INTRODUCTION

[New Mexico] lies more than twelve hundred miles northward from Old Mexico, and six hundred of these are desert, inhabited by innumerable Indians so barbarous and savage that they are naked and have no houses or agriculture . . . But upon reaching the settlements of New Mexico, there are people who wear clothes and shoes and who are excellent farmers. —Fray Alonso de Benavides, Revised Memorial of 1634 (Hodge et al. 1945)

Beginning with the first Spanish entradas into New Mexico in the middle and late sixteenth centuries (see Matthew E. Schmader, chapter 2 in this volume), encounters with the Puebloan peoples of the northern Rio Grande Valley presented Spanish explorers and colonizers with many seemingly familiar elements. The chronicler of early expeditions and the correspondence of the colonial administrators that followed them repeatedly remark on what their authors perceived to be the civilized aspects of sixteenth- and early seventeenth-century Pueblo society, comparing them favorably to the communities of less settled peoples they encountered elsewhere. They provide effusive discussions.

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of the “attractive” masonry and adobe Puebloan villages, “their streets and plazas well-planned and strong” (Hodge et al. 1945:47; Jojola 1997:180), which early expeditions nicknamed after Spanish and Mesoamerican towns they felt resembled them: Valladolid, Galisteo (Barrett 2002; Hammond and Rey 1966). Beyond the villages themselves, the Spanish expressed awe for Puebloan irrigation systems, repeatedly remarking upon well-made canals and ditches “built as if by Spaniards” (Hammond and Rey 1966:182, cited in Anschuetz 2003:1). At a regional scale, Spanish accounts ordered the numerous villages and settlements of the Puebloan world into “provinces” by language and geography, noting their “capitals” and once again contrasting these settled regions with the domains of less sedentary peoples beyond the borders of the New Mexico “kingdom” (Hammond and Rey 1966; Morrow 1996).

But while plazas, irrigated fields, and ordered provinces resonated strongly with seventeenth-century Iberian notions of community and landscape, the perceived points of tangency described in early Spanish accounts were in many respects based on fundamental misrecognitions (Lycett 2014). The manifestations of these phenomena in the Puebloan Southwest were in fact rooted in very different understandings of land use, landscape, and meaning, drawing on equally extensive, but quite distinct, cultural and historical roots. The impacts of this misperceived, partial tangency on land use and landscape in seventeenth-century New Mexico were far reaching, informing colonial Spanish policies and reactions at all levels. In some circumstances, the gaps in understanding between Spanish and Puebloan concepts of plazas, towns, and other outwardly shared phenomena provided a space for individual actors or groups to define themselves in opposition to colonial religious and civil authority, or to redefine traditional Puebloan landscape practices to accommodate a changing world. Frequently, however, the differences between Spanish and Puebloan concepts of space, land use, and community imposed unintentional hardships, as misperceptions of Puebloan landscapes based on their ostensible Iberian analogues contributed to painful ongoing processes of culture contact and change and aggravated existing pressures on Nuevo Mexico’s Puebloan populations.

The interplay between Puebloan and Spanish concepts of space and landscape operates at a multitude of social and physical scales. The discussion that follows is therefore multiscalar as well, structured in terms analogous to the now-familiar Puebloan notion of nested spatial tetrads described by Alfonso Ortiz (1969). As described by Ortiz and elaborated by others (Anschuetz 1998; Fowles 2004, 2009; Snead and Preucel 1999; Tilley 1994), this four-part division of the physical, ideological, and ceremonial landscape entails a series of “nested, but interrelated regions” (Snead and Preucel 1999:176) converging inward from the sacred mountains conceptually bounding the Puebloan world.
to sequentially encompass the broader Puebloan landscape—the fields, shrines and community lands of a particular village, the conceptual borders of the village itself, and, finally, the enshrined central spaces within the village, centered on its plazas (Greene and Leckman 2011; Ortiz 1969; Snead and Preucel 1999). This nested landscape is dotted with shrines delineating each set of conceptual boundaries, as well as a series of sacred hills, caves, lakes, pools, and other features specific to each village.

While lacking the explicit ceremonial geography that bounds Puebloan plazas, villages, and communities via shrines, sacred mountains, and other ceremonially resonant features, colonial Iberian conceptions of space were imbued with a broadly analogous set of nested geographies. Idealized Iberian communities were imagined as finite, formally constituted civic spaces, centered on a plaza and its church (Crouch et al. 1982) and set within a bounded landscape of communal fields and pastures (Vassberg 1984; Melville 1997) that was in turn nested within a series of broader geopolitical divisions: the province, the region, and ultimately the larger colonial polity itself (Trigg 2005).

The obvious similarities between Puebloan and colonial Iberian conceptual landscapes, the equally significant differences and discontinuities these external resemblances concealed and complicated, and the implications of both similarities and differences for understanding the rapidly changing New Mexico landscape of the seventeenth century are at the root of the discussion that follows. Drawing on data and analysis derived from recent fieldwork conducted by the University of Chicago under the direction of Mark Lycett (1997, 2002a, 2002b, 2004, 2005, 2014), the remainder of this chapter explores the interplay between Puebloan and Spanish conceptions of landscape and their potential impacts on the early New Mexico Colony through a consideration of seventeenth-century spatial organization and land use practices at L.A 162, a large village and visita—or mission site without a resident priest—also known as Paako, or San Pedro, located on the eastern flanks of the Sandia Mountains (Lycett 2002a). Following the nested systems of community scale endemic to both Puebloan and Spanish notions of space and place, the structure of social space within Paako itself is considered first, with a particular emphasis on the changing structure and function of the village’s plazas and other community spaces. Next, I address changing land use and landscape practices in the immediate vicinity of the village, defined and occupied by community fields, outlying farm camps, shrines, and other small structures. Finally, I consider the Paako community in terms of its broader regional setting, as defined by the mutual conceptual world shared among Puebloan communities of the northern Rio Grande Valley and, later, as formally delineated as the Spanish colony of New Mexico.
Paako is located in an upland setting along the eastern margins of both the colonial and pre-Hispanic Pueblo worlds, along the eastern flanks of the Sandia Mountains (Figure 3.1) rising east of present-day Albuquerque (Kelley 1982). While the range’s dramatic, craggy western face dominates the middle Rio Grande Valley skyline, forming a significant physical and cultural landmark visible for many miles across the northern Rio Grande region (Greene and Leckman 2011; Ortiz 1969:19), the eastern face is smoother and more gently sloping and supports large, continuous stands of relatively lush pine forest (Kelley 1982:5). This area is watered by a series of drainages that, while initially radiating out from the base of the mountains in all directions, ultimately drain west to the Rio Grande (Anschuetz 1984:120). The two largest of these eastern drainages are Tijeras Creek, which runs south along the southern portion of the eastern Sandias, then cuts west, delineating the range’s southern edge before emptying into the Rio Grande near present-day Isleta Pueblo, and the Arroyo San Pedro, which drains the north-central portion of the Sandias, running north to merge with the Arroyo Tonque some eighteen kilometