos III, Spain attempted to rejuvenate its foreign policy and solve the problems plaguing New Mexico. Part of the reforms involved strengthening frontier defenses, which, although not too successful, did lead to Juan Bautista de Anza's victory over the Comanche chief Cuerno Verde. More important were new economic policies that at last began to improve a stagnant frontier economy.

For many years, Spain had employed restrictive commercial policies that inhibited the growth of provinces like New Mexico. Worried about the possibility of smuggling, Spain refused to allow New Mexico to export goods to the Gulf of Mexico and establish a port there. Instead, the long, dusty *Camino Real* from Mexico City to Chihuahua and the Chihuahua Trail from there to Santa Fe remained the only connection between New Mexico and Spanish markets—a route that incurred high transportation costs and carried the almost constant threat of Apache or other Indian raiding. Products from Spain could only enter the colonies at Veracruz, and economic conditions in Spain meant that these goods were often overpriced.[80] In order to protect domestic producers, Spain never promoted the development of manufacturing in its colonies.[81] New Mexico also suffered from a deficiency of hard currency, and its colonists protested any imposition of taxes or regulations, claiming they would only stifle the economy further.[82]

The restrictive commercial policies translated into less stress on the environment. New Mexico remained locked in a subsistence economy where people eked out a living from the land but did not exploit it for capital gain. For example, although Spain imported hides and skins from New Mexico, the numbers never approached what the French and British took from eastern North America. The different strategies reflected changes in imperial policy. As historian David Weber explains, Spain began its empire in the sixteenth century when "European kingdoms put primacy on territorial acquisition through political and religious domination." England and France "entered North America in an era of commercial expansion, when control of trade had become more important than control of territory."[83] By the end of the eighteenth century, Spain was attempting to bolster the commercial potential of its North American colonies.

Increased numbers of presidial troops as well as the construction of barracks and posts brought jobs and money to New Mexico. Spanish officials tried to increase the amount of hard currency possessed by the soldiers so that more would circulate in the local economy but never took the most basic step of increasing the soldiers' incomes. The Spanish government also financed numerous expeditions from New Mexico to its other North American provinces, particularly Alta California. Although New Mexicans found feasible trade routes, they had little incentive to transport goods over long distances to colonies as poor as their own. Trade with Mexico remained the most important outlet for New Mexican exports, although gifts to the Comanches also provided local farmers and artisans with a market.[84]

Despite the middling success of Bourbon reform efforts, New Mexico did experience economic growth beginning in the late 1780s, continuing until the Mexican revolt shattered commercial networks. Higher numbers of goods left the colony, and Hispanos started their own weaving industry that began to supplant the market for Puebloan cloth. Livestock remained the colony's biggest export. The numbers of sheep in New Mexico grew, and by the end of the eighteenth century more than 20,000 were exported each year. Peace in New Mexico, demand for exports in the growing province of Nueva Vizcaya to the south, and the growth of the Hispanic population in New Mexico probably accounted for the economic prosperity far more than Spanish policies.[85]

Further political developments in Spain during the early 1800s did have a significant effect on New Mexico. Napoleon's rampage through Europe displaced the Spanish king from his throne for a few years. The Cortes, a parliament that met from 1810 to 1814, stepped into the vacuum. The Cortes encouraged local participation in government. Pedro Bautisto Pino, a prominent New Mexican, traveled the thousands of miles between New Mexico and Spain to serve as the province's representative.[86] When the king resumed power, he abolished most of the laws passed by the Cortes. Although residents of New Mexico ridiculed Pino's seemingly futile

journey to Spain, saying "don Pedro Pino fue, don Pedro Pino vino" (don Pedro Pino went, don Pedro Pino came), several laws passed by the Cortes remained in practice in New Mexico or were reinstated when Mexico gained its independence. The Constitution of Cadiz, ratified in 1812 by the Cortes, allowed for the formation of *ayuntamientos*, or town councils, on the frontier as well as the formation of an elected body of representatives termed the *diputación*. In addition, the Constitution proclaimed as citizens the majority of male Spanish subjects, including Pueblos. Following the urging of representatives like Pino, who knew the hunger for land that plagued settlers on the frontier, the Cortes passed a *sobrantes* (surplus) act in 1812, which allowed for the distribution of unused pueblo land. The diputación ruled on all such cases.[87] Juan Peña could expect support from local officials if he decided to move into the Pecos ciénega.

The eagerness with which the province adopted the Cortes' policies demonstrated the determination of settlers to obtain land in New Mexico and to achieve a more autonomous government. Ayuntamientos and the diputación gave New Mexican settlers the ability to make their own policy decisions rather than waiting for months to hear from Mexico City. The Spanish government had done little to inculcate loyalty in New Mexicans—despite reform efforts the province remained defensively undermanned and choked by economic restrictions. Culturally, the people grew further away from Spanish Mexico. Ties to the Comanches and the large population of captive Indians who became incorporated into society helped to develop a distinct Hispanic identity. By the early nineteenth century New Mexicans divided themselves into two groups—Pueblo Indians and Hispanos.[88] The Pueblos had few reasons to support the Spanish and the Hispanos had many reasons for wanting greater independence. When Mexico declared its independence from Spain in 1821, few in New Mexico actively supported the rebellion, but nor did they protest their new status as republican citizens.

By 1821, the landscape near the Pecos Pueblo had assumed a new form, quite different from the patterns of the previous centuries. Following the decrease in human alterations to the environment caused by Comanche raiding through much of the eighteenth century, the peace of 1786 allowed Hispanic settlement near the pueblo to begin. The few remaining Pecos watched helplessly as settlers began moving onto their old lands. The boundaries of land grants placed new borders on the landscape, and Hispanic land use practices changed the environment as well. Although the numbers of settlers remained small, and their effects localized, their presence heralded the beginning of a new period in the region's history. Bourbon reforms had started to open the province to commercial expansion while local governments began to play a larger role in land distribution. Juan Peña, planting his first crops along the Pecos River, believed the new settlements would prosper. The peace with the Comanches continued to hold, and the new republican government in Mexico promised to consider the province's needs and desires more carefully than the distant Spanish Crown ever had. But although the Upper Pecos valley's future may have appeared secure, it would continue to be a contested borderland in coming decades.

Chapter Four

The Expanding American Empire, 1821-1861

Helen Kozlowski dismounted from the wagon, tired and dusty, and surveyed the adobe house in front of her. Six thick posts buried in the ground supported the roof of a porch, but otherwise the structure was simple and plain. Inside, she found three rooms—enough space to house her family and also accommodate travelers passing by on the Santa Fe Trail, still an important trade route in 1858. Her husband, Martin Kozlowski, had recently retired from the army, purchased the ranch and hostelry from James Gray, and fetched his family from Missouri to their new home in the Upper Pecos valley.[1]

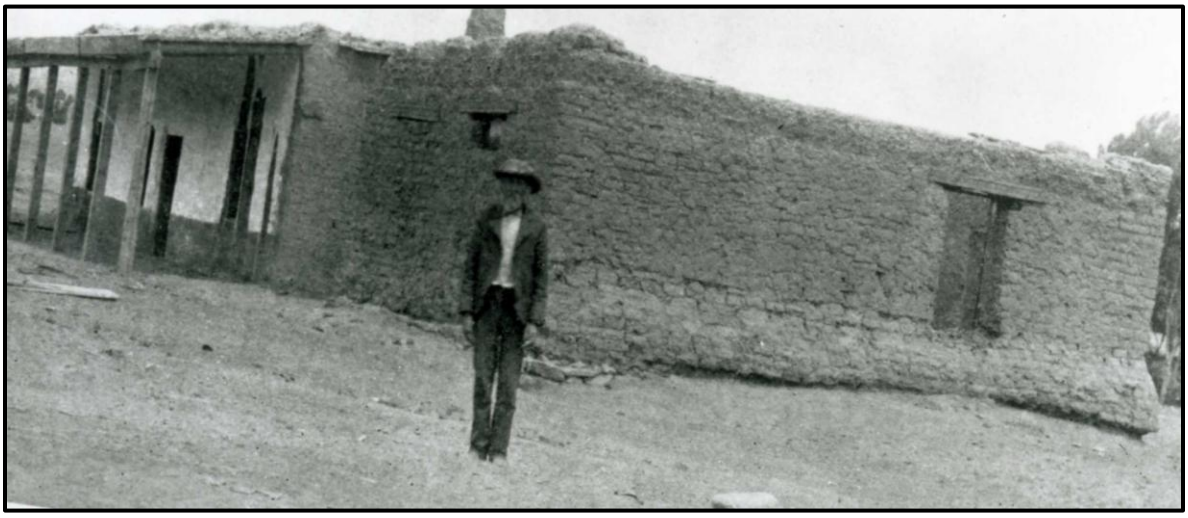

Figure 3. The Kozlowskis' home as it appeared circa 1900. The man posing in foreground is possibly Martin Kozlowski. Source: Park Files—original negative at Colorado Historical Society, Negative No. F4548.

Helen probably had heard tales of New Mexico from the merchants who embarked on the Santa Fe Trail from Franklin or Independence, Missouri. But Pecos must have appeared strange and foreign to Helen when she arrived. In Missouri most of her neighbors had been other Euro-Americans like Helen and her husband. Here, the majority of the settlers in the valley were Hispanos who had been citizens of Mexico just ten years before her arrival. The dry air, piñons, and cacti protruding from the ground seemed exotic to someone accustomed to the verdant, humid valleys of Missouri.

Although Pecos was an alien environment to Helen in many respects, there were comfortingly familiar elements as well. Many of the traders and travelers who passed by on the Santa Fe Trail and stopped at Helen's house were English-speaking American citizens. They brought items, such as clothing and newspapers, that allowed Helen to remain in touch with the cultural pulse of the United States. Soldiers also traveled along the Santa Fe Trail, going to and from posts in the region. Even if it took Helen awhile to feel at home in the Upper Pecos valley, to learn the shapes of the surrounding mesas and the names of her neighbors, the landscape itself reflected the growing connections to the United States. The wide, overlapping tracks of the Santa Fe Trail, worn into the trampled grass and dirt; the increasing numbers of private homes and ranches in the area; the growing commercial herds of sheep and cattle—all represented the

effects of a new cultural system entering the valley behind the footsteps of traders, immigrants, and soldiers.

Pecos, 1821-1861

When Mexico wrested its independence from Spain in 1821, New Mexico remained a borderland. Claimed by Mexico, the province still stood on the outskirts of the Comanche empire, and the Comanches continued to exert control over New Mexican inhabitants and resources. In the 1840s a new player entered the picture—the United States, full of expansionist ambitions. At Pecos, the competing desires of Comanches, Mexico, and the United States intersected, once again turning the valley into a place of conflict and change.

Like Spain before it, the Republic of Mexico failed to establish a strong presence in New Mexico. Mexican officials provided little military aid to the province and sent outsiders to act as governors, angering Hispanic inhabitants who desired greater autonomy. Mexican policies, however, did open New Mexico to foreign trade and settlement. Americans intent on trading with Mexico established the international trade route known as the Santa Fe Trail. Trade with the United States stimulated the New Mexican economy but also drew wealth and resources away from the province. Mexican officials tried to control the trade and other American ventures in the province, such as fur trapping, but lacked the power to enforce laws. Mexico also failed to maintain peace with the Comanches, and raiding once again devastated the northern and eastern provinces. Comanche assaults weakened the region and left it vulnerable when Colonel Stephen W. Kearney's Army of the West advanced, intent on taking over the land for the United States. The Mexican War, fought between the United States and Mexico from 1846 to 1848 after the American annexation of Texas, ended Mexico's claims to territory north of the Rio Grande. The 1848 Treaty of Guadalupe Hidalgo enclosed New Mexico—and Pecos—within the borders of the United States, whose leaders intended to strengthen the trade connections on the Santa Fe Trail and draw the region into the rapidly expanding nation.

Some immigrants from the United States, drawn by the opportunities offered by the Santa Fe Trail, had entered New Mexico before the Mexican War. Civilian immigration increased after the war, but the permanent presence of the United States army in forts along the trail had far greater implications for the region. The army's demand for supplies fueled growth in the local economy and expansion of livestock herds, agriculture, and the timber business. Soldiers, traders, immigrants like Martin and Helen Kozlowski—all of them came from a cultural system rooted in capitalism and an emphasis on private property. The privatization of land and the transition to capitalism in New Mexico had already begun in the late Spanish and Mexican period, but the arrival of the Americans intensified the process. During the early nineteenth century, the United States rapidly industrialized and extended its commercial ties around the globe. As New Mexicans found themselves incorporated into the United States, they also discovered a wealth of new markets eager to consume the resources New Mexico offered.

In the Pecos area the environment now reflected the effects of the transition to United States control. The Santa Fe Trail and new homesteads such as the Kozlowskis' appeared in the valley—physical manifestations of the deepening connections to the east. Other signs told a similar story—eroded, barren land filled with exotic weeds on either side of the Trail, created by the thousands of livestock traveling it each year. The increasing numbers of sheep and cattle owned by settlers in the valley, who now had ready markets for the animals, also denuded vegetation and caused erosion. Fur trappers hunted out the beaver in Glorieta Creek and the Pecos River. The increasing human population of the valley put pressure on other species, such

as mule deer and elk, through hunting. Ponderosa pine and fir for timber, piñon and juniper for firewood—all succumbed to axes as people extended the cleared areas around settlements in their search for wood.

The quest to prosper—or at least survive—in the Pecos valley engendered conflicts as people fought for control of the timber, grazing lands, and cultivated fields. Hispanic settlers and the last Pecos Indians struggled for possession of land. Immigrants like Martin Kozlowski, although subject to local land ownership patterns, also imported ideas of private property quite distinct from Hispanic conceptions of communal land grants. By the eve of the Civil War, the Pecos landscape once again reflected the presence of a sizeable human population, but one that utilized resources and land in a different way than the Pecos Pueblo residents centuries before.

"Consider the Extent of the Pain that We Suffer": Pecos in the Mexican Republic

When Agustín de Iturbide led Mexico to declare its independence from Spain in 1821, New Mexicans cautiously embraced the new government. They did not want to appear too enthusiastic in case Spain managed to reassert control, and also harbored doubts over whether the Mexican government would be an improvement over the Spanish. As the weeks following independence stretched into months, some New Mexicans expressed hope for the future. Donaciano Vigil, a prominent New Mexican landowner, remembered that "we expected to enter a new era of happiness and this word, and the word 'liberty,' were those that were most used and most repeated in those days."[2] However, it soon became apparent that, like Spain before them, Mexico would leave its northern frontier—New Mexico, Texas, and California—to fend for itself with only sporadic and limited aid from the central government. Some New Mexicans advocated provincial independence, culminating in a brief rebellion in 1837. Although the rebellion failed, New Mexicans continued to strive for greater autonomy.[3]

The destabilized Mexican government worsened the situation on the frontier. Under the First Federalist Republic, the Mexican Congress never managed to formulate a government for New Mexico, which struggled along using the ayuntamientos and diputaciónes of the Spanish period. These governmental bodies tried to adjudicate over a confused situation where opponents could draw from both Spanish and Mexican laws to prove their case. When the Centralists gained power in Mexico in 1836, they imposed a territorial governor who had no experience with life on the northern frontier. Neither system satisfied the New Mexicans.[4]

Events in their northern provinces made it even harder for Mexican officials to assert control and gain the loyalty of their citizens. The Comanches remained the dominant power in the Southwest through the 1840s, and although Spain had maintained peace with the Comanches, the Mexican government did not. The gifts and money that had placated the Comanches ceased as Mexican officials were swept up in the internal disruption that followed the revolution. Even when conditions stabilized, the Mexican government remained impecunious and failed to renew the annually expected gifts. The Comanches swiftly returned to raiding.[5] Comanche raiding drove off the original settlers of the Los Trigos grant near Pecos Pueblo. Although in 1821 there may have been some limited development along the river—summer shacks and gardens—by 1826 the Comanches had forced settlers Diego Padilla, Francisco Trujillo, and Bartólome Márquez off the land. No new settlers returned to the Los Trigos grant until 1842.[6] Like the Spanish, the Mexican military failed to adequately protect the territory, and New Mexicans relied on their own militia, often supplemented with Indian allies.[7]

As Comanche and Mexican relations worsened, New Mexico pursued its own policies of peace. New Mexican officials managed to convince the Comanches that trading offered more

advantages than continued raiding. Often, New Mexicans kept the peace at the expense of other Mexicans. Because of their close ties to the Comanches, New Mexicans often received intelligence of raids the Comanches were planning into Chihuahua or other northern Mexican states. New Mexicans usually refrained from notifying Mexican officials of such raids and did nothing to stop the Comanches from pursuing their southern raiding expeditions.[8]

Although Mexico failed to protect its northern provinces, some of the regulations passed by the new government did meet with the approval of Hispanic New Mexicans. Even before independence, Spanish Mexico had begun restoring the Constitution of 1812, passed by the Spanish Cortes. The Constitution contained the provision to make all males Mexican citizens—including Pueblos—and also, through the local governmental bodies of ayuntamientos and diputaciónes, to distribute the unused land of pueblos, called sobrantes.[9] Citizenship did not improve the situation of the Pueblos, as they lost all the protections afforded them under the Spanish Crown in regards to their lands. The renewal of the 1812 Constitution and the revitalization of local governments in New Mexico opened the door for settlers in Pecos to begin requesting land in the ciénega and elsewhere along the Pecos River. Although Comanches drove off the settlers on the Los Trigos grant for a time, the settlers north of the Pecos grant remained and sought to increase their holdings. In February 1821, just before independence, a group of settlers petitioned Governor Melgares for the unused land of Pecos Pueblo in the ciénega, claiming that the few families who still lived in the pueblo did not need all the land. The petitioners argued that they would be able to cultivate the land, turning an economic liability into a profitable enterprise.[10]

The grant application was never carried through, but in his report the alcalde constitucional, Juan Rafael Ortiz, questioned not whether the residents of Pecos Pueblo owned the land but whether they needed the land. A new group of petitioners used the same tactic when they applied for a grant of the Pecos sobrantes in 1823. The Pecos resisted these attempts to seize pueblo lands, firmly stating that the land was theirs, and they needed it to raise irrigated crops. Probably reflecting years of intermarriage and social ties, the local government at San Miguel del Vado supported the Pecos. Vicente Villanueva, the alcalde mayor who had previously surveyed the Pecos Pueblo league to the benefit of the Pecos, determined that the Pecos did indeed own the land. Accepting this conclusion, the diputación denied the petitioners.[11]

Undaunted by the ruling, many settlers began to move into the land around the ciénega through a variety of illegal means. Diego Padilla, one of the Los Trigos grantees, finagled a promise of farmland from the diputación secretary and supposedly bribed the Pecos with a few cattle. The Hispanic settlers quickly began improving the land. By 1826, "non-Indians had under cultivation 8,459 varas of land in Pecos, using almost five miles of new irrigation ditch."[12] Others continued to apply for land grants. In 1825 the diputación granted more of the ciénega to Miguel Rivera, Domingo Fernández, Luis Benavídez, and a variety of co-applicants.[13] More petitions followed, and soon the majority of the communal pueblo lands had been granted to Hispanic settlers.

The Pecos tried to reverse the continuing usurpation of their lands. In 1826 and 1829, they petitioned the governor directly, asking for the removal of the settlers. "Consider the extent of the pain that we suffer when we see ourselves violently despoiled of our lawful possessions," the Pecos pleaded.[14] The diputación had no right to allot a pueblo's land, they claimed. The diputación waffled back and forth on the issue. No matter what the government ruled, no one forced the settlers to relinquish their claims. The settlers claimed that a Pecos sold them the rights to the ciénega in 1830. Although they still retained the legal rights to the rest of the grant,

the Pecos had lost the most valuable land along the Pecos River. The Pecos maintained that they suffered harassment from the settlers, preventing them from growing crops and herding livestock. The inability to support themselves also inhibited population growth, which would have strengthened the Pecos' claims to the ciénega. In 1838 the remaining Pecos chose to leave the pueblo and moved to Jemez Pueblo. According to local tradition in the Pecos village, the Hispanic settlers promised to continue observing the feast-day mass of Nuestra Señora de los Ángeles de Porciúncula (Our Lady of the Angels), the patron saint of the Pecos mission, at the mission church each year. Yet with the Pecos gone, the pueblo and church on the mesilla began slowly crumbling, the natural effects of wind and rain hastened by settlers scavenging the structures for usable timber and stone.[15]

The Hispanic settlers who replaced the Pecos eagerly cultivated and ranched the lands in the area—the most intense land use since the seventeenth century. The majority of the settlers lived in the area around the ciénega, in what became the center of the village of Pecos. Some scattered further down the river. Archaeological evidence records the presence of five homesteads along the Pecos River within current park boundaries, which settlers established at various times in the nineteenth century. The homestead farthest south directly along the river (PECO 540, Figure 4) may represent the return of the Los Trigos settlers in 1842, as the earliest artifacts found at the site date to that time. Some surveys have suggested that the site can be connected to Diego Padilla, one of the Los Trigos grantees, but by the 1840s the original grantees had sold their titles to others. When the alcalde mayor of San Miguel placed the new settlers on the grant, they claimed that their land extended all the way to the Arroyo de Pecos (Glorieta Creek), a definite imposition on the Pecos Pueblo grant.[16]

A second homestead stood slightly to the southwest and farther away from the Pecos River (PECO 367). Deed records show that in 1839, Gregorio Calabaza, a Pecos, sold the land to José Mariano Ruíz. Although the Pecos had moved to Jemez, they had not forgotten their home or their interest in the land itself. Artifact dates begin around 1890, suggesting that Ruiz owned the land for fifty years before it was occupied, probably by a descendant.[17] Another homestead (PECO 175) stood on land that probably belonged to Anicieto Rivera. Can dates found on this site ended by 1879, but glass and ceramic artifacts suggest a longer period of occupation. The Benigo Quintana homestead stood on land that Quintana bought from Martin Kozlowski near the junction of Glorieta Creek and the Pecos River (PECO 270). Quintana purchased the land in the 1850s, but occupation probably didn't begin until the 1870s. The remaining homestead was not settled until the 1890s. Settlers may have seized the opportunity to purchase land even if they did not have the resources to immediately occupy it, which would explain the gap between purchase and occupation for several of the homesteads.[18]

Hispanic settlers asserted their control over the land by both physically occupying it and also connecting their new home to their culture and religion. Just as the Franciscan friars had built churches, said prayers, and planted wheat in New Mexico in order to incorporate the landscape into the Spanish culture, Hispanic settlers also found ways to turn New Mexico into a homeland. The process began when the first settlers arrived in the seventeenth century and accelerated in the late eighteenth and nineteenth centuries as more Hispanos migrated to northern New Mexico. Like the Pueblos, Hispanos found religious meaning in specific landforms and places. A legend developed about the Sangre de Cristo Mountains, for example. In the story, a young Spanish man dedicated his life to God after his lover died, and he sailed for the Americas to help convert Indians. Upon reaching New Mexico, Indians attacked his party. The young man was mortally wounded, and as he lay dying he asked for a sign from God. The distant mountains

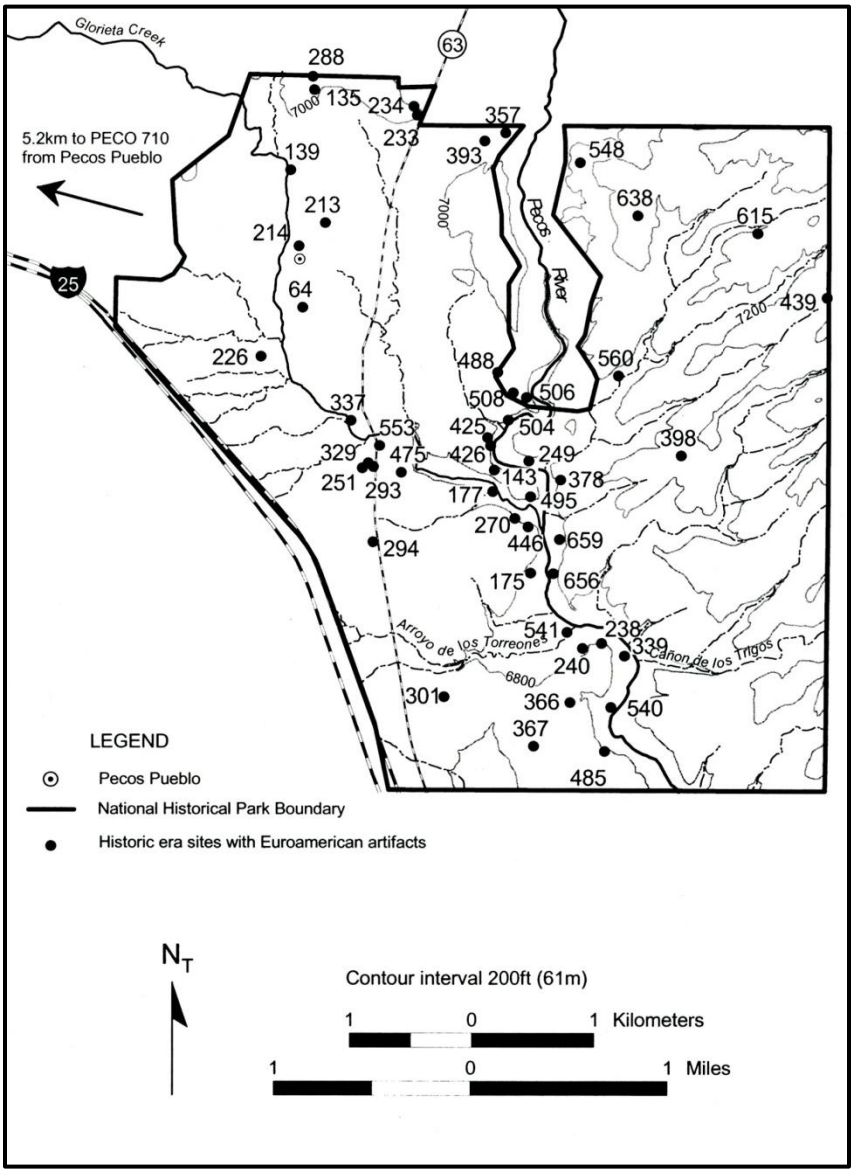

Figure 4. Sites with Euro-American artifact assemblages. (Reprinted, by permission, from Head and Orcutt, *From Folsom to Fogelson,* 2:368.)

turned gold and then crimson. The man cried out "Sangre de Cristo! Sangre de Cristo!" before dying. Hispanos also created many shrines in the New Mexican landscape where miracles had occurred, such as saints appearing to people and healing them. By imbuing the landscape with religious significance, Hispanos "created a new kind of indigenous identity." New Mexico became their homeland, and they defined themselves as natives.[19]

If Mexican independence did not bring all the changes New Mexicans initially hoped for, it did offer local governments the opportunity to assert greater control over land distribution. The Hispanic settlers of Pecos seized the moment and took over the fertile lands along the Pecos River. Despite the protests of the Pecos, Mexican officials never tried to force the settlers off the land. By the time Helen Kozlowski arrived in the Pecos valley, numerous settlers lived along the

river, and the pueblo itself had been abandoned for twenty years. Although the Pecos did not forget their homeland, the Hispanic settlers now governed the uses of that land.

"The Sounds of Thousands of Animals' Voices Was Mingled with the Tinkling of Many Bells": Hispanic land use patterns

The nineteenth-century Hispanic settlers in the Upper Pecos valley carried out a distinctive set of subsistence practices on their land. For them, the environment was a place to be manipulated and controlled to produce a livelihood for themselves and their families. When an alcalde mayor formally granted settlers their land, "the alcalde took the grantee by the hand and walked him over the land, while the grantee plucked up grass, threw stones to signify his dominion over the land, and shouted 'Long live the King!'" Under Mexican rule the President took the place of the monarch. Beginning their occupation in this way signaled the settlers' right and intention to utilize the resources of their land.[20]

The land use system employed by Hispanos had its roots in Spain and had evolved over the centuries. Ideas about communal land arose during Spain's tribulations with the Moors. Communities on the border of Moorish land acted as outposts for colonization and thus the Crown allotted them land for farming and grazing, as well as water rights sufficient for their needs. The system also worked well in New Mexico where settlers needed access to limited resources spread over a large expanse of territory. Upon the settlement of a land grant, each settler received several separate pieces of land. The division of a land grant in Mexico, for example, awarded each family "a building lot (*solar de casa*, usually 50 square varas), a garden plot (*suerte*) and one or two *caballerías* of land for field crops (a caballería contained approximately 105 acres)." Each family also had access to the communal land that constituted the rest of the grant and allowed for grazing, firewood and timber harvesting, and other activities. During the planting season, animals were pastured away from the settlement. During the winter months the irrigated fields were opened to grazing. This practice also originated in Spain where it was called *derrota de mieses*, or stubble grazing.[21]

Individuals owned livestock herds, but the land for grazing those animals was shared communally. The community also cooperated to irrigate their agricultural fields. Acequias, or irrigation ditches, distributed water throughout the settlement. Together, the community cleaned and maintained the ditches every spring. Smaller ditches, called *sangrias* which means "veins," led off from the main acequias to water individual fields. Watering occurred on a rotating basis, ensuring that all users received water, although small kitchen gardens could take water at any time. In a place with limited water, this system made the most of the resource for the benefit of the community.[22] In the ciénega of the Pecos River, Hispanos probably refurbished and expanded irrigation ditches that had been created by the Pecos. "A long irrigation ditch, arising in the Allejandro Valle grant and then running along the north and northeast side of the river" was in use by 1826. Settlers also constructed a new ditch on the west side of the river.[23]

Settlers quickly claimed irrigable land, such as the Pecos ciénega. They also began putting marginal lands into production just as the Pecos had done during the pueblo's greatest population growth in the fifteenth century. Once the original settlers had claimed the best land in the valley, poorer families began to settle on the remainder, trying to wrest a living from the land. The homesteads around the Pecos Pueblo, if substantial farming was carried out, were probably of this type. Like the Pecos, the settlers depended on rain and probably employed many of the same techniques to utilize moisture to its fullest potential. Unlike the Pecos, who had the entire valley at their disposal, the Hispanic settlers who lived farther away from the river only

owned small plots of temporal land and thus had a poorer chance of bringing in a good crop. On larger farms, wheat and corn were the most common temporal crops, whereas irrigated land was reserved for hay and vegetables.[24]

Well into the nineteenth century, the type of farming carried out by settlers remained primitive, scarcely changed from that of their ancestors. Tools, including plows, were often wood. Although traders on the Santa Fe Trail brought iron tools to New Mexico in greater numbers, many could not afford such luxuries. Only those with draft animals could utilize plows, and only the wealthy owned livestock in great numbers. Antonio Barreiro, a Mexican official serving as the legal advisor to the territories in the 1830s, and an advocate for the economic development of those territories, recorded that "in New Mexico, agriculture is completely neglected. The inhabitants of this country do not engage in large scale farming, from which they would doubtless derive much profit." Even the communal grazing lands were usually used most extensively by the richest members of a community who owned large herds of sheep and cattle.[25]

The consolidation of resources within the hands of a few became increasingly common during the early nineteenth century. A stratified society developed where the merchant and landowning class grew rich off the opportunities presented by the distribution of land grants and the Santa Fe Trail trade.[26] In 1836 the Mexican government instituted a provision requiring men to earn an annual income of at least 100 pesos to qualify for citizenship. In 1843 the amount was raised to 200 pesos.[27] Sheep ranching proved to be especially beneficial for a small number of Hispanos. Beginning in the 1700s, the *partido* system became common practice in New Mexico. Under this system, *partidarios* entered into three- to five-year contracts with owners of large herds. The owner gave ewes to the partidario, who gave annual payments of lambs and wool in return. At the end of the contract, the original number of ewes had to be returned to the owner.[28]

The system put the risk on the partidario. Agustín Armijo, who lived in or near Pecos village, and another settler from Alameda entered into a contract in 1833 with Juan Estevan Pino, one of the wealthy landholders of the area. Armijo agreed to take care of around 1,100 ewes, paying twenty percent of the profits to Pino each year. "To guarantee that Pino would not lose a single hoof, the partidarios pledged not only their possessions, but their persons as well, so that default could easily lead to peonage."[29] Many other settlers faced the same choices as Armijo, risking debt in an attempt to better their situation.

As the account of the partido contract shows, Pino's sheep herds were quite large. Pino lived in Santa Fe but owned interests in several land grants in the area on which he pastured his livestock. By 1835 Pino and his two sons, Manuel Doroteo and Justo Pastor, owned nine hundred cattle and eighty thousand sheep. At first, Pino pastured these animals on another tract of land that he owned on the Juan Bautista Valdez grant in northeastern New Mexico. However, after 1837 his livestock on that grant became the favored target of Indian, perhaps Comanche, raids. Pino moved both herds to Pecos.[30] During the summer, herders may have pastured the animals in the higher mountains, but the animals also grazed close to villages. Lieutenant J. W. Aberts, on a reconnaissance for the U.S. army in 1846 "found no pasture around the village of San Miguel and was forced to buy feed for his livestock."[31] Baldwin Mollhausen, acting as topographer on an army expedition to chart a wagon road through the Southwest in 1852, left a description of a herd of sheep near Anton Chico pastured about twelve miles from the village and numbering around 5,000 to 6,000. Mollhausen recorded that:

> The closely cropped grass now told us, almost as plainly as the sight of the flocks and herds at a distance that we were approaching a settlement.…The air seemed filled with a

> confused murmur, that became louder as we advanced and the sounds of thousands of animals [sic] voices was mingled with the tinkling of many bells from an enormous flock grazing in the valley.[32]

Pino probably moved his herds throughout the Pecos area, but in the winter most of the animals returned to Pino's land by the Pecos River, taking advantage of the custom that allowed for grazing on stubble fields. Other wealthy ranchers in Pecos followed the same practice. As in most Hispanic settlements, lots in Pecos consisted of long, vertical fields stretching down to the river. During the summer fences enclosed the lots, but they were removed after harvest to allow for livestock passage.[33]

Pino was one of several large landowners in the area. Donaciano Vigil owned a substantial ranch on the east side of the river. The Valencia family received a section of land to the south of Vigil in the 1825 grant partitioning and built a ranch house around 1850. Manuel Varela was also a prominent landowner. These families planted some corn and vegetables, but hay for their substantial livestock herds constituted the primary crop.[34] Although the acequia system utilized water resources effectively, ranching practices were not gentle on the land. Allowing cows and sheep to graze fields in the winter gave the land no respite. The large herds probably wandered throughout the area, including further downriver.[35] Grazing reduced both the extent of ground cover and the height of grasses, which in turn reduced the ground's ability to retain water. Flooding became more severe and erosion increased. If the introduction of sheep and cattle had occurred independently of human influence, available forage, water, and predation would have stabilized their number. Humans continued to keep livestock herds at artificially high levels; indeed, cattle and sheep numbers increased through the nineteenth century. Even when erosion did begin, vegetation often remained for a time, encouraging people to keep putting livestock on overgrazed land.[36] As historian David Hornbeck says, the system of land use was "based on satisfying current needs."[37] To prosper in New Mexico, people had to make use of every available resource. The addition of large livestock herds, however, taxed the long-term viability of those resources.

Martin and Helen Kozlowski readily adopted local practices when they arrived in Pecos. Although Martin did not own large herds of cattle or sheep, he certainly allowed the animals he did own to wander freely, grazing on the communal lands surrounding the valley. He did not own any land by the Pecos River, but may have built a small acequia to utilize water from Glorieta Creek. Helen doubtless gathered piñon nuts each fall with her neighbors. The Kozlowskis also adopted Hispanic ideas of land ownership, which centered on use and occupation as opposed to legal title. Martin did not have a legal claim to his ranch property, but he built on it and farmed on it, which was enough for his neighbors, many of whom rested their own claims to land ownership on the same principles.

"This Intrepid Little Band…Realized a Very Handsome Profit": The Santa Fe Trail

New Mexicans had long resented the restrictive commercial policies that Spanish officials forced on them. In 1821 the Mexican government lifted the restrictions and opened the province to foreign trade.[38] American traders, who already had cultivated contacts with the Comanches, immediately took advantage of the new situation. In November 1821, William Becknell and four others arrived in Santa Fe with a load of goods from Missouri. Josiah Gregg, who later traded and traveled on the Trail, recorded that "this intrepid little band…notwithstanding the trifling amount of merchandise they were possessed of, realized a

very handsome profit."[39] The arrival of Becknell's party officially opened the Santa Fe Trail.[40] The Trail not only served as a passageway for consumer items but also encouraged other people to come to New Mexico. American settlers arrived—willing to become Mexican citizens if it allowed them to profit off the growing trade and start their own farms and ranches. Fur trappers also arrived in New Mexico seeking beaver pelts. Although the influx of traders, trappers, and settlers did bring benefits to the province, the newcomers also had no qualms about pursuing their fortunes at the expense of New Mexicans.

Becknell returned to Missouri with Mexican money and reports of the rich trade opportunities. Hundreds of merchants followed his example, carrying American manufactured items to eager customers. The limited New Mexican population could only buy so much, and soon traders hurried through Santa Fe on their way further south. The American trade offered both opportunities and dangers to the Mexican government. On the one hand, it brought needed items and stimulated growth as well as maintaining friendly relations between Mexico and a potentially belligerent neighbor. However, the Mexican government could do little to actually control the trade, particularly in the territories. American merchants expected substantial sums of money in return for their goods but created few economic opportunities for Mexican citizens. As historian David Weber comments, Mexico faced the classic problem of developing countries—how to manage foreign trade for the benefit, not the detriment, of its people.[41]

In the end, Mexico failed to solve the problem. It became more and more dependent upon American manufactured items. In America the economy was expanding rapidly in this period, but in New Mexico people remained in a subsistence economy based on agriculture and ranching. No manufacturing grew in the territory to replace what the Americans brought. In New Mexico the government often lacked the funds to pay the salaries of military or civilian officials. The government relied on the annual trade caravans and tariff payments to ward off bankruptcy.[42] Even then, American merchants tried to avoid paying duties and began smuggling their goods through the mountains around Santa Fe.[43]

All travelers on the Trail passed through the Pecos area. Unlike in earlier times, Pecos Pueblo itself did not play a substantial role in the trade. The pueblo became a curiosity, a landmark on the Trail, and travelers concocted fantastical stories about its previous inhabitants. The pueblo and mission church still stood on the mesilla but began to crumble into ruin now that they were no longer occupied by the Pecos. Locals still made use of the pueblo and the land around it—one account from 1839 mentioned an old man who pastured a herd of goats at the pueblo and kept them in the crumbling church at night.[44] Although travelers might shelter for a night in the pueblo, far more preferable accommodations existed in San Miguel del Vado, and other entrepreneurs quickly realized the potential for profits. The people and animals traveling to Santa Fe needed places to stay and food to eat along the route. In or near the Pecos area, three establishments were built alongside the Trail offering lodging and meals for travelers.

The largest of the hostelries was known as Pigeon's Ranch, owned and managed by Alexander Valle. Valle came to Pecos in 1851, when he purchased the Cañon de Pecos grant, to the north of the Pecos Pueblo league, from the heirs of Juan Estevan Pino, Manuel and Justo Pastor. Pino had acquired the grant from the original grantees in the 1820s.[45] Alexander Valle was a native of St. Louis and possessed both American and French ancestry. Alexander's original last name was probably Valle, but when his mother married a man named Hyacinth Pigeon, Alexander adopted the name as well. Valle did not immediately settle on the grant land, instead starting a business on the Santa Fe Trail that soon became known as "Pigeon's Ranch"

and acquired a favorable reputation. Valle did not own the land, but claimed it through use and occupation.[46]

Located between the pueblo ruins and Glorieta Pass, Pigeon's Ranch stood a short distance from the Santa Fe Trail. The complex included numerous buildings and corrals. Merchants traveling to and from Santa Fe, army personnel, and other sundry visitors could find accommodations and food for themselves and their animals at the ranch. Valle himself owned stock, including a herd of sheep. In 1865 Comanches attacked the shepherds tending Valle's sheep twelve miles east of the ranch.[47] Valle continued his operation until 1865 when he sold the ranch to George Hebert and moved onto his Cañon de Pecos grant land.[48]

In the 1850s, James Gray established a second hostelry, "Roseville," in close proximity to the Pecos ruins.[49] By 1858 Gray had sold the property to Martin Kozlowski. Kozlowski came to America in 1853 from Warsaw, Poland and served briefly with the United States cavalry in campaigns against Indians.[50] The hostelry property stood well within the Pecos Pueblo grant. Neither Gray or Kozlowski possessed legal title to the land. Gray simply chose a promising and apparently unoccupied location, as many settlers did, and Kozlowski purchased the ranch from Gray without obtaining a legal title. Kozlowski's was not a large operation—in the 1860 census he reported owning one horse, four oxen, and eight pigs. Kozlowski had fifty improved acres by the banks of Glorieta Creek from which he harvested around eighty bushels of corn annually.[51]

A third ranch/hostelry complex was located at the southern egress of Glorieta Pass. Anthony P. Johnson, also from St. Louis, bought the established ranch in 1858, probably from a Hispanic settler. Johnson's Ranch, as it was known, was modest in scale like Kozlowski's. Although Johnson sold the ranch in 1869, it continued to serve as a hostelry.[52] Although neither Kozlowski nor Johnson owned many animals, their ranches hosted the large livestock herds that carried the substantial wagon caravans over the Santa Fe Trail. A trade caravan could include over two dozen freight wagons and hundreds of oxen and mules. The passage of these caravans had severe environmental consequences for the landscape on either side of the Trail. The livestock trampled and overgrazed vegetation, both the animals and wagons contributed to erosion, and many watercourses grew polluted and barren.[53] Wagoneers created overlapping sets of tracks on the Trail over the years. In the Pecos area, numerous remnants of Santa Fe Trail ruts occur from Kozlowski's to the far bank of Glorieta Creek west of the pueblo. Large numbers of livestock and the heavy travel on the Santa Fe Trail denuded vegetation around Pigeon's, Kozlowski's, and Johnson's ranches and increased erosion along creek beds, arroyos, and the Trail itself during the fifty years that it remained the primary travel and trade route through the area.

Other environmental effects followed the opening of the Santa Fe Trail. The Sangre de Cristo Mountains, directly to the north of Pecos, drew fur trappers to the region. The trappers hunted beavers, a keystone species that provides many benefits to riparian ecosystems. Their dams create wetlands, prolong stream flow, and check the power of floods. Beavers prefer certain tree species to make their dams, and by removing trees selectively they increase diversity along stream banks. Although Pueblos and Hispanos trapped and killed fur-bearing mammals with primitive traps, they never had access to markets that encouraged overexploitation of the animals. American trappers, connected to a ready market in the eastern United States and Europe where beaver hats were in fashion, made Taos their base of operations in the southern Rockies. In 1822 William Wolfskill and Ewing Young trapped beaver on the Upper Pecos River. Others followed, and soon fur trappers hunted throughout the Sangre de Cristos, efficiently killing beavers with newly invented steel traps. By 1825 the southern Sangres, including the Pecos

River, had been trapped out, and the beaver exterminated from the region. The sudden removal of beavers did not immediately erase their effects, as ponds only slowly revert back to forests, but over time the ecology of the Pecos River changed. Diversity decreased and as dams disintegrated, floods became increasingly hazardous to the human settlements along the river.[54]

New Mexicans understood that the fur trade did little to benefit the local economy... The New Mexican government ordered trappers to obtain licenses and requested that foreign trappers hire local apprentices. Although too late to prevent extinction of beavers in the Sangres, in 1838 the government in Chihuahua ordered a six-year moratorium on the trapping of beaver and otter in the Rio Grande valley. New Mexicans were also concerned about the over-exploitation of other resources. In 1832 New Mexican officials "considered imposing a 'prudent quota' on use of wood and water by foreigners in the mountains above Santa Fe." The New Mexicans may have recognized some of the environmental consequences of resource exploitation, and they certainly realized that their resources were being consumed to the advantage of foreigners.[55] These laws, however, had force on paper only—the Mexican government lacked officials in sufficient numbers to enforce them. Like the traders who avoided paying trade duties, it was an easy matter for fur trappers, who usually operated individually in New Mexico, to slip into the mountains, trap beavers, and quickly dispose of the furs in Santa Fe or Taos.[56] The fur trappers thus removed a crucial species from the streams of the Upper Pecos.

By the time the Kozlowskis arrived, the beaver were long gone and the Santa Fe Trail had been a route of trade and commerce for more than thirty years. It is reasonable to assume that when the Santa Fe Trail opened the settlers of the Pecos valley welcomed traders just as the Kozlowskis did decades later. Neglected by Mexico City, New Mexicans negotiated their own relationships with the various people who came to their province, whether Comanches or American fur trappers. Relations with the Americans were not always smooth, but denying them entrance to the province was never an option for the ranchers, farmers, and officials who sought to improve their situations and needed commercial outlets to do so.

"Under the 'Star-spangled Banner": New Mexico becomes a United States Territory

New Mexicans' pragmatic view of affairs allowed them to maintain their own separate peace with the Comanches even as Comanche and Mexican relations deteriorated. By the 1840s the Comanches were in severe trouble—many of their trade networks had been disrupted, and the bison herds, faced with intense competition for food, shelter, and water from the immense Comanche horse herds, were failing. As a result, the Comanches, concerned about the diminishing bison herds and unwilling to share the precious resource with others, forced the ciboleros from the plains. The Comanches also began raiding on an unprecedented scale in Texas and far south into Mexico.[57]

Although New Mexico remained free from much of the violence, the renewed hostility of the Comanches had long term effects for the province. The threat of raiding discouraged settlement, a necessity if Mexico was to succeed in gaining a greater hold on its frontier. [58] Mexico recognized the importance of population growth in New Mexico and Texas and encouraged American settlers to come—with the understanding that they would become loyal citizens and comply with Mexican law, which included a prohibition against slavery. In Texas, which received the highest numbers of new immigrants, the policy backfired.[59] Internal rebellion flared, and Texas declared itself an independent republic in 1836. In 1845 the United States annexed Texas. Mexico refused to acknowledge the loss of its province and also refused to recognize the Rio Grande as the state's new southern border. President James K. Polk, an ardent

expansionist, sent U.S. troops south to Texas to protect U.S. claims. Polk also hoped to force Mexico to sell New Mexico and California. When U.S. and Mexican troops skirmished along the Rio Grande, Polk asked Congress to declare war on Mexico.[60]

Despite such tropes as Manifest Destiny, the belief that the United States was ordained to expand westward, Americans disagreed sharply about how that expansion should occur. The Whig Party, in particular, opposed both the annexation of Texas and the war with Mexico. They worried that territorial acquisition would raise the troubling question of slavery expansion. Many antislavery proponents in the northern states feared the addition of one slave state—and possibly more—to the Union, which would give the South additional power in the House and Senate. To overcome opposition, expansionists used a number of arguments, including the economic opportunities that awaited Americans in the substantial lands and resources of the West. Although many northerners continued to fear the spread of slavery westward, public support for war with Mexico was strong. Congress approved funding and troops, and in August of 1846, Stephen Watts Kearney arrived in New Mexico at the head of an army.[61]

To reach Santa Fe, Kearney's army passed through the Upper Pecos valley. Near the Pecos settlements, at the southern outlet of Glorieta Pass where the Santa Fe Trail emerged from a narrow defile, Governor Manuel Armijo initially prepared a force to contest the American invasion. The position was excellent—the New Mexicans had the high ground and would be firing down on the Americans as they emerged from the pass. For a moment, the Pecos landscape once again became a defensive one, imbued with latent violence. Yet at the last minute, Armijo ordered the troops to abandon their posts and surrendered Santa Fe to Kearney without a fight. James Magoffin, a prominent merchant, served as the American liaison in Santa Fe and may have bribed Armijo to let U.S. forces in unscathed. Whether this theory is correct or not, New Mexico possessed little loyalty to Mexico. Some New Mexicans did resist the American invasion, but New Mexico had long been oriented eastward. The Comanches had been the most important force in the region for decades, and New Mexico's ties to the U.S. had strengthened since 1821.[62] Many New Mexicans might have preferred to form their own independent republic, but pragmatism won out once again.

As U.S. forces pushed further southward into Mexico, they proceeded practically unchallenged. The depredations of the Comanches had left much of northern Mexico abandoned and desolate. No one was there to resist. Although the war lasted another year and a half, Mexico finally surrendered. The Treaty of Guadalupe Hidalgo, signed in 1848, transferred Texas, New Mexico, and California to the United States for fifteen million dollars.[63] New Mexico now stood within the borders of the United States.

James Magoffin's brother, Samuel, also a merchant, traveled west in the vanguard of Kearney's army with his wife, Susan Shelby Magoffin, who kept a diary of the trip. Upon reaching Santa Fe she wrote, "I have entered the city in a year that will always be remembered by my countrymen; and under the 'Star-spangled banner' too." Magoffin spent a pleasant time in Santa Fe, visiting prestigious families and dining on local delicacies, including purple grapes, squashes, and a dish of boiled rice topped with hard-boiled eggs. Magoffin and other citizens of Santa Fe found their pursuits disturbed by the "everlasting noise these soldiers keep up—from early dawn till late at night they are blowing their trumpets, whooping like Indians, or making some unheard of sounds, *quite shocking to my delicate nerves.*"[64] The presence of the United States army had significant consequences for New Mexico—consequences far beyond fleeting disturbances of the public peace. After New Mexico became a United States territory, the army became a permanent presence in the region, protecting merchants and settlers from Comanches,

Apaches, and other Indians who contested American control. The army built a string of forts in New Mexico, including Fort Union, northeast of Pecos, and Fort Marcy, in Santa Fe.

The army required prodigious amounts of supplies—food for the soldiers, fodder for animals, timber for construction. At first, the army tried to transport needed items over the plains from Fort Leavenworth in Kansas—thousands of cattle arrived with Kearney in 1846, for example. But transport over the plains was expensive and time consuming. Almost immediately, the army began buying corn, wheat, sheep, and many other goods from local New Mexicans. New Mexicans were happy to sell what they could to the army, but they had never enjoyed such high demand for their products, and consequently, supplies ran short. Kearney arrived in Santa Fe in August and "by the end of October it was impossible to buy feed for cattle within fifty miles of Santa Fe." Now that they had an expanded market, New Mexicans quickly began increasing their tilled acreage and livestock herds.[65]

Although the army preferred to feed its troops beef, sheep were far more prolific and easy to acquire in New Mexico. Grudgingly, the army bought sheep and fed mutton to the soldiers.. Soon cattle herds began increasing—many of them owned by American settlers who came to New Mexico in greater numbers after U.S. annexation. But sheep remained in demand. The California gold rush of 1848 brought gold seekers stampeding through New Mexico. The miners needed supplies both on the way and when they arrived. Some enterprising New Mexicans drove their herds to California and the mining camps. Sheep increased in New Mexico from around 377,000 in 1850 to roughly 830,000 in 1860. Cattle numbers grew from 33,000 to 89,000 in the same period. All of these livestock needed forage—as did the horses and mules owned by the army. The army established grazing camps, which "were maintained almost continuously in the Galisteo Valley and less frequently in the vicinity of San Miguel and Las Vegas."[66]

The army also encouraged local entrepreneurs to begin new businesses. No sawmills existed in New Mexico prior to the army's arrival. Kearney immediately ordered the construction of one, which began production in 1847. Army demand also stimulated the growth of the flour milling industry. Wheat production rose from 197,000 bushels in 1850 to 434,000 bushels in 1860. The army also purchased large amounts of corn to feed its livestock—production increased from around 365,000 bushels in 1850 to 709,000 in 1860. The army often contracted with an individual who supplied them with agricultural products. The contractor usually purchased smaller amounts of corn, wheat, and other items from farmers in the area and consolidated the purchases into one shipment.[67] Alexander Valle, the operator of Pigeon's Ranch, acted in this capacity. Valle may have cultivated fields himself, and many other farmers around Pecos were looking for a market as well.[68] In August 1862 Valle sold "6,000 pounds of corn and 11,072 pounds of fodder" to the army, paid for by Captain J. C. McFerran, Assistant Quartermaster. In December 1862 Valle "was paid for 15,496 pounds of corn and 29,015 pounds of fodder," and in March of the following year the army bought "35,536 pounds of corn and . . . 50,477 pounds of fodder to be fed to the public animals."[69] The market provided by the U.S. army afforded valuable opportunities to the inhabitants of the Pecos valley.

The army not only bought supplies from farmers and ranchers but also improved local infrastructure. The army needed to move between its forts quickly and easily. Congress provided $32,000 in 1857 alone to improve roads in New Mexico. In the vicinity of Pecos village, Captain John N. Macomb of the Topographical Engineers widened the road (the Santa Fe Trail) from Santa Fe to Fort Union and reduced steep grades. Enjoying the benefits of improved roads, immigrants to New Mexico increased after 1848. Immigrants such as Kozlowski, Valle, and Johnson came to Pecos to profit off the Santa Fe Trail trade, but the safety and economic

opportunities afforded by the army also factored into their decision. New Mexico grew from a population of 61,547 in 1850 to 93,516 in 1860 (although the numbers did not accurately reflect the population of Pueblos). The Anglo population alone went from 1,600 to 6,300—3,100 of whom were in the military.[70]

The growing village of Pecos and the farms and ranches in the vicinity were near Santa Fe, several army posts, and along the Santa Fe Trail—a location that allowed many to reap substantial profits. The 1860 census for San Miguel County, designated in 1852, showed that the majority of men in the county were farmers or farm laborers. The largest crop for most of the farmers was corn, although wheat was grown in a few areas. In the county, Anglo farms were almost always wealthier than Hispanic ones. Valle, for example, claimed 2,000 improved acres in the 1860 census, valued at $6,000. The large landholders, such as Varela, Pino, Vigil, and Valle, also made free use of the land around Pecos to graze their substantial livestock herds.[71]

Lawyer and land grant expert G. Emlen Hall provides a description of the major landholders around Pecos in 1862:

> By late 1862 Manuel Varela lived in West Pecos, near the first church, at the site of the present St. Anthony's on the Pecos. He resided just west of the ancient West Pecos acequia, in a large, fortress-like house built around an open quadrangle.…Just to the north of his house he would have seen Juan Estevan Pino's church and the few, scattered houses of Hispano families that had left the hidden rincón area and moved with Manuel Varela into the open fields of west Pecos. To the east he would have been able to look across the irrigated fields and the river and see scattered shacks and the more substantial structures of Donaciano Vigil, to the north, and the Valencia family, to the south. South along the river, there would have been only open space. Kozlowski's ranch lay two miles away, across an intervening ridge.[72]

A few other homesteads stood south and east of Kozlowski's, with Pigeon's Ranch a short way northwest on the Santa Fe Trail.

At the Kozlowskis' ranch and hostelry, Helen led a busy life. She cooked meals for guests and washed clothes and made beds for those who spent the night. Her duties attached to her husband's business came in addition to her family responsibilities—caring for her children, sewing and mending, cleaning. The Kozlowskis eventually had six children and two, Juana and Carlos, bore names that Helen may never have heard before coming to Pecos.[73] The fact that they chose the names suggests that Helen and Martin had integrated into the local Hispanic culture to some extent. Their Polish and Irish background probably meant that the Kozlowskis were also Catholic, which would have helped them fit into the culture of the Pecos valley. Yet the 1860 census results, revealing that Anglo farms were usually the most prosperous, demonstrate how American culture, rooted in capitalism and private property, was becoming a stronger force in the Pecos valley.

Pecos already reflected the influence of the United States when Helen Kozlowski arrived there in 1858. The U.S. army had been there for over ten years, and the Santa Fe Trail in existence for over thirty. The wagon ruts engraved on the soil represented the growing incorporation into the United States market economy as much as the disappearance of beaver from the Pecos River. After New Mexico became a U.S. territory in 1848, the effects of those connections intensified. The Pecos environment reflected the growing human and livestock population that resulted from the strengthening commercial and cultural ties to the expanding

United States. Erosion and heavily grazed areas increased around settlements and alongside the Santa Fe Trail. River banks on Glorieta Creek and the Pecos River suffered as well. People needed timber for firewood and construction and so cleared areas became increasingly extensive around settlements.

Through the 1860s, Pecos remained overwhelmingly Hispanic, and land use continued to incorporate both communal and individual ownership. Much of the land in the valley was still considered a communal resource—open to everyone's livestock, available for all to cut timber and gather piñon nuts on. The inhabitants also owned individual plots of land—Martin Kozlowski, Manuel Varela, and Alexander Valle all possessed their own fields and homes. The Hispanic and Anglo inhabitants of Pecos in the 1860s had succeeded in taking over control of the land from the last residents of Pecos Pueblo. For the moment, their own control went unchallenged. But the future of the Pecos valley was not assured. Americans believed strongly in private property—property that had been surveyed and properly claimed. Hispanic land ownership, which rested on use and occupancy far more than legal niceties, might not meet such standards. Use of the resources of the Pecos valley—particularly timber and grass—depended on control of that land. The intensified resource use due to the presence of the U.S. army and the commercial appetite of eastern states and Western Europe foreshadowed intensified local disputes over land ownership. First, though, Pecos became embroiled in a national conflict over control of the new western territories.

Chapter Five

Contesting the Future of the West, 1861-1880

Alfred Brown Peticolas crossed the lower Pecos River in west Texas in mid-November of 1861 along with the other members of Company C, Fourth Regiment of Texas Mounted Volunteers. He was heading northward with the advance units of a Confederate invasion of New Mexico commanded by Brigadier General Henry Hopkins Sibley. Peticolas possessed a horse, sufficient food, and optimism—he would lose all three in the coming months. Peticolas never splashed through the Pecos River by Kozlowski's ranch or gazed curiously on the ruins of Pecos Pueblo. He did become intimately acquainted with Pigeon's Ranch and Johnson's Ranch during a two day battle at the end of March 1862, but Union forces halted the Confederate advance, and Peticolas began a long, weary retreat back to Texas.[1]

Peticolas kept a journal recording the events of Sibley's invasion and also commented on the new people and environments he encountered. Peticolas grew up in Virginia, but had lived in Victoria, Texas, since 1859. He was accustomed to an arid, sparsely vegetated environment, but the mountainous areas of northern New Mexico both intrigued and discomfited him. As his company approached Santa Fe and Glorieta Pass in late March, Peticolas recorded that "the mountain scenery in places is picturesque and interesting, but an air of desolate lonesomeness reigns over the whole country." The cold, snowy weather he encountered did not improve Peticolas's impressions of the New Mexican high country. On March 13, for example, Peticolas awoke to find his bed "covered an inch deep in snow," with more falling. "It was amusing to see the men as they woke and looked around with bewildered expressions, raking snow out of their hats and shoes," Peticolas wrote, "but it was not very pleasant."[2]

In his diary, Peticolas did not explain why he joined Sibley's Brigade or his feelings on secession and slavery. Yet as a Confederate soldier, Peticolas represented a power that desired to extend slavery through control of the new western territories. Peticolas marched through the snow and mud in order to bring New Mexico under Confederate control. At the same time, Union forces marched southward, determined to keep New Mexico under Federal dominion. Once again, Pecos became contested land. The two forces encountered each other in the Pecos valley and fought for the power to determine the future of the territory. The Union victory at Glorieta Pass ensured that the land and resources of New Mexico would remain under federal control. Peticolas never returned to the Upper Pecos valley, but his actions, and those of the men who fought with and against him, bequeathed lasting consequences to the Pecos environment.

Pecos, 1860-1880

The annexation of Texas in 1845 and the acquisition of the New Mexico, California, and Oregon territories from Mexico and Britain a few years later instigated an increasingly bitter dispute over whether or not slavery would be allowed to expand into the United States' new possessions. Whereas prior disputes over the political and social future of America divided along party lines, the conflict over the western territories became sectional. The "Free-Soilers" predominantly lived in the northern states, but many had migrated westward to nascent states, such as Illinois. Represented by northern Whigs and Democrats and, after 1854, the Republican Party, the Free-Soilers shared a cultural system centered on private ownership of land and a man's ability to improve his situation through hard work and the accumulation of capital, a belief

rooted in the Jeffersonian philosophy that small farmers preserved the virtue of the American republic. Southern whites, however, championed a cultural system that depended on the accumulation of wealth through the ownership of slaves and control of their labor. Represented by the Democratic Party after the Whigs collapsed, advocates of slavery also lived in many of the new western states, such as Texas and Missouri. Each ideology created a unique landscape. Slavery existed primarily in agrarian landscapes, in particular cotton agriculture. The free labor ideology of the Republicans idealized small farms, but also created urban and industrial landscapes. Although this explanation oversimplifies the division between the physical manifestation of the two cultural systems, there were distinct differences in how each thought of land and resources and altered their environments.[3]

The Pecos valley, with its landscape of small farms and ranches and distinct Hispanic heritage, appears far removed from a cotton plantation in Virginia or a textile mill in Massachusetts. It seems even farther apart from the acrimonious debates over slavery between men such as Stephen Douglas, Jefferson Davis, and others in the halls of Congress. Yet New Mexico and the other western territories stood at the center of the debate. Each side believed that obtaining control of the territories was crucial for success. As historian Mark Fiege explains, "The side that dominated and defined space . . . was the side that would prevail." Achieving uncontested control of territory like New Mexico carried ramifications for the entire nation. Union victory ensured that their vision of land and resource development triumphed. After the Civil War, the federal government extended its power westwards with the intent of spreading free labor ideology, which carried with it many environmental effects.[4]

Some of those effects already had reached Pecos—the growing herds of livestock and increased settlement stemming from new connections to markets. The U.S. government also had begun the process of surveying the new territories. After surveying the land and dividing it into neat parcels within a rational grid system, the government could easily sell the land to private individuals and tax them as property owners. Several surveyors already had measured the Pecos area, but after the Civil War, the true effects of those surveys on the land and its inhabitants began to emerge. The irregular boundaries of Spanish land grants disintegrated as the geometric squares of Anglos superseded them. Surveys paved the way for future settlement and for railroads, which would alter Pecos even more. The free labor ideology of Republicans also left little room for New Mexico's Hispanic and Pueblo inhabitants. Although New Mexico possessed the required population to request statehood, many officials stereotyped its people as "Mexican"— a term that carried racist connotations—and unfit to govern themselves. Thus, New Mexico did not achieve statehood until 1912. With their political power threatened, Hispanos faced losing control of their lands. In Pecos, even as Hispanos profited from the livestock trade and the environment began to suffer from overgrazing, the triumph of the Union and its free labor ideology presaged an even greater change on the horizon. The growing Anglo dominance of land in the area, achieved through surveys and legal control, opened the door to a new economy and intensified land use championed by an industrializing nation.[5]

Alfred Peticolas probably held his own opinions about land control. Perhaps as he tramped through New Mexico, he pictured a future when the landscape of adobe homes gave way to the landscape he remembered from his youth in Virginia or even the Anglo town of Victoria in Texas. Broader concerns about the ultimate effect of the war and debates over politics and society quickly became of secondary importance to battle and survival for Peticolas and the other soldiers—both Union and Confederate. The environment of Pecos took on a more immediate reality. Would there be snow? How cold would it be? Would that tree or rock provide

enough cover from bullets? These questions consumed Peticolas and the other soldiers. For the permanent residents of the Pecos area, the presence of the soldiers also upset their familiar landscape. Helen Kozlowski talked to and perhaps nursed the Union soldiers camped around her family's ranch. Alexander Valle's hostelry was commandeered as a hospital and later became a defensive position for the Union. For a brief time, cannon fire and the crackle of rifles resounded from the mesas and canyons near Pecos. The Civil War had long term consequences for Pecos, but also affected the valley's residents personally and violently.

"Within the Pale of the United States, I Claim that All is Freedom": Debates over slavery

In 1848 Alfred Peticolas was a ten-year-old school boy in Petersburg, Virginia. The Mexican War had just ended, and Peticolas probably found the tales of battles and adventure reported by the newspapers quite thrilling. Not all Americans supported the Mexican War, however. Many Whigs, in particular, opposed war and expansion. They feared the consequences of territorial acquisition, especially because it brought the question of slavery to the forefront of political debate. The Louisiana Purchase had raised the question of slavery expansion once before. Although it had been settled through the Missouri Compromise of 1820, which allowed slavery below the 36° 30' line and prohibited slavery above it, the Mexican War revived the problem. When Senator David Wilmot, a Pennsylvanian Free-Soiler, attached a proviso prohibiting slavery in any territory acquired from Mexico to a bill authorizing funds for the war, the question flared into heated and bitter debate. Antislavery Whigs charged that the entire war had been a ploy by slaveholders to extend their institution westwards. Southern Whigs retorted that under Constitutional protections of property, slaveholders had the right to take their slaves wherever they desired. Meanwhile, Democrats also began to split along sectional lines—those who supported free territories versus those who wanted slavery extended.[6]

Proponents of slavery supported the institution through a variety of arguments. They pointed to the impoverished wage workers in the North as proof that a system of free labor was in fact worse for whites than living in a slaveholding society. Southern Democrats and Whigs, as historian Michael Morrison states their viewpoint, argued that slavery "ensured liberty by making exploitation of white workers and independent agriculturists unnecessary." Despite the gross differences in wealth, many non-slaveholding southern whites accepted the system as well. In a society steeped in racism, slavery gave power even to the poorest white Southerners based on legally enforced racial superiority. Southern Whigs and Democrats turned to the Constitution to support their argument of absolute state sovereignty—arguing that the federal government did not have the power to prohibit slavery in existing states or future ones. They also found inspiration in the American Revolution, seeing it as a struggle by a minority against an oppressor; a struggle they were now repeating.[7]

Antislavery Whigs and Free-Soil Democrats also looked to the Constitution and the country's revolutionary heritage for guidance. They argued that the Revolution centered on ideas of freedom and that freedom should be extended westwards. Free-Soil Democrats advocated a strictly constructionist view of the Constitution, which held that Congress did not have the power to extend slavery to territories that were already free (Mexico had prohibited slavery, including in its northern territories). Whigs, meanwhile, argued that Congress did have the power to restrict slavery and that it should. Both antislavery Whigs and Free-Soil Democrats viewed slavery as an unmitigated evil. Slavery "retarded the progress of the nation, degraded white workers, and contravened the fundamental republican principles of liberty and equality."[8] Allowing slavery to enter the territories was unthinkable.

Although both sides used political and ideological rhetoric to support their positions, at the most fundamental level they disagreed about the control of resources and land. Human labor was the primary resource at the center of that debate. As historian James Huston argues, "Southern secession grew out of the irreconcilability of two regimes of property rights: one in the South that recognized property in humans and one in the North that did not." Despite moral protestation and ideological differences, slavery had brought substantial economic rewards to the country as a whole—in 1860, the market value of the slave population in the United States was $3 billion, while the combined value of manufacturing and railroads was only $2 billion. In economic terms, the legal system considered slaves property, but in reality they were human beings who possessed the will to resist enslavement. The continued wealth and prosperity of slaveholders thus rested on their ability to retain power, granted through governmental authority, to coerce slaves to submit to bondage. The support of southern state governments for the institution of slavery was never in doubt, but the support of the federal government was.[9]

The institution of slavery depressed wages for free laborers because slave-owners forced their slaves to work for nothing. As railroad and canal networks grew in the early 1800s, many northerners began to fear the effect that slavery would have on the northern wage labor economy. How could white workers compete with slaves? There was nothing to prevent the South from developing manufacturing industries, utilizing slave labor, and out-competing northern interests. Antislavery Whigs and Free-Soil Democrats argued that if the United States allowed slavery in the territories, it would discourage free white men from emigrating west. The free labor ideology held that through acquiring private property and working hard, white males could achieve prosperity—yet their route to advancement would be blocked if slaveholders won control of western lands. Slaveholders sought to control western territory through a cultural system that rested on intensive agrarianism and coerced human labor. Free-Soilers desired to transform western environments through private property ownership and unfettered resource exploitation.[10]

Senator Stephen Douglas managed to patch together a compromise over the Mexican situation that briefly halted the growing sectional discord. The Compromise of 1850 admitted California to the union as a free state, mandated that the federal government would not become involved over the slavery debate in New Mexico and Utah, and tried to evade future disputes over slavery by turning any appeals on the question over to the Supreme Court. The Compromise was a temporary measure. The question of slavery expansion quickly arose once again in conjunction with the pending statehood of Kansas and Nebraska in 1854. Stephen Douglas championed the idea of popular sovereignty—allowing the white male citizens of new states to decide for themselves if they would exclude slavery or not. The limits of the idea became apparent as slaveholders from Missouri temporarily flooded into Kansas to vote on a pro-slavery constitution, and anti-slavery adherents set up a rival government. As the Whig Party collapsed under the strain, a new party, the Republicans, formed. The Republicans were unabashedly sectional and against slavery expansion. Benjamin Wade, a Republican Congressman from Ohio, proudly proclaimed that his party's ideals reflected the true spirit of the Constitution and that "within the pale of the United States, I claim that all is freedom."[11]

Although far from the increasingly violent fighting in Kansas, New Mexico was also affected by the debate over slavery expansion. In 1849, before the Kansas and Nebraska imbroglio, New Mexicans had met to develop a state constitution.. The constitution prohibited slavery in the state, but Congress never ratified the document or recognized New Mexico as a state. To placate proponents of slavery, the Compromise of 1850 kept New Mexico as a territory and erased the territory's former free status that it had possessed under Mexico. The

Compromise left the slavery question open. Too, Congress doubted the ability of New Mexico's predominantly Hispanic inhabitants to govern themselves. Despite the rhetoric of Free-Soilers, their ideology was still based on the belief that self-government was reserved for white male citizens. Although it might not permit slavery, it did not guarantee equality for Hispanos, blacks, Indians, and other ethnic groups.[12]

By the 1850s, Hispanos and Pueblos were familiar with the racial stereotypes and discrimination employed by Anglos. Although economic ties between New Mexico and the United States had formed long before New Mexico became a U.S. territory, by 1860 New Mexicans had been U.S. citizens for only twelve years. Most New Mexicans, with the exception of recent Anglo immigrants, possessed few strong feelings of loyalty to the Union. Further south along the Rio Grande valley, southern sympathies increased, but in northern New Mexico little support for the Confederacy or Union existed among Hispanos. Northern New Mexicans did, however, share a dislike of Texans. Texas had launched a failed takeover attempt in 1841 that left bitter memories among the populace. When southern states began to secede in December of 1860, following the election of Republican Abraham Lincoln, northern New Mexicans showed no interest in joining them, especially when the closest embodiments of that cause were Texans.[13]

"New Mexico is Literally Opposed to Us, and Will Have to Be Coerced": The Confederate invasion of New Mexico

Shortly after the Mexican War, the United States government had established a military presence in New Mexico. Fort Union along the Santa Fe Trail and Fort Craig along the Rio Grande, both built in the 1850s, were the primary posts in northern New Mexico. Troops were stationed at Albuquerque and Santa Fe as well. Fort Bliss and Fort Fillmore stood farther to the south. When the Civil War began in March 1861, some Confederates considered the Union's tenuous presence in the West a golden opportunity to seize territory and supplies and prove their viability as an independent nation.

Lieutenant Colonel John R. Baylor seized the initiative and invaded southern New Mexican territory in the summer of 1861. Easily capturing Fort Fillmore, Baylor formed the Confederate Territory of Arizona, encompassing all of New Mexico below the 34th parallel. Baylor settled in at Fillmore, skirmishing with General Edward R. S. Canby at Fort Craig to the north. In a letter dated September 28, Baylor stated that his troops were barely enough to hold back the Federals, pleading that "until reinforcements arrive, I beg that my strength here may not be diminished, for obvious reasons. New Mexico is literally opposed to us, and will have to be coerced."[14] Baylor's letter indicated that extending Confederate control northwards would not be an easy task. Such cautions went unheeded by many, particularly Henry Hopkins Sibley, a former army officer, who proposed to Jefferson Davis a Confederate invasion of the rest of New Mexico. Privately, Sibley planned to capture the rich mines of Colorado for the Confederacy once the conquest of New Mexico was complete and perhaps even continue to the coast and take California and its ports.[15]

Alfred Peticolas was swept up in the enthusiasm that Baylor's and Sibley's plans engendered among Southern sympathizers. Peticolas and many other men in Victoria, Texas, volunteered in May 1861, forming a company they called the "Victoria Blues" (later renaming themselves the "Victoria Invincibles"). The Blues elected Peticolas as their Fifth Sergeant. After a few months of inactivity, the Blues joined the brigade Sibley was putting together to invade New Mexico. Now known as Company C, Fourth Regiment of Texas Mounted Volunteers,

Peticolas and his comrades prepared to embark from San Antonio for the long march to New Mexico—630 miles to Fort Bliss alone. The men felt optimistic, buoyed by the success of Baylor and expecting equally great things from Sibley.[16]

Their hopes were misplaced. Sibley's plans for New Mexico stood a slim chance of succeeding. Sibley thought that Union resistance in New Mexico would be easily overcome. When Sibley joined the troops he raised in Texas with the men already under Baylor's command, his invasion force totaled 2,500. 3,800 Federals awaited him at Fort Craig, bolstered by regiments of Colorado volunteers. The garrison at Fort Union prepared to march to Canby's aid if necessary and they, too, anticipated adding volunteers to their numbers. Defeating the Federals in battle would not be as easy as Sibley hoped. [17]

Sibley also assumed that many New Mexicans and Coloradoans would support the Confederacy. The enthusiastic response of Coloradoan miners who answered Canby's call for troops revealed the flaw in his reasoning. Confederate sympathies were stronger in southern New Mexico, closer to Texas cotton culture, but these diminished rapidly as one went north. Many New Mexicans also volunteered to fight with the Union. The recent Anglo-American immigrants were strong unionists, many of them coming west in expectations of fulfilling the "free labor, free men" promise of the North. Many Hispanos volunteered, too. Sibley failed to consider the history of animosity between Texans and New Mexicans. With a force comprised entirely of Texans, Sibley could expect no help in New Mexico.[18]

Sibley also failed to consider the implications of the New Mexican environment. His troops would have to travel hundreds of miles, much of it through a country devoid of easy sustenance. Upon reaching New Mexico, Sibley planned to subsist off captured Union supplies. This premise rested on the uncertain conclusion that he would defeat the Federal garrisons at Fort Craig and Fort Union. Indeed, when Sibley failed to overcome Union forces, his men resorted to the same tactics employed by the Spanish of Coronado and Oñate's invasions—they took food and shelter wherever and however they could get it. The timing of the invasion was poor as well. Sibley's troops arrived in northern New Mexico in early spring, a time of cold temperatures and snow, which must have been a rude shock to the majority of the Texas men. The Confederates also had to cope with the high altitude of northern New Mexico, including the Pecos valley. Possessing only a small store of supplies that diminished every day, the Confederates were not prepared to survive a long campaign.[19]

These factors, which ultimately brought Sibley to defeat, were not apparent when Peticolas and the other Texans began marching northwards up the Rio Grande in December 1862. By this time, Peticolas was riding a mule, having replaced his horse which had become exhausted on the long journey. He was still optimistic about the Confederates' chances. Sibley planned to attack Fort Craig, commanded by Colonel Canby. After a few skirmishes, Peticolas experienced his first pitched battle on February 21, 1862 when Federals and Confederates faced off at the Battle of Valverde. The Confederates succeeded in driving the Federals from the field. Peticolas's company captured a battery. "I thought that I had experienced a good many moments of exquisite pleasure," Peticolas remarked, "but never before have I felt such perfect happiness as I did when we took the battery from our enemy." Peticolas was not injured, but his mule was killed and several of his friends were killed or wounded. "I felt extremely sad today," Peticolas recorded the day after the battle as he wandered the field strewn with dead men and horses. "My feelings have undergone another change, another wave has come over me; the usual reaction, however, after any great excitement." Back in camp, "the whole talk…was about the fight, of course, and every man was recounting his individual exploits with great zest."[20]

Yet although the Confederates had succeeded in the field, the Union troops did not abandon Fort Craig. Sibley decided to skirt Fort Craig and head north, choosing to leave a dangerous Federal force behind him. Sibley also was not able to replenish his supplies as he had expected. As the Confederates proceeded north, Union troops abandoned the supply depot at Albuquerque, burning much of the supplies before they left. Now on foot, Peticolas marched northwards, commenting that "afoot and without bread, the regiment is more depressed than it has been for months, but they are willing to live on beef, poor as it is, to accomplish our object." Sibley stopped in Albuquerque and sent a force under Major Charles L. Pyron ahead to take Santa Fe. Pyron's troops arrived in Santa Fe on March 10 and once again found that the Federals had left.[21]

The Union was not simply fleeing before Sibley, however. Troops at Fort Union were preparing to meet the Confederate invaders. Under the command of Colonel John P. Slough, who a short time before had been arguing the law in the courts of Denver, a combined force of volunteers and regular army troops left Fort Union and started south to meet the Confederates. The volunteers included men from both Colorado and New Mexico. Many Hispanos joined and Captain Rafael Chacon, who served in numerous military campaigns in the Southwest, led Companies I and K of the First Regiment New Mexican Foot Volunteers. A list of family names of New Mexico volunteers records several names common to the Pecos area, such as Vigil, Valencia, and Peña. If some men from Pecos did enlist at Fort Union, they quickly found themselves returning to the Pecos valley. Marching from Fort Union, the Federals arrived at Bernal Springs on March 24, where the Santa Fe Trail turned westward to Glorieta Pass and Pecos. Slough sent an advance guard ahead under Major John Chivington, a Colorado volunteer. Chivington reached Kozlowski's ranch on March 25. The same reasons that had made Kozlowski's an excellent stopping place on the Santa Fe Trail—a spring of fresh water, corrals, plenty of grass and wood—made it a perfect camp for Chivington's men. Commandeering Kozlowski's as their headquarters, the entire Federal force encamped there when they arrived, and the location became known as Camp Lewis after Captain William H. Lewis, who was commanding a detachment of regulars. John Miller, a volunteer from Pueblo, Colorado, wrote a letter to his father describing the terrain he had just marched through. "The face of the country is very rough and rocky and covered with stunted pines and cedars. What soil there is, is very light and easily washed, and consequently full of deep washed ravines and gullies."[22]

Meanwhile, the Confederates had heard of Slough's advance. Major Pyron's troops, reinforced with another four companies from Sibley, left Santa Fe. Arriving at Glorieta Pass on March 25, the Confederates chose another of the Santa Fe Trail hostelries for their camp, settling down at Johnson's Ranch in Apache Canyon at the southern end of Glorieta Pass. Johnson and his family had fled the area, probably heading north towards Las Vegas and Fort Union, along with many other Santa Fe residents. The weather was cold and snowy. One of the Confederates, William Lott Davidson, recalled spending a chilly night at Johnson's Ranch. Davidson later wrote that "the weather was so cold and our covering so light that we could not sleep much at night."[23]

The accounts of soldiers such as Davidson or Miller, whether written at the time in letters, diaries, or reports, or written many years later as reminiscences, provide some of the best evidence for what the environment around Glorieta Pass and Pecos was like in the 1860s. The landscape around Johnson's Ranch looked considerably different in 1862 than it does today. The Santa Fe Trail and a road extending north from Galisteo were the only substantial transportation routes in the area and followed the natural contours of the land. Johnson may have cultivated

some fields, and other Hispanic settlers may have had homesteads in the vicinity. The northeast corners of the Cañada de los Alamos grant, awarded in the late 1700s, and the Bishop John Lamy grant, awarded in 1820, met near Johnson's Ranch. By the mid-1800s, a few settlers may have been in the vicinity, although Johnson had probably claimed the land in Apache Canyon.

The Santa Fe Trail branched at the summit of Glorieta Pass, with one branch looping northward and the other crossing directly across the foot of Glorieta Mesa. The two branches rejoined at Galisteo Creek.[24] The Trail then continued along Apache Canyon, paralleling Galisteo Creek, until the Trail exited the canyon where Apache Creek joined Galisteo Creek. A wooden bridge allowed the Santa Fe Trail to cross Galisteo Creek.[25] Further down, the Trail crossed Apache Creek flowing down from the north, also by a short wooden bridge. In 1846, following Kearny's army, Lieutenant J. W. Abert had visited New Mexico on a reconnaissance mission. Abert left a description of what he termed "Armijo's cañon," named for the aborted defense attempt Mexican soldiers had made at Glorieta Pass as the American army advanced in 1846. Abert passed through in September and wrote that "here we found plenty of cool water." He followed the course of a stream, a "tributary of 'Rio de Galisteo.'" Both Galisteo Creek and Apache Creek ran through arroyos, but the arroyos were probably not as deeply eroded as they are today. Heavy grazing later in the nineteenth century, natural erosion, and road building activities in the area increased the depth of both creek beds over time.[26] Johnson and perhaps others were grazing livestock in the area by the time of the Civil War but not in large numbers. This landscape, familiar to Johnson, Kozlowski, and other Pecos residents, was abruptly and violently disrupted by the sudden arrival of Union and Confederate troops.

"Our Boys Were All Anxious for a Fight": The Apache Canyon battle

On the night of March 25 neither the Confederates, camped at Johnson's Ranch, nor the Federals at Kozlowski's knew that they were within eleven miles of each other. They did not remain ignorant for long. Both commanders—Pyron and Chivington—sent out pickets to scout ahead. John Miller was one of the scouts and recalled arriving at Pigeon's Ranch early in the morning of the twenty-sixth. "Here we searched the premises," Miller remembered, "and after old Pigeon found out who we were, after we told him we were Pike's Peakers or Colorado boys, he fairly danced, he was so delighted." Pigeon informed the Federals that four Texans had been at his ranch the night before. Now aware that their enemy was close at hand, Miller and the other scouts set forth more cautiously. Suddenly, they came upon the four Texan scouts who mistook them for fellow Confederates. Miller recalled that "they asked us if we came to relieve them. . . . Our lieutenant told them yes, we came to relieve you of your arms." The Confederates surrendered and Miller helped bring them back to Chivington at Kozlowski's ranch. Chivington's forces immediately set out for the enemy camp, following the Santa Fe Trail. He passed Pigeon's Ranch and entered Apache Canyon.[27]

Despite—or perhaps because of—the failure of his scouts to report back, Major Pyron's forces also started off along the Santa Fe Trail, heading for the Union troops he knew were somewhere ahead. Just past noon, in the winding corridor of Apache Canyon, the two forces met. "Our boys were all anxious for a fight," Miller remembered.[28] The following battle, which lasted several hours, involved a series of retreats and holding actions by the Confederates. The Texans had two 6-pounders, whereas Chivington had no supporting artillery. In the first skirmish, however, the Confederate artillery moved forward of the main force with only a small contingent. Quickly realizing the untenable nature of their position, the Texans retreated and

formed another line with the rest of their comrades further down the canyon. Major Chivington's Coloradoans advanced cautiously.

The terrain of Apache Canyon both constricted the troops and offered opportunities. One Texan later described the canyon as "a rugged pass between the mountains. Thermopylae was nothing compared to its steep cliffs of rocks with cedar brush on each side of the road. Cliffs were so steep that a man had to get down and crawl up them."[29] Some Federal troops did manage to scramble up the canyon walls and fire down on the flanks of the enemy. The narrowness of the defile prevented either side from spreading out into a horizontal line of battle. Facing fire on their flanks and in front, the Texans retreated once more. After a false start, Chivington organized a cavalry charge. The cavalry attacked the Texans from the front while others once more went up the canyon sides to engage the enemy. Confusion and disorder reigned among the Confederates. Many fled down the canyon to their camp at Johnson's Ranch, where defensive lines were being set up at the egress of the canyon. The Union troops took forty to fifty Texans prisoner—a substantial victory. By then it was around five o'clock and Chivington, worried about meeting a larger enemy force further ahead, chose to withdraw. Each side had suffered about the same number of killed and wounded—five Coloradoans dead and fourteen wounded, four Confederates dead and twenty wounded.

Pyron had sent word back to the reinforcements marching northwards under Lieutenant William R. Scurry, alerting them of the battle and telling them to hurry. Peticolas and Company C were among the reinforcements. Peticolas recorded that "every man marched bravely along and did not complain at the length of the road, the coldness of the weather, or the necessity of the compelled march." Arriving at Johnson's Ranch late at night, he found that a makeshift hospital had been set up to care for the wounded from the Apache Canyon fight. Peticolas sought shelter in one of the ranch buildings. He and a friend "slept together on the floor with no bedding, and only a few articles of women's wearing apparel which we found scattered around the house" to provide a modicum of warmth.[30]

Chivington, meanwhile, retired first to Pigeon's Ranch, where he left his most critically wounded men, and then back to Kozlowski's. The next day, March 27, the nervous Confederates fully expected another attack. They fortified their position at Johnson's ranch and waited anxiously through the long day. No attack materialized, however. Chivington had chosen to wait at Kozlowski's for the rest of the troops under Colonel Slough. Slough arrived on the morning of March 28 and immediately made plans to move forward and attack the Confederates again. Scurry, who had relieved Major Pyron of the Confederate command, became impatient and decided to advance as well. Once again, both sides were headed towards a confrontation.

"The Firing Now Became Very Brisk on Both Sides": The battle at Pigeon's Ranch

Alfred Peticolas, John Miller, William Davidson, and the many other soldiers on both sides awoke on the twenty-eighth prepared for a fight. Colonel Slough did not intend, however, to simply proceed down the Santa Fe Trail and hope that when he encountered the Confederates, his side would prevail, as Chivington had done two days before. Now that he knew the general territory, Slough decided on a more complicated plan and sent Chivington's command up the slopes of Glorieta Mesa on a road that led to the small village of Galisteo. Slough instructed Chivington to swing around and hit the Texans on the flank while his command engaged them in a frontal assault. The maneuver, which sounded feasible, was in reality difficult to execute, particularly in heavily wooded, unfamiliar terrain. Chivington never did connect with Slough, although that proved advantageous for the Union cause. While Chivington and his men headed

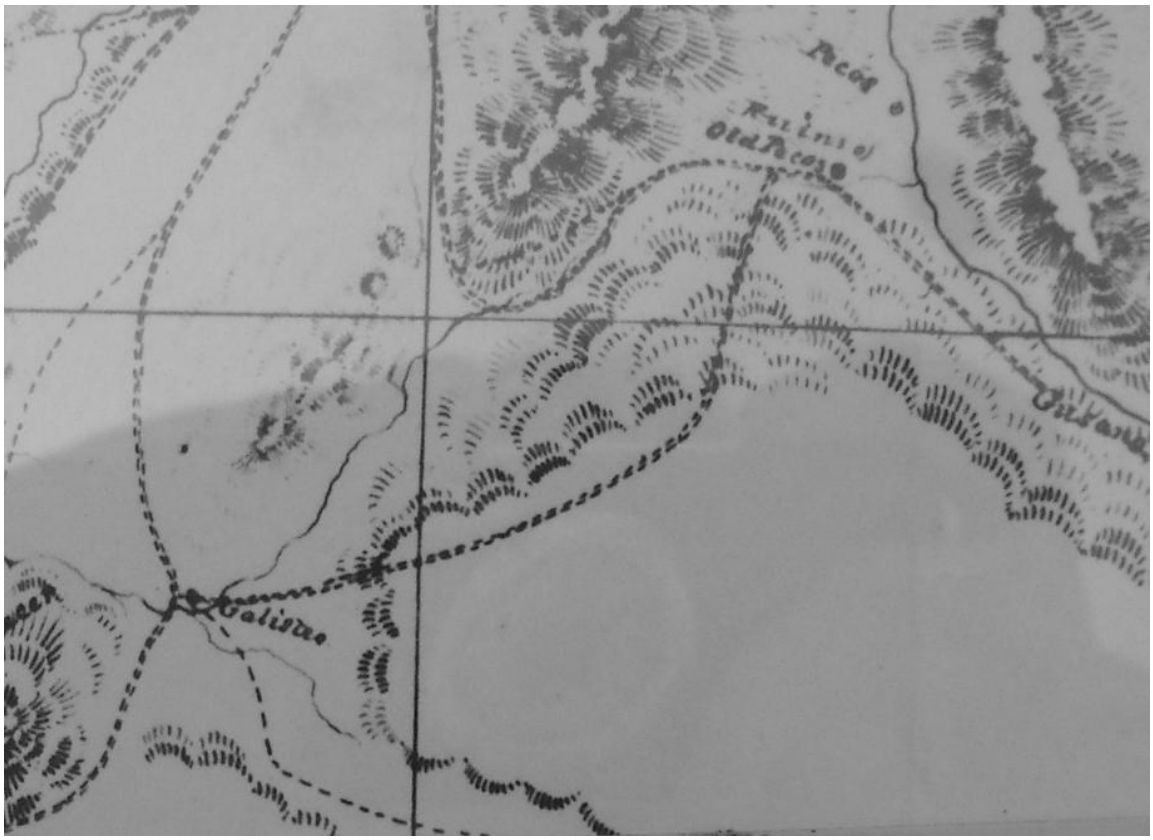

Figure 5. Section of 1850 map showing road over Glorieta Mesa to Galisteo. Source: "Map of a Military Reconnaissance of the Rio Pecos, 1850" Box M-3-13, Collection 1982-033, Albert H. Schroeder Papers, New Mexico State Archives, Santa Fe, NM.

up Glorieta Mesa, Slough continued to Pigeon's Ranch where he discovered his pickets eating breakfast. Sent forth once more, the scouts had gone only a short distance before they met Scurry's pickets.

The following battle repeated the previous day's events in reverse. This time the Union formed successive lines of defense, dropping back under the determined advance of the Confederates. Two hills west of Pigeon's Ranch, which became known as Windmill Hill and Artillery Hill, offered attractive positions for artillery. A rocky ridge leading northwest of the ranch, although too steep for cannon to easily surmount, served as a roost for sharpshooters. These hills were heavily wooded. One soldier recalled that "we were fighting down a canyon, gullies running across it, and heavy timber thick on each side of the road."[31] Another Confederate soldier remembered that "the country was so rough, the pine and cedar so thick, that the companies and men all got mixed up before we had been fighting very long.…We could not see anything in the world to shoot at, but Scurry must have seen them."[32] Numerous buildings at Pigeon's Ranch itself offered additional cover for troops. Besides the main ranch building, which could house thirty to forty people a night, stables, granaries, corrals, and outhouses also stood on the property.[33]

As the Santa Fe Trail proceeded onward from Pigeon's it passed through an area of cleared fields. Historian Don Alberts determined that "open fields surrounding Windmill Hill on the south, east, and north, had been cultivated and were surrounded by fences."[34] These fences were constructed in the Hispanic "coyote fence" style of vertical juniper poles closely tied

together.[35] The cultivated field belonged to Alexander Valle. Photos from the 1880s show a similar landscape with open fields to the north and west of Pigeon's Ranch, although it is unclear if they were still cultivated. Heavy grazing and travel had denuded the landscape immediately around the ranch and Glorieta Creek. An 1859 map called Glorieta Creek "Cottonwood Creek," and 1880s photos of the ranch show several large cottonwoods growing around the buildings. Other riparian vegetation appears scarce. The scene probably looked similar in the 1860s.[36]

Figure 6. Pigeon's Ranch, June 1880, looking north from Sharpshooter's Ridge. Photo by Ben Wittick. Note the barren banks of Glorieta Creek on the left and the large open field to the north of the ranch complex. Source: Park Files, original negative at Museum of New Mexico, Negative No. 15782.

Figure 7. Pigeon's Ranch, circa late 1800s, looking northeast. Note the open fields leading up to the ranch and Sharpshooter's Ridge. Source: Park Files, original negative at Colorado Historical Society, Negative No. F34, 223.

The Santa Fe Trail and fields in front of Pigeon's Ranch provided a stretch of open terrain for the main Texan force to charge across. The fences around the fields obstructed the Union artillery trying to move into position at the base of the hill, but provided cover for the Texans as they advanced. Sergeant Peticolas recalled "as usual, Co. C was directly in the rear of the cannon. On our right was an old field fenced in with pine poles. To this field a good many of us repaired when the firing grew hot."[37] The initial lines held only briefly. In the second phase of the battle, the Federal forces repaired to Windmill Hill, with the artillery concentrated on the Santa Fe Trail. The Confederates attacked on all sides. "The firing now became very brisk," Union Captain Herbert M. Enos later reported.[38] With the absence of Chivington's men, Slough was outnumbered. As the danger of the Confederates flanking his men on Windmill Hill increased, Slough withdrew to Pigeon's Ranch. Here, a long adobe wall, which stretched from the ranch buildings across to the lower slopes of Artillery Hill, provided cover. The Union artillery took up position on Artillery Hill, following a logging road to the upper slopes. Other soldiers climbed the ridge to the northeast of the ranch, which quickly earned the sobriquet "Sharpshooter's Ridge."[39]

Scurry charged the men at Pigeon's Ranch multiple times, but the line held. Confederate artillery fired down the Santa Fe Trail at the Federals. Once again, the Texans pressured the right and left flanks of the Federal line. Sergeant Peticolas wrote that his company "charged up a hill [Artillery Hill] with a wide seam of fair open ground to cross on, towards an enemy who were hidden and invisible and who waited patiently for us to approach to shoot us down." Peticolas wrote that "the undergrowth was thick," and he became separated from his comrades, wandering into the Union line by accident. The Federals mistook him for one of their own, however, and Peticolas returned to his lines safely.[40] The wooded terrain obscured everyone's vision, but Lieutenant Tappan, in charge of the Federal cannons, realized his position was untenable. When

Slough withdrew from Pigeon's Ranch after a concerted attack on his right and center, Tappan's men were left stranded. A precarious retreat succeeded, and the Federals regrouped further down the road. The final Federal position offered a rocky and wooded slope to the north, a position for the artillery in the center, and the ravine of Glorieta Creek on the left for shelter. Although the Texans attacked once more, by this time both sides were exhausted. After failing to break the Union line, the Confederates withdrew to Pigeon's Ranch.

There, Scurry received word of the disaster that had befallen the Confederate's camp in his absence. Wandering over Glorieta Mesa, unable to hear the ongoing fighting due to an acoustic shadow, Chivington appeared on the slopes above the Confederate camp. Scurry, who apparently believed the surrounding mesas more impregnable than they actually were, had left only a few soldiers behind with the wounded. Descending down the steep, seven-hundred-foot slope with ropes and halters, Chivington's force quickly overpowered the small Texan rearguard. As the afternoon wore on, and aware that Scurry's force could return at any time, Chivington ordered the wagons of supplies burned, and his men retreated back up Glorieta Mesa. He finally rejoined Slough at Kozlowski's, bringing word of his triumphant raid.

The battle of Glorieta Pass, although bloody and protracted, had brought victory to neither side. Scurry had taken a few miles of ground, advancing to Pigeon's Ranch, but Slough was not defeated. He could easily retreat back to Fort Union if necessary—an imposing obstacle for the Confederates, particularly with the Federal force at Fort Craig still waiting behind them. The destruction of Scurry's supplies tipped the balance in the Union's favor. Sibley had relied on obtaining supplies from captured Union forts or from New Mexican inhabitants. But Union troops had burned their supplies and the locals either fled, taking supplies with them, or possessed little themselves. Already suffering from low provisions, now Scurry's command had nothing. Although Slough did return to Fort Union, as his orders had been to harass the enemy and nothing more, Scurry could not follow.

The Confederates scavenged what they could from Pigeon's and Johnson's ranches. Both Valle and Johnson submitted claims after the war for damages sustained. Alexander Valle complained that he had suffered "wear, breakage and destruction of inclosures [sic], fences, walls, doors, gates, water tanks, cisterns or wells, timbers, furniture, clothing, relics, Jewelry, money, carriages, etc.,…"[41] He also requested reimbursement for 31,000 pounds of shelled corn, 14,200 pounds of fodder and hay, and 120 dozen bundles of sheaf oats.[42] Anthony Johnson requested reimbursement for "a stolen horse and two oxen, twenty bushels of corn, forty gallons of molasses, miscellaneous clothing, and one barrel of whiskey."[43] At Johnson's Ranch, the Confederates killed and roasted some sheep they discovered. "We got mutton today for dinner," Peticolas recorded, "a flock of sheep belonging to some one in the Canion."[44] Cold and exhausted, the Confederates left Glorieta Pass on March 30 and walked back to Santa Fe.

Sibley and the Fifth Texas Regiment, which had remained behind with the general in Albuquerque, arrived in Santa Fe on April 3. Scarcely had Sibley arrived before he and the entire army were forced to return to Albuquerque. Colonel Canby had left Fort Craig and was proceeding northwards, intending to try and reoccupy Albuquerque, the Confederates' only remaining supply depot in northern New Mexico. Although Canby reached Albuquerque before Sibley, the few troops left in the town put up a stiff resistance, and Canby drew off, intending to rendezvous with reinforcements coming from Fort Union. These were the same Federal units who had just fought at Glorieta. After resting briefly at Fort Union, they were ordered southwards again, this time under the command of Colonel Gabriel R. Paul. They arrived at their old camp at Kozlowski's on April 9 but instead of proceeding down the Santa Fe Trail, they took

the cutoff road to Galisteo that Chivington had used to such great effect. Colonel Paul joined Colonel Canby, and they prepared to pursue the Confederates once more.[45]

Sibley arrived in Albuquerque to find the town still in his possession. The provisions, though, would last little more than a week. Sibley had no choice but to retreat down the Rio Grande towards Mesilla, the southernmost supply depot. A brief battle occurred at Peralta when Paul and Canby caught up with the Confederates, but the Confederates escaped over the Rio Grande and hurried southwards. Canby let them go—he did not have the means to care for hundreds of prisoners; forcing the Texans to leave New Mexico was his primary goal. Arriving at Mesilla, Sibley learned that more Federal troops were marching eastward from southern California. Defeated, the Confederates turned back to Texas.[46]

The six-hundred mile trip back to San Antonio was torturous for the men. This time they were on foot and traveling in June and July, the middle of summer. They no longer had thoughts of victory and triumph to accompany them. One soldier bitterly stated "It seems too bad that after enduring so much in [New Mexico] that we will be obliged to leave it—starved out—not run out….It can never be said that the unfortunate result of this campaign was caused by any *failure* on the part of *the soldiers*."[47] Peticolas reached the last page in his journal just before beginning the journey. He wrote that "as I approach the end of another volume of my journal, and find the wish that I had written on the last page of my 1st book (that before I finished this one the war would be over) so far from being realized…I cannot suppress a feeling of profound sadness."[48] Meanwhile, and far removed from Peticolas's life once more, the residents of the Pecos valley slowly returned to their dwellings and routines, the trampled ground and the fresh graves vivid reminders of recent events.

"Certain Title to the Land Is the Foundation of All Values": From land grants to private property

Alfred Peticolas continued to serve with the Confederate army for the remainder of the war, fighting in campaigns in Louisiana before becoming ill and returning to Texas to work with the Quartermaster Department in Houston. After the war, he returned to his law practice in Victoria, Texas and prospered as a successful lawyer and judge. Peticolas probably handled cases involving land claims and titles, a lucrative business for western lawyers. Had he returned to the Pecos valley, he would have found plenty of work. Disputes over land ownership troubled Pecos in the decades after the Civil War as the triumphant practitioners of the free labor ideology moved westwards and began to influence the environment of the valley.[49]

The Confederacy's defeat ensured that the economy of the north, which was becoming increasingly industrial and dependent on wage labor, would become the economy of the nation. As historian Richard White says, western migrants "left their old local worlds, but they did not leave the national world. They left behind local economies, but they did not leave the national economy." Already, pockets of that economy were springing up in the West—the mining industries of the California gold rush, growing urban centers such as Chicago. After the Civil War, these economic endeavors, complete with the cultural system that accompanied them, flourished with support from the federal government.

Even during the Civil War, the federal government began opening western lands for development. In ten years, between 1862 and 1872, 125 million acres of land had been granted to railroad companies such as the Union Pacific. Soon, railroad tracks began inching closer and closer to New Mexico and Pecos. The federal government also opened lands to settlers. The

1862 Homestead Act provided 160 acres of western land to anyone who improved that land, with the option of purchasing the land cheaply if the settler desired.[50]

In order to distribute lands to railroads and settlers, the government first needed to control that land. Although agreements with foreign nations, like the Louisiana Purchase or Treaty of Guadalupe Hidalgo, gave the United States the land on paper, such agreements did not grant control in actual reality. Many Indian tribes who lived in the western territories had taken no part in treaties and did not recognize federal authority. The Comanches, who had played such an important role in Pecos history, were one of these tribes. The Comanches tried to prevent New Mexican settlers—many of them American cattle and sheep ranchers—from expanding onto the eastern plains of New Mexico. Once the pressing demands of the Civil War ceased, the United States turned its attention to the west and the task of pacifying or removing the Comanches. One of the army's first targets was the comanchero trade that relied on stolen cattle from Texas. The trade disintegrated, removing one of the Comanches' means of obtaining needed supplies. By 1875 the Comanches had been overwhelmed by the United States and removed to the Fort Sill reservation in Oklahoma, leaving the plains—and the mountains and valleys of New Mexico—open to American migrants and railroads.[51]

In order to defeat the Comanches and exercise control over land distribution, the federal government needed information. The government financed a number of surveys and explorations following 1848 to investigate the topography and resources of the new western territories. Historian William Robbins argues that these expeditions "were less significant as disinterested exercises in scientific curiosity than as the means for providing real and practical information for an expanding American empire, for potential investors in western enterprise, and for those interested in the prospects for settlement." Several surveys explored the west before the Civil War, but after, when the potential for development with federal support became certain, four other surveys charted the western territories. "Those last reconnaissance missions reflected the new requirements of the modern industrial state: the need for detailed information about the western landscape, its topography, and its mineral, timber, and water resources." Through laissez-faire economics and subsidizing surveys and railroads, the federal government supported the exploitation of the western environment.[52]

Quelling violent dissent and funding surveys were only the first steps in obtaining control of western lands. Land title also had to be proved legally, in accordance with decades of American land practices. After the Treaty of Guadalupe Hidalgo, signed in 1848, the U.S. government set about determining exactly what sorts of lands it had acquired, who owned them, and how they could be put into the hands of American citizens. In the negotiations over the treaty, Nicolas Trist, the U.S. ambassador, originally inserted an article that validated all land grants under U.S. law that had been valid under Mexican law. During ratification, Congress removed the article. As historian Malcolm Elbright described Congress's intent, "the United States looked at the treaty as an enormous real estate deal; it expected to get clear title to most of the land it was paying for regardless of the property rights of Mexicans." Hispanic settlers who lived on land grants would have to prove their claims to the land in U.S. courts. For many Hispanos, who lacked any knowledge of the American legal system and often did not possess a clear paper trail proving their ownership, this was a heavy burden indeed.[53]

Congress established the Office of the Surveyor General of New Mexico in 1854. The surveyor-general was charged with determining the validity of land claims. William Pelham, the first to hold the position, entered a confusing situation that only became more perplexing. Pelham, along with his miniscule staff, was expected to research and confirm the claims of all

those who came to his office to request recognition of their title to land. The process bogged down in the Spanish archives and legal wrangling over grant titles. In attempting to figure out the boundaries of land grants, Pelham confronted a system of surveying completely different from American practices. Basic ideas about land ownership also differed between the two cultures. Each cultural system approached the environment in a unique way and created distinctive landscapes. Anglos had no intention of adopting Hispanic practices. As the territorial government began adjudicating land claims, Hispanos lost more and more land to Anglos who controlled the government and legal systems.[54]

When Pelham studied maps of Spanish land grants, he confronted irregular outlines that conformed to the available resources of the land and the needs of settlers. Spanish surveys usually recorded only the main boundary markers of a grant, leaving the rest of the grant vaguely defined. Ownership came through use and occupation as much as legal title, and in many grants, much of the land was communal. Americans practiced a different system of land control that centered on the concept of private property. As historian Andro Linklater says, "While most Western nations had land laws restricting individual property rights in favor of social needs, the United States had the opposite….To a degree unknown in the rest of the world, Americans were monarchs of their property." Anglo surveying methods used precise, standardized measurements and strove to create an orderly system of grids on the land. For example, when an American surveyor, John Garretson, surveyed the Pecos Pueblo grant in 1859, the result was a perfectly formed square plopped down upon the landscape without regard to any of the actual uses the Pecos had made of the land. Precise measurements allowed land to be treated as a commodity. It could be sold and traded by people who never set foot on the actual land itself because they owned a piece of paper giving the exact location and measurements of the property.[55]

Although government officials usually deigned to grant Hispanos ownership of the small parcels of land that contained a home and irrigated fields, officials balked at recognizing the substantial tracts of communal land. Eventually, in the 1897 case *United States v. Sandoval*, the Supreme Court ruled that communal lands belonged to the U.S. government and thus could be made available for purchase. Often, the Anglos who acquired large land holdings in New Mexico were the very lawyers who had been hired by Hispanic settlers hoping to retain control of their land grants. The lawyers either received title to land as payment or were in the ideal position to quickly buy communal lands when the courts ruled against Hispanos. The settlers at Pecos, however, did not occupy a communal grant. Although the land surrounding the valley, which Pecos settlers used for grazing and timber cutting, passed into federal control, the Pecos Pueblo grant itself could not be dismissed so easily.[56]

The Pecos, although they now lived in Jemez Pueblo, still thought of the Pecos valley as their homeland and felt they had been driven off the land involuntarily. They had certainly never received payment for the grant, and in the 1850s and 1860s, the Pecos sought to obtain a patent to the grant from the U.S. government so they could sell the land. Congress confirmed the Pecos grant in 1858, before the legal standing of Pueblo leagues and land grants had grown so confusing.[57] Recognition of the Pecos league as a valid land grant did not mean that the Pecos and their descendants possessed clear title to the land, could demand the land back, or sell the land themselves. Previous legislation prohibited the distribution or sale of Indian land except under a treaty, and Congress became mired in debates over the question of whether or not the Pueblos could be called "Indian tribes." John M. Slough, the leader of the Federal troops at Glorieta who later became a territorial judge, issued a decision in 1867. Slough ruled that

because the Pueblos were "civilized," they could not be called "Indian tribes" and thus the Hispanic and Anglo settlers who had taken their land had done so legally.[58]

Pueblo Indian agents protested the Supreme Court decision. In 1873 the commissioner of Indian affairs ordered Thomas B. Catron, U.S. attorney in Santa Fe, to bring suit against settlers who had encroached on Pueblo lands. For reasons that remain obscure, Catron chose the Pecos Pueblo grant as his first test case and filed suit against Martin Kozlowski. The case made its way to the Supreme Court, although by that time Kozlowski had been dropped and other defendants put in place. Now known as *United States v. Joseph,* the case resulted in a decision similar to John Slough's several decades earlier. Like Slough, the Supreme Court ruled that the Pueblos were not tribes and thus the settlement of their lands by Hispanos and Anglos was legal. The Court did not consider whether the Pueblos were United States citizens or not.[59]

Despite the fact that Congress still had not decided whether Pueblos possessed the authority to sell their own lands, the Pecos at Jemez, with the patent issued by the government in 1858, had been disposing of the land around their old pueblo. John N. Ward, who had served as an interpreter, clerk, and agent for the Office of Indian Affairs since 1850, had worked with the Pecos and knew about the valuable tracts of land in the Pecos valley. In 1868 Ward purchased a northern quarter of the Pecos Pueblo grant from the Pecos and also obtained the power of attorney to sell the rest of the grant. By 1872 the remaining portion of the grant became consolidated under the ownership of Frank Chapman, who purchased Ward's quarter. Chapman, a Las Vegas merchant and land speculator, also bought the remaining 14,000 acres from the Pecos for $4,000—Ward's quarter cost Chapman significantly more. Chapman posted signs around the grant warning against trespassing, but the fact remained that the entire Pecos settlement as well as Kozlowski's ranch were located on the land Chapman had just purchased.[60]

Although Chapman did nothing to try and evict the settlers, his purchase of the land halted further expansion of the town of Pecos downriver. The precise survey of the Pecos grant and the creation of a paper title under the federal government allowed for the land to be sold and bought by people who might never have set foot in Pecos and certainly had no intention of actually living there. Despite the physical absence of men like Ward or Chapman, the absorption of Pecos into an Anglo system of land ownership changed the landscape. As G. Emlen Hall describes it, after Chapman purchased the land "the northern seven thousand acres of the Pecos Pueblo grant belonged to the Hispanos and the southern eleven thousand acres belonged to the succession of speculators who followed Frank Chapman."[61] Settlers like Donaciano Vigil or Martin Kozlowski possessed dubious claims to the land at best. Arriving at Pecos at a time when land control rested on use and occupancy, they could do little as surveyors, lawyers, and government officials divvied up the land in the valley with little or no regard as to how Pecos inhabitants actually used that land.

In 1890 the surveyor-general of New Mexico remarked, "Certain title to the land is the foundation of all values."[62] Alfred Peticolas would probably have agreed with him. Although Peticolas and his fellow Confederates failed to win control of New Mexico, they understood that control of the land afforded a society the power to decide what to do with that land. Under the American government, land control came through military prowess, scientific knowledge, and legal title. Before, during, and after the Civil War, the federal government worked diligently to exercise all three methods in the western territories. The government strove to gain control of the land so that the land could be passed to U.S. citizens and profitably developed—the foundation of the free labor ideology. Defeating the Confederacy gave proponents of that ideology the unquestioned authority to extend their cultural system to the west. At Pecos, the effects of the

Civil War could be seen not only in the temporary displacement of residents as the Union and Confederate armies battled at Glorieta Pass, but in the surveys that measured the land in preparation for railroads and homesteaders and in the new borders that separated Hispanic residents from land controlled by wealthy Anglos or the federal government. With control of the land came control of its resources. As a triumphant federal government extended its power westward after the Civil War, it sanctioned the unfettered development of western resources. The effects of that development transformed the Pecos environment. Had Alfred Peticolas ever returned to the valley, he would have discovered a completely different landscape from the one he and his comrades crawled, ran, and fought over on those cold March days in 1862.

Introduction

[1] Frances Levine, *Our Prayers Are in This Place: Pecos Pueblo Identity Over the Centuries* (Albuquerque: University of New Mexico Press, 1999), 150. Hobe-wagi (also spelled Hobewagi) was the name of one of the last residents of Pecos Pueblo, who emigrated to Jemez Pueblo in 1838. She was also known as Rosa Vigil.

[2] John L. Kessell and Rick Hendricks, eds., *By Force of Arms: The Journals of Don Diego de Vargas, 1691-1693* (Albuquerque: University of New Mexico Press, 1992), 424-433.

[3] Genevieve N. Head and Janet D. Orcutt, eds., *From Folsom to Fogelson: The Cultural Resources Inventory Survey of Pecos National Historical Park,* vol. 2 (N.p.: National Park Service, 2002), 403-404; A. F. Bandelier, *Historical Introduction to Studies Among the Sedentary Indians of New Mexico*; *Report on the Ruins of the Pueblo of Pecos* (Boston: A. Williams and Co., 1881; Millwood, NY: Kraus Reprint Co., 1976), 42. Citations are to the Kraus edition.

[4] Genevieve N. Head and Janet D. Orcutt, eds., *From Folsom to Fogelson: The Cultural Resources Inventory Survey of Pecos National Historical Park,* vol. 1 (N.p.: National Park Service, 2002), 13-17.

[5] Head and Orcutt, *From Folsom to Fogelson*, 13-17.

[6] Carolyn Merchant, in *The Columbia Guide to American Environmental History* (New York: Columbia University Press, 2002), xiii-xvii, discusses how environmental history brings both nature and humans into the historical narrative.

[7] William Cronon, "Modes of Prophecy and Production: Placing Nature in History," *The Journal of American History* 76, no. 4 (March 1990): 1122-1131; William Cronon, "The Uses of Environmental History," *Environmental History Review* 17, no. 3 (Autumn 1993): 1-22.

Chapter One

[1] David J. Weber, *The Spanish Frontier in North America* (New Haven: Yale University Press, 1992), 45-49.

[2] John L. Kessell, *Kiva, Cross, and Crown: The Pecos Indians and New Mexico, 1540-1840* (Albuquerque: University of New Mexico Press, 1987), 6-8.

[3] George P. Hammond and Agapito Rey, eds., *Narratives of the Coronado Expedition, 1540-1542* (Albuquerque: University of New Mexico Press, 1940), 256-57, 289.

[4] Hammond and Rey, *Narratives of the Coronado Expedition,* 258.

[5] James F. Brooks, *Captives and Cousins: Slavery, Kinship, and Community in the Southwest Borderlands* (Chapel Hill: University of North Carolina Press, 2002), 26-29.

[6] Quoted in Kessell, *Kiva, Cross, and Crown*, 29. Kessell questions the inclusion of cotton as little evidence exists to suggest that the Pecos grew cotton themselves. Note: a league is equal to approximately three miles.

[7] George P. Hammond and Agapito Rey, eds., *The Rediscovery of New Mexico, 1580-1594: The Explorations of Chamuscado, Espejo, Castaño de Sosa, Morlete, and Leyva de Bonilla and Humaña* (Albuquerque: University of New Mexico Press, 1966), 278. A fanega equals approximately 2.6 bushels.

[8] Head and Orcutt, *From Folsom to Fogelson*, 1:5-6.

[9] Suzanne K. Fish, "Farming, Foraging, and Gender," in *Women and Men in the Prehispanic Southwest: Labor, Power, and Prestige,* ed. Patricia L. Crown (Santa Fe: School of American Research Press, 2000), 172.

[10] Thomas Joseph Durkin III, "Prehispanic Land-Use Change in Pecos National Historical Park, New Mexico" (master's thesis, Washington State University, 1999), 17.

[11] William W. Dunmire and Gail D. Tierney, *Wild Plants of the Pueblo Province: Exploring Ancient and Enduring Uses* (Santa Fe: Museum of New Mexico Press, 1995), 21-23.

[12] Fish, "Farming, Foraging, and Gender," 175-176.

[13] Debra L. Martin, "Bodies and Lives: Biological Indicators of Health Differentials and Division of Labor by Sex," in Crown, *Women and Men in the Prehispanic Southwest*, 271.

[14] Kurt Frederick Anschuetz, "Not Waiting for the Rain: Integrated Systems of Water Management by Pre-Columbian Pueblo Farmers in North-Central New Mexico" (PhD diss., University of Michigan, 1998), 115.

[15] Anschuetz, "Not Waiting for the Rain," 137, 159; Dunmire and Tierney, *Wild Plants of the Pueblo Province*, 27-28.

[16] Anschuetz, "Not Waiting for the Rain," 90, 137-144.

[17] Ibid., 140, 167-172, 149.

[18] Head and Orcutt, *From Folsom to Fogelson,* 1:123.

[19] Ibid., 155.

[20] Ibid., 196.
[21] Ibid., 17.
[22] Katherine A. Spielmann, *Interdependence in the Prehistoric Southwest: An Ecological Analysis of Plains-Pueblo Interaction* (New York: Garland, 1991), 109-111.
[23] Head and Orcutt, *From Folsom to Fogelson,* 1:165-166.
[24] Ibid., 16-17.
[25] Durkin, "Prehispanic Land-Use Change," 16-17.
[26] Head and Orcutt, *From Folsom to Fogelson,* 1:165-166.
[27] Martin R. Rose, Jeffrey S. Dean, and William J. Robinson, *The Past Climate of Arroyo Hondo New Mexico Reconstructed from Tree Rings* (Santa Fe: School of American Research Press, 1981), 93-100. See Appendix B for a detailed chronology of climate.
[28] Ibid., 16-17.
[29] Head and Orcutt, *From Folsom to Fogelson,* 1:6-8; see also Levine, *Our Prayers Are in This Place*, 6-10.
[30] Head and Orcutt, *From Folsom to Fogelson,* 1:221-36; Frances Levine and Anna LaBauve, "Frontera: A View of Demographic Change in the Upper Pecos Valley from Sacramental Records at Nuestra Señora de los Ángeles, Pecos Pueblo and San Miguel del Vado," report prepared for Pecos National Historical Park, Pecos, New Mexico, 1994, file on copy, Pecos National Historical Park archives (hereafter, PNHP), 10-12.
[31] Spielmann, *Interdependence in the Prehistoric Southwest,* 104.
[32] Head and Orcutt, *From Folsom to Fogelson,* 1:229-235.
[33] Ibid., 225.
[34] Alfred Vincent Kidder, *Pecos, New Mexico: Archaeological Notes,* (Andover, MA: Phillips Academy, Robert S. Peabody Foundation for Archaeology, 1958), 133-136; Head and Orcutt, *From Folsom to Fogelson,* 1:223-226.
[35] Head and Orcutt, *From Folsom to Fogelson,* 1:226.
[36] Spielmann, *Interdependence in the Prehistoric Southwest,* 104.
[37] Head and Orcutt, *From Folsom to Fogelson,* 1:227.
[38] Kessell, *Kiva, Cross, and Crown,* 489-492.
[39] Katherine A. Spielmann, Margaret J. Schoeninger, and Katherine Moore, "Plains-Pueblo Interdependence and Human Diet at Pecos Pueblo, New Mexico," *American Antiquity* 55, no. 4 (October 1990): 755, 759.
[40] Head and Orcutt, *From Folsom to Fogelson,* 1:166.
[41] Spielmann, Schoeninger, and Moore, "Pueblo-Plains Interdependence and Human Diet," 760; Durkin, "Prehispanic Land-Use Change," 130.
[42]Frances Levine, Marilyn Norcini, Morris Foster, "An Ethnographic Overview of Pecos National Historical Park," 1994, report on file, PNHP, 5-31 to 5-32; Spielmann, Schoeninger, and Moore, "Pueblo-Plains Interdependence and Human Diet," 755.
[43] Richard W. Lang and Arthur H. Harris, *The Faunal Remains from Arroyo Hondo Pueblo, New Mexico: A Study in Short-Term Subsistence Change* (Santa Fe: School of American Research Press, 1984), 8.
[44] Hammond and Rey, eds., *The Rediscovery of New Mexico, 1580-1594,* 278.
[45] Kidder, *Pecos, New Mexico*, 81.
[46] Laura Victoria Meszaros, "Vegetation and Land Use in the Upper Pecos Area, New Mexico" (master's thesis, University of New Mexico, 1989), 12; Suzanne K. Fish, "Pollen Results from Adobe and Mortar of the Pecos Mission," 1994, report on file, PNHP; Mollie S. Toll, "Plant Parts Found in Adobe Bricks at an 18th Century Spanish Mission, Pecos, NM.," 1995, report on file, PNHP.
[47] Lang and Harris, *The Faunal Remains of Arroyo Hondo Pueblo*, 11-12, 26-27.
[48] Spielmann, *Interdependence in the Prehistoric Southwest,* 131-32.
[49] Craig D. Allen, "Lots of Lightning and Plenty of People: An Ecological History of Fire in the Upland Southwest," in *Fire, Native Peoples, and the Natural Landscape,* ed. Thomas R. Vale (Washington D.C.: Island Press, 2002), 145-148 provides a thorough argument for the primacy of lightning fires in the southwest. Stephen J. Pyne, in *Fire in America: A Cultural History of Wildland and Rural Fire* (Princeton: Princeton University Press, 1982) argues for a more central human role.
[50] William H. Romme et al., "Historical and Modern Disturbance Regimes, Stand Structures, and Landscape Dynamics in Piñon-Juniper Vegetation of the Western U.S." (Fort Collins: Colorado Forest Restoration Institute, 2008), http://welcome.warnercnr.colostate.edu/cfri-reports.html (accessed October 10, 2008), 6-10.
[51] Romme et al, 4; Allen, "Lots of Lightning and Plenty of People," 146-148. The literature on piñon juniper woodlands is extensive, see also Earl F. Aldon and Douglas W. Shaw, eds., "Managing Piñon-Juniper Ecosystems for Sustainability and Social Needs," USDA Forest Service, General Technical Report RM-236 (Fort Collins:

USDA, 1993); Thomas W. Swetnam and Christopher H. Baisan, "Historical Fire Regime Patterns in the Southwestern United States since AD 1700," in *Fire Effects in Southwestern Forests, Proceedings of the Second La Mesa Fire Symposium*, ed. Craig D. Allen, RM-GTR-286, 11-32 (Fort Collins: USDA, 1996).
[52] Gerald J. Gottfried and Rex D. Pieper, "Pinyon-Juniper Rangelands," in *Livestock Management in the American Southwest: Ecology, Society, and Economics,* ed. Roy Jemison and Carol Raish (New York: Elsevier Science B.V., 2000), 158, 175.
[53] Dunmire and Tierney, *Wild Plants of the Pueblo Province,* 164, 186, 190.
[54] Spielmann, *Interdependence in the Prehistoric Southwest,* 125.
[55] Lang and Harris, *The Faunal Remains of Arroyo Hondo Pueblo,* 10-12.
[56] Ibid., 87, 100-101.
[57] Spielmann, *Interdependence in the Prehistoric Southwest,* 126-28.
[58] Lang and Harris, *The Faunal Remains of Arroyo Hondo Pueblo,* 55-56, 63.
[59] Katherine A. Spielmann, "Colonists, Hunters, and Farmers: Plains-Pueblo Interaction in the Seventeenth Century," in *Columbian Consequences: Archeological and Historical Perspectives on the Spanish Borderlands West,* vol. 1, ed. David Hurst Thomas (Washington D.C.: Smithsonian Institution Press, 1989), 103.
[60] Spielmann, *Interdependence in the Prehistoric Southwest,* 131-32, 182.
[61] Ibid., 126.
[62] Lang and Harris, *The Faunal Remains of Arroyo Hondo Pueblo,* 69.
[63] Hammond and Rey, *Narratives of the Coronado Expedition,* 258.
[64] National Park Service (NPS), "Water Resource Management Plan: Pecos National Historical Park," 1995, report on file, PNHP, 15.
[65] Levine, Norcini, and Foster, "An Ethnographic Overview," 2-11-2-13.
[66] Durkin, "Prehispanic Land-Use Change," 25-26.
[67] Fish, "Farming, Foraging, and Gender," 184.
[68] Joe S. Sando, *Pueblo Nations: Eight Centuries of Pueblo Indian History* (Santa Fe: Clear Light Publishers, 1991), 24-30; Dan Scurlock, "From the Rio to the Sierra: An Environmental History of the Middle Rio Grande Basin," General Technical Report, RMRS-GTR-5 (Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, 1998), 82; Hammond and Rey, *Narratives of the Coronado Expedition*, 184; Levine, Norcini, and Foster, "An Ethnographic Overview," 2-4; Tracy Lynn Brady, "Kivas, Cathedrals, and Energy Seats: The Making of Religious Landscapes in the Upper Rio Grande Valley" (PhD diss., University of Colorado, 2004), 32-33, 49.
[69] Hammond and Rey, *Narratives of the Coronado Expedition,* 279-280.
[70] Spielmann, "Colonists, Hunters, and Farmers," 103; Spielmann, *Interdependence in the Prehistoric Southwest,* 217.
[71] Spielmann, "Colonists, Hunters, and Farmers," 103.
[72] Spielmann, Schoeninger, and Moore, "Plains-Pueblo Interdependence and Human Diet," 753.
[73] Lang and Harris, *The Faunal Remains of Arroyo Hondo Pueblo,* 11-12, 26-27.
[74] Spielmann, *Interdependence in the Prehistoric Southwest,* 189.
[75] Kessell, *Kiva, Cross, and Crown,* 14-18.
[76] Ibid., 17-23.
[77] Ibid., 24-27.
[78] Ibid., 41-62.

Chapter Two
[1] Kessell, *Kiva, Cross, and Crown,* 115, 152.
[2] Other European colonists possessed similar aims. For an example of British attempts to recreate European nature in northeastern North America see William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983).
[3] David Weber, *The Mexican Frontier, 1821-1846: The American Southwest Under Mexico* (Albuquerque: University of New Mexico Press, 1982), 277.
[4] Weber, *The Spanish Frontier,* 106.
[5] Quoted in Kessell, *Kiva, Cross, and Crown*, 131.
[6] Alfred W. Crosby, Jr., *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (New York: Cambridge University Press, 1986).

[7] Alfred W. Crosby, Jr., *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Publishing Company, 1972) , 74-97.
[8] Kessell, *Kiva, Cross, and Crown,* 21.
[9] Ibid., 25.
[10] Weber, *The Spanish Frontier,* 81; Kessell, *Kiva, Cross, and Crown,* 68-71; Andrew L. Knaut, *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth-Century New Mexico* (Norman: University of Oklahoma Press,1995), 18.
[11] Weber, *The Spanish Frontier,* 78.
[12] Ibid., 79; Kessell, *Kiva, Cross, and Crown,* 42.
[13] Weber, *The Spanish Frontier,* 79-80; Kessell, *Kiva, Cross, and Crown,* 51.
[14] Weber, *The Spanish Frontier,* 81; Kessell, *Kiva, Cross, and Crown,* 68-71; Knaut, *The Pueblo Revolt,* 18.
[15] Weber, *The Spanish Frontier,* 309.
[16] Crosby, *The Columbian Exchange,* 67.
[17] Scurlock, "From the Rio to the Sierra," 293.
[18] Weber, *The Spanish Frontier,* 57.
[19] Ibid.; Crosby, *The Columbian Exchange,* 5-15.
[20] Kessell, *Kiva, Cross, and Crown,* 90.
[21] Anschuetz, "Not Waiting for the Rain," 170.
[22] Kessell, *Kiva, Cross, and Crown,* 89-90.
[23] Ibid., 90-97; Weber, *The Spanish Frontier,* 88.
[24] Crosby, *The Columbian Exchange,* 35-68, 96-97.
[25] Quoted in John L. Kessell, *Spain in the Southwest: A Narrative History of Colonial New Mexico, Arizona, Texas, and California* (Norman: University of Oklahoma Press, 2002), 128.
[26] Crosby, *The Columbian Exchange,* 35-68.
[27] Kessell, *Kiva, Cross, and Crown,* 489-492 provides a summary of the various population estimates over the years.
[28] Ibid., 489-492.
[29] Head and Orcutt, *From Folsom to Fogelson,* 1:226.
[30] Knaut, *The Pueblo Revolt,* 154.
[31] Ibid., 47; Weber, *The Spanish Frontier,* 111.
[32] Quoted in Kessell, *Kiva, Cross, and Crown,* 129.
[33] Kessell, *Kiva, Cross, and Crown,* 170.
[34] Knaut, *The Pueblo Revolt,* 134.
[35] Ibid., 49.
[36] Quoted in Kessell, *Kiva, Cross, and Crown,* 124.
[37] Kidder, *Pecos, New Mexico,* 106-109; Kessell, *Kiva, Cross, and Crown,* 104.
[38] Weber, *The Spanish Frontier,* 133.
[39] Knaut, *The Pueblo Revolt,* 77-79.
[40] Levine and LaBauve, "Frontera," 21.
[41] Ibid., 161, 164.
[42] John O. Baxter, *Las Carneradas: Sheep Trade in New Mexico, 1700-1860* (Albuquerque: University of New Mexico Press, 1987), 7-10.
[43] Alden C. Hayes, *The Four Churches of Pecos* (Albuquerque: University of New Mexico Press, 1974), 26-29.
[44] Kessell, *Kiva, Cross, and Crown,* 219.
[45] Dunmire and Tierney, *Wild Plants of the Pueblo Province,* 38.
[46] Scurlock, "From the Rio to the Sierra," 293.
[47] Christopher H. Baisan and T. W. Swetnam, "Interactions of Fire Regimes and Land Use in the Central Rio Grande Valley," Research Paper RM-RP-330 (Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, 1997), 6, 10-14.
[48] James E. Ivey, "'The Greatest Misfortune of All': Famine in the Province of New Mexico, 1667-1672," *Journal of the Southwest* 36, no. 1 (1994): 77.
[49] Weber, *The Spanish Frontier,* 131-132.
[50] Kessell, *Kiva, Cross, and Crown,* 109.
[51] Ibid., 114.
[52] Ibid., 110-112.
[53] Kessell, *Kiva, Cross, and Crown,* 321.

[54] Weber, *The Spanish Frontier,* 126.
[55] Kessell, *Kiva, Cross, and Crown,* 177-78.
[56] Ibid., 178.
[57] Weber, *The Spanish Frontier,* 125; Knaut, *The Pueblo Revolt,* 157.
[58] Kessell, *Kiva, Cross, and Crown,* 188.
[59] Ibid.
[60] Ibid., 147-49.
[61] Weber, *The Spanish Frontier,* 10.
[62] Head and Orcutt, *From Folsom to Fogelson,* 1:168.
[63]Rose, Dean, and Robinson, *The Past Climate of Arroyo Hondo,* 94.
[64] Weber, *The Spanish Frontier,* 107, 116.
[65] Kessell, *Kiva, Cross, and Crown,* 123, 138.
[66] Knaut, *The Pueblo Revolt*, 69.
[67] Kessell, *Kiva, Cross, and Crown,* 120-22.
[68] Knaut, *The Pueblo Revolt,* 68-69.
[69] Ibid., 161.
[70] Spielmann, "Colonists, Hunters, and Farmers," 107-08.
[71] Quoted in Kessell, *Kiva, Cross, and Crown,* 212.
[72] Ibid.
[73] Ivey, "The Greatest Misfortune of All," quote on page 83.
[74] Spielmann, *Plains Pueblo Interdependence,* 759; Spielmann, "Hunters, Colonists, and Farmers," 110.
[75] Kessell, *Kiva, Cross, and Crown,* 232-234. See Knaut, *The Pueblo Revolt,* for a full overview of the causes of the revolt.

Chapter Three
[1] Kessell, *Kiva, Cross, and Crown,* 239.
[2] Weber, *The Spanish Frontier,* 136.
[3] In this chapter, we begin referring to the Spanish settlers who came to New Mexico as "Hispanos." During the eighteenth century, a distinct Hispanic identity arose in New Mexico—see Frank, *From Settler to Citizen* for a full discussion of the development of New Mexican society. We continue to use the term "Spanish" to refer to officials and the government in Mexico City, as they still represented the Spanish empire.
[4] Jeremy Adelman and Stephen Aron, "From Borderlands to Borders: Empires, Nation-States, and the Peoples in Between in North American History," *The American Historical Review* 104, no. 3 (June 1999): 814-841.
[5] See Pekka Hämäläinen, *The Comanche Empire* (New Haven: Yale University Press, 2008) for a full discussion of the growth and characteristics of the Comanche Empire.
[6] Kessell and Hendricks, *By Force of Arms*, 424-433.
[7] Kessell, *Kiva, Cross, and Crown,* 238.
[8] Weber, *The Spanish Frontier,* 18.
[9] Kessell, *Kiva, Cross, and Crown,* 256-63.
[10] Weber, *The Spanish Frontier,* 140.
[11] Hämäläinen, *The Comanche Empire*, 23. Jack D. Forbes, in *Apache, Navajo, and Spaniard* (Norman: University of Oklahoma Press, 1960), 238-239, also suggests that friendly trade characterized the relationship between the Pueblos and the Plains, stating that "…in 1692 most of the Athapascans and Pueblos were friendly with each other."
[12] Kessell, *Kiva, Cross, and Crown,* 263-266. Ned Blackhawk, in *Violence over the Land* (Cambridge: Harvard University Press, 2006), 32, also says that both Pueblos and Plains tribes "used the Spanish absence to enhance their own fortunes," with both groups engaging in intensified raiding.
[13] Baxter, *Las Carneradas*, 13-17.
[14] Kessell, *Kiva, Cross, and Crown,* 321.
[15] Eleanor B. Adams and Fray Angelico Chavez, trans., *The Missions of New Mexico, 1776: A Description by Fray Francisco Atanasio Dominguez with Other Contemporary Documents* (Albuquerque: University of New Mexico Press, 1956), 213.
[16] Charles Wilson Hackett, ed., *Historical Documents Relating to New Mexico, Nueva Vizcaya, and Approaches Thereto, to 1773,* vol. 3 (Washington D.C.: Carnegie Institution of Washington, 1937), 465-66.
[17] Hayes, *The Four Churches of Pecos,* 9-11.
[18] Ibid., 46-50.

[19] Ibid., 53-58.
[20] Hackett, ed., *Historical Documents Relating to New Mexico*, 465-66.
[21] Kessell and Hendricks, *By Force of Arms*, 423; Kessell, *Kiva, Cross, and Crown*, 244-254.
[22] Adams and Chavez, *The Missions of New Mexico*, 403.
[23] Weber, *The Spanish Frontier*, 141, 306; Kessell, *Kiva, Cross, and Crown*, 319-339.
[24] Hämäläinen, *The Comanche Empire*, 23-30.
[25] Knaut, *The Pueblo Revolt*, 184-186.
[26] Hämäläinen, *The Comanche Empire*, 33-36.
[27] Blackhawk, *Violence over the Land*, 35.
[28] Hämäläinen, *The Comanche Empire*, 43.
[29] Kessell, *Kiva, Cross, and Crown*, 371, 372, 376, 359, 334.
[30] Quoted in Kessell, *Kiva, Cross, and Crown*, 357.
[31] Hayes, *The Four Churches of Pecos*, 53.
[32] Blackhawk, *Violence over the Land*, 52.
[33] Hämäläinen, *The Comanche Empire*, 38.
[34] Kessell, *Kiva, Cross, and Crown*, 386, 357.
[35] Ibid., 387-391.
[36] Hämäläinen, *The Comanche Empire*, 46-74; Blackhawk, *Violence over the Land*, 53-56.
[37] Hackett, *Historical Documents Relating to New Mexico*, 465-66.
[38] Kessell, *Kiva, Cross, and Crown*, 371, 392.
[39] Quoted in Kessell, *Kiva, Cross, and Crown*, 395.
[40] Kessell, *Kiva, Cross, and Crown*, 396.
[41] Adams and Chavez, *The Missions of New Mexico*, 213.
[42] Epidemics and evidence for them are summarized in Levine and LaBauve, *Frontera*, 48-49.
[43] Levine and LaBauve, *Frontera*, 39-43.
[44] Ibid., 61.
[45] Weber, *The Spanish Frontier*, 204-224.
[46] Kessell, *Kiva, Cross, and Crown*, 291, 395.
[47] Elinor G. K. Melville, *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (New York: Cambridge University Press, 1994), 99.
[48] Adams and Chavez, *The Missions of New Mexico*, 213. The fact that Dominguez does not include Glorieta Creek in his list of water sources for Pecos suggests that it may have been an intermittent stream at this time or at least possessed a highly variable water flow.
[49]Ibid.
[50] Hämäläinen, *The Comanche Empire*, 78.
[51] Weber, *The Spanish Frontier*, 229.
[52] Hämäläinen, *The Comanche Empire*, 109-120.
[53] Ibid., 120-123; Kessell, *Kiva, Cross, and Crown*, 403-409, 436.
[54] Kessell, *Kiva, Cross, and Crown*, 409; Hämäläinen, *The Comanche Empire*, 125-127.
[55] Blackhawk, *Violence over the Land*, 104-105.
[56] Kessell, *Kiva, Cross, and Crown*, 349.
[57] A league is equal to approximately three miles.
[58] G. Emlen Hall, *Four Leagues of Pecos: A Legal History of the Pecos Grant, 1800-1933* (Albuquerque: University of New Mexico Press, 1984), 12-13; Kessell, *Kiva, Cross, and Crown*, 439.
[59] Malcolm Elbright, "New Mexican Land Grants: The Legal Background," in *Land, Water, and Culture: New Perspectives on Hispanic Land Grants*, ed. Charles L. Briggs and John R. Van Ness (Albuquerque: University of New Mexico Press, 1987), 15-26.
[60] Hall, *Four Leagues of Pecos*, 11, 15.
[61] Kessell, *Kiva, Cross, and Crown*, 415-21; Hämäläinen, *The Comanche Empire*, 204.
[62] Kessell, *Kiva, Cross, and Crown*, 415-421.
[63] Hämäläinen, *The Comanche Empire*, 124.
[64] Hall, *Four Leagues of Pecos*, 17-22; National Register of Historic Places Inventory-Nomination, "Valencia Ranch Historic/Archaeological District, Pecos, New Mexico," 1981, 6.
[65] Hall, *Four Leagues of Pecos*, 19, 26-27.
[66] Ibid., 24-27.

[67] Ibid., 26.
[68] Epidemics and evidence for them are summarized in Levine and LaBauve, *Frontera*, 48-49.
[69] Levine and LaBauve, *Frontera*, 39-43.
[70] Weber, *The Spanish Frontier*, 310.
[71] Ibid., 310-311.
[72] Baisan and Swetnam, "Interactions of Fire Regimes," 11.
[73] Weber, *The Spanish Frontier*, 311-312.
[74] Scurlock, "From the Rio to the Sierra," 149.
[75] Melville, *A Plague of Sheep*, 119, note 4.
[76] Baisan and Swetnam, "Interactions of Fire Regimes," 11.
[77] Rose, Dean, and Robinson, *The Past Climate of Arroyo Hondo, New Mexico*, 94.
[78] Hämäläinen, *The Comanche Empire*, 171, 182-207; see Charles L. Kenner, *The Comanchero Frontier: A History of New Mexico-Plains Relations* (Norman: University of Oklahoma Press, 1994), for a detailed overview of comancheros and ciboleros.
[79] Hämäläinen, *The Comanche Empire*, 130-137, 206-207.
[80] Weber, *The Spanish Frontier*, 175.
[81] Ibid.
[82] Ross Frank, *From Settler to Citizen: New Mexican Economic Development and the Creation of Vecino Society, 1750-1820* (Berkeley: University of California Press, 2000), 77-83.
[83] Weber, *The Spanish Frontier*, 177.
[84] Frank, *From Settler to Citizen*, 92-156.
[85] Ibid., 119-156, 224.
[86] Weber, *The Mexican Frontier*, 16.
[87] Ibid.,16-18; Hall, *Four Leagues of Pecos*, 15-16.
[88] See Frank, *From Settler to Citizen* for a full discussion of the development of New Mexican society.

Chapter Four

[1] D. Sloan, Architects with Cherry/See Architects, "Historic Structures Report: Trading Post, Forked Lightning Ranch House, Forked Lightning Pump House, Pecos National Historical Park, Pecos, NM," 2002, report on file, PNHP, 4-5. Note: Some sources suggest that prior to 1883, when a post office was installed at Pecos, the town was known as "Levy." We did not see this name noted on any period maps that we located, which all called the settlement "Pecos" if it was recorded. Robert Julyan, *The Place Names of New Mexico*, rev. ed. (Albuquerque: University of New Mexico Press, 1998), 260.
[2] Weber, *The Mexican Frontier*, 6-14.
[3] Ibid., 34.
[4] Ibid., 20-40.
[5] Hämäläinen, *The Comanche Empire*, 209; Weber, *The Mexican Frontier*, 86-95.
[6] Hall, *Four Leagues of Pecos*, 26.
[7] Weber, *The Mexican Frontier*, 243-270.
[8] Hämäläinen, *The Comanche Empire*, 210-211.
[9] Weber, *The Mexican Frontier*, 16-17.
[10] Hall, *Four Leagues of Pecos*, 33.
[11] Ibid., 36-40.
[12] Ibid., 40, 84. A vara is equal to approximately 33 and 1/3 inches.
[13] Ibid., 42-45.
[14] Ibid., 55.
[15]Ibid., 50-61; Levine, *Our Prayers Are in this Place*, 124-125.
[16] Head and Orcutt, *From Folsom to Fogelson*, 2: 385-388; Hall, *Four Leagues of Pecos*, 63.
[17] Head and Orcutt, *From Folsom to Fogelson*, 2: 393-395.
[18] Ibid., 381-398.
[19] Brady, "Kivas, Cathedrals, and Energy Seats," 36-38, 120-126.
[20] Elbright, "The Legal Background," 23.
[21] Ibid., 16-20.
[22] John R. Van Ness, "Hispanic Land Grants: Ecology and Subsistence in the Uplands of Northern New Mexico and Southern Colorado," in *Land, Water, and Culture: New Perspectives on Hispanic Land Grants*, ed. Charles L.

Briggs and John R. Van Ness (Albuquerque: University of New Mexico Press, 1987), 187; National Register Nomination, "Valencia Ranch," 8; David Hornbeck, Jr., "Spatial Manifestations of Acculturative Processes in the Upper Pecos Valley, New Mexico, 1840-1880" (PhD diss., University of Nebraska, 1974), 113.
[23] Hall, *Four Leagues of Pecos,* 47-48.
[24] Hornbeck, "Spatial Manifestations," 108-111.
[25] Ibid., 61, 104-105; William deBuys, *Enchantment and Exploitation: The Life and Hard Times of a New Mexican Mountain Range* (Albuquerque: University of New Mexico Press, 1985), 128.
[26] Weber, *The Mexican Frontier,* 208-211.
[27] Charles Montgomery, *The Spanish Redemption: Heritage, Power, and Loss on New Mexico's Upper Rio Grande* (Berkeley and Los Angeles: University of California Press, 2002), 37.
[28] Throughout the Spanish period and through the mid-nineteenth century sheep were far more important for their mutton than their wool. The Civil War changed the dynamics of the sheep trade. Although it disrupted New Mexico's trade for California, the war created a demand for wool for use in uniforms. Hispanos began crossbreeding the churro with Merinos in order to produce a higher quality wool fiber. Baxter, *Las Carneradas,* 21, 28-29, 109, 112, 148.
[29] Baxter, *Las Carneradas,* 95.
[30] Hall, *Four Leagues of Pecos,* 61-62.
[31] Quoted in Hornbeck, "Spatial Manifestations," 119.
[32] Ibid., 118-119.
[33] Hall, *Four Leagues of Pecos,* 167-168
[34] National Register Nomination, "Valencia Ranch," 9; Hall, *Four Leagues of Pecos,* 124.
[35] deBuys, *Enchantment and Exploitation,* 195.
[36] Melville, *A Plague of Sheep,* 9, 72-75, 114.
[37] Hornbeck, "Spatial Manifestations," 120.
[38] Weber, *The Mexican Frontier,* 125-129.
[39] Josiah Gregg, *Commerce of the Prairies,* ed. Max L. Moorhead (Norman: University of Oklahoma Press, 1954), 13.
[40] deBuys, *Enchantment and Exploitation,* 92.
[41] Weber, *The Mexican Frontier,* 148.
[42] Ibid., 153.
[43] deBuys, *Enchantment and Exploitation,* 99-100.
[44] Donald Lee Burtchin, "The Physical Geography of Pecos National Monument,"(master's thesis, University of Arizona, 1983), 62.
[45] National Register Nomination, "Valencia Ranch," 6.
[46] Don E. Alberts, *The Battle of Glorieta: Union Victory in the West* (College Station: Texas A&M University Press, 1998), 46; Andrew H. Young, "History of Ranching and Trading at Pecos National Historical Park: Pigeon's Ranch, Kozlowski's Trading Post, and Forked Lightning Ranch," 2001, report on file, PNHP, 21; Robert L. Spude, "Pigeon's Ranch Historic Structure Report," Intermountain Cultural Resource Management Professional Paper No. 74, Santa Fe, NM: National Park Service, Intermountain Region Support Office, 2008, 1, available at http://www.nps.gov/history/history/online_books/pecos/pigeons-hsr/contents.htm (accessed May 25, 2010).
[47] Young, "History of Ranching and Trading," 4-5, 33.
[48] Ibid., 33.
[49] Sloan, "Historic Structures Report," 4.
[50] Young, "History of Ranching and Trading," 7; Hall, *Four Leagues of Pecos,* 122.
[51] Head and Orcutt, *From Folsom to Fogelson,* 2: 401-402.
[52] Marc Simmons and Hal Jackson, *Following the Santa Fe Trail: A Guide for Modern Travelers,* 3rd ed. (Santa Fe: Ancient City Press, 2001), 215.
[53] Hämäläinen, *The Comanche Empire,* 294-296.
[54] Nancy Langston, *Forest Dreams, Forest Nightmares: The Paradox of Old Growth in the Inland West* (Seattle: University of Washington Press, 1995), 57-59.; deBuys, *Enchantment and Exploitation,* 92-97.
[55] deBuys, *Enchantment and Exploitation,* 98; Weber, *The Spanish Frontier,* 152.
[56] deBuys, *Enchantment and Exploitation,* 96-99.
[57]Hämäläinen, *The Comanche Empire,* 301-318.
[58] Ibid., 232-236.
[59] Weber, *The Mexican Frontier,* 159-183.

[60] Richard White, "*It's Your Misfortune and None of My Own": A New History of the American West* (Norman: University of Oklahoma Press, 1991), 75-78.
[61] White, *"It's Your Misfortune and None of My Own,"* 73-76.
[62] Weber, *The Mexican Frontier*, 273-277.
[63] Hämäläinen, *The Comanche Empire*, 232-236; White, *"It's Your Misfortune and None of My Own,"* 82.
[64] Susan Shelby Magoffin, *Down the Santa Fe Trail and into Mexico: The Diary of Susan Shelby Magoffin, 1846-1847*, ed. Stella M. Drumm (1962; repr., Lincoln: University of Nebraska Press, 1982), 102,112-137.
[65] Robert W. Frazer, *Forts and Supplies: The Role of the Army in the Economy of the Southwest, 1846-1861* (Albuquerque: University of New Mexico Press, 1983), 1-11.
[66] Frazer, *Forts and Supplies*, 9, 49, 108, 185-187; Baxter, *Las Carneradas*, 112.
[67] Frazer, *Forts and Supplies*, 11, 102, 185-187.
[68] Surveys completed by Lieutenant George M. Wheeler in 1871 and 1876 show cultivated land extending the length of Glorieta Creek from Pigeon's Ranch to the pueblo ruins, perhaps remnants of fields first created by Valle. "Economic Features Part of Central New Mexico, Atlas Sheet No. 77 (B); Issued May 7th 1877; Weyss, Herman & Lang Del. Expeditions of 1871 & 1876 Under the Command of 1st. Lieut. Geo. M. Wheeler, Corps of Engineers, U.S. Army. U.S. Geographical Surveys West Of The 100th Meridian," available at **http://www.davidrumsey.com/directory/where/New+Mexico/** (accessed September 16, 2009).
[69] Young, "History of Ranching and Trading," 33.
[70] Frazer, *Forts and Supplies*, 114, 185-186.
[71] Head and Orcutt, *From Folsom to Fogelson*, 2: 400-401.
[72] Hall, *Four Leagues of Pecos*, 125-126. The rincón area was another fertile stretch of land located a short way up the Pecos River where it formed an abrupt "l" shape. Today it is the site of the Benedictine Monastery.
[73] Head and Orcutt, *From Folsom to Fogelson*, 2:403.

Chapter Five

[1] Don E. Alberts, ed., *Rebels on the Rio Grande: The Civil War Journal of A. B. Peticolas* (Albuquerque: University of New Mexico Press, 1984), 25.
[2] Alberts, *Rebels on the Rio Grande*, 68, 73.
[3] James L. Huston, "Property Rights in Slavery and the Coming of the Civil War," *The Journal of Southern History* 65, no. 2 (May 1999): 249-286; Michael A. Morrison, *Slavery and the American West: The Eclipse of Manifest Destiny and the Coming of the Civil War* (Chapel Hill: The University of North Carolina Press, 1997).
[4] Mark Fiege, "Gettysburg and the Organic Nature of the Civil War," in *Natural Enemy, Natural Ally: Toward an Environmental History of War*, ed. Richard P. Tucker and Edmund Russell (Corvallis, OR: Oregon State University Press, 2004), 94.
[5] White, *It's Your Misfortune and None of My Own,* 142-147; Eric Foner, *The Story of American Freedom* (New York: W.W. Norton and Company, 1998), 79.
[6] Alberts, *Rebels on the Rio Grande*, 1-2; Morrison, *Slavery and the American West*, 6-7, 69.
[7] Morrison, *Slavery and the American West*, 6-7, 58-61.
[8] Ibid., 6-7, 56-57, 77-78.
[9] Huston, "Property in Slavery," 251-261.
[10] Ibid., 257, 266-273.
[11] Morrison, *Slavery and the American West*, 124, 142-168, 170.
[12] Ibid., 105-108; Foner, *The Story of American Freedom*, 69-79.
[13] Alberts, *The Battle of Glorieta*, 5; Martin Hardwick Hall, *Sibley's New Mexico Campaign* (Austin: University of Texas Press, 1960), 13-15.
[14] Letter quoted in full in John P. Wilson, *When the Texans Came: Missing Records from the Civil War in the Southwest* (Albuquerque: University of New Mexico Press, 2001), 149-150.
[15] Alberts, *The Battle of Glorieta*, 6-7.
[16] Alberts, *Rebels on the Rio Grande*, 14-22.
[17] Alberts, *The Battle of Glorieta*, 11-13.
[18] Ibid., 5, 8.
[19] Alberts, *The Battle of Glorieta*, 8.
[20] Ibid., 13-14; Alberts, *Rebels on the Rio Grande*, 49, 50, 52.
[21] Alberts, *The Battle of Glorieta*, 14-15; Alberts, *Rebels on the Rio Grande*, 55.

[22] The following account of the Battle of Glorieta Pass is taken mainly from Alberts, *The Battle of Glorieta*. Thomas S. Edrington and John S. Taylor, *The Battle of Glorieta Pass: A Gettysburg in the West, March 26-28, 1862* (Albuquerque: University of New Mexico Press, 1998) and Hall, *Sibley's New Mexico Campaign* also cover the battle. The list of family names of New Mexican volunteers is given in Aspectos Culturales, ed., *Pecos mi Pecos* (Santa Fe: Aspectos Culturales, 2002), 22; see also Wilson, *When the Texans Came,* 131. Quote from Wilson, *When the Texans Came*, 260.
[23] Jerry Thompson, ed., *Civil War in the Southwest: Recollections of the Sibley Brigade* (College Station: Texas A&M University Press, 2001), 81.
[24] Yvonne R. Oakes, "Pigeon's Ranch and the Glorieta Battlefield: An Archaeological Assessment," Archaeology Notes 123, with contributions by Don E. Alberts and Betsy Swanson (Santa Fe: Museum of New Mexico, Office of Archaeological Studies, 1995), 11-12.
[25] Alberts, *The Battle of Glorieta*, 44.
[26] Ibid., 57. Alberts states that at the bridge spanning Apache Creek, the creek was a "fairly insignificant dry arroyo, four or five feet deep," in 1862. The quote from Lieutenant Abert is from James W. Abert, *Abert's New Mexico Report, 1846-1847,* foreword by William A. Keleher (Albuquerque: Horn & Wallace, 1962), 45. Abert visited the ruins of Pecos Pueblo and mentioned several of the bird species he encountered around Pecos. These included numerous stellar jays, red shafted flickers, and robins. Some "large night herons" flew over him when he was sketching the ruins. Abert passed through Pecos again in January and "obtained a beautiful yellow finch, which proves to be the 'fringilla vespertina,'" or an evening grosbeak (pages 42-45, 141-142).
[27] Wilson, *When the Texans Came*, 259-260.
[28] Ibid., 261.
[29] Thompson, *Civil War in the Southwest,* 84.
[30] Quote from Alberts, *Rebels on the Rio Grande,* 76.
[31] Thompson, *Civil War in the Southwest,* 93
[32] Ibid., 93.
[33] Spude, "Pigeon's Ranch Historic Structures Report", 5-7.
[34] Alberts, *The Battle of Glorieta,* 87.
[35] Ibid., 89.
[36] Oakes, "Pigeon's Ranch and the Glorieta Battlefield," 3, 11-12.
[37] Alberts, *Rebels on the Rio Grande*, 79.
[38] Wilson, *When the Texans Came*, 265.
[39] Alberts, *The Battle of Glorieta*, 97-98.
[40] Alberts, *Rebels on the Rio Grande*, 82-83.
[41] Quoted in Young, "History of Ranching and Trading," 28-29. The government rejected Valle's claim.
[42] Young, "History of Ranching and Trading," 32.
[43] Alberts, *The Battle of Glorieta,* 21.
[44] Alberts, *Rebels on the Rio Grande*, 87.
[45] Alberts, *The Battle of Glorieta*, 151-164.
[46] Ibid., 151-164.
[47] Quoted in Alberts, *Rebels on the Rio Grande*, 153.
[48] Alberts, *Rebels on the Rio Grande*, 151.
[49] Ibid., 164-167.
[50] White, *It's Your Misfortune and None of My Own*, 143-145, 182.
[51] Hämäläinen, *The Comanche Empire,* 332-341.
[52] William G. Robbins, *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence: University Press of Kansas, 1994), 66-68.
[53]Elbright, "The Legal Background," 29, 31; Hall, *Four Leagues of Pecos*, 70.
[54] Hall, *Four Leagues of Pecos,* 71-83.
[55] Andro Linklater, *Measuring America: How the United States Was Shaped by the Greatest Land Sale in History* (New York: Plume, 2002), 20, 84, 221, 233; Hall, *Four Leagues of Pecos,* 86-87.
[56] Hall, *Four Leagues of Pecos,* 127, 166; Elbright, "The Legal Background," 37-40.
[57] Hall, *Four Leagues of Pecos,* 71-83.
[58] Ibid., 111-118.
[59] Ibid., 135-137.
[60] Ibid., 93-108.

[61] Ibid., 107.
[62] Linklater, *Measuring America*, 221.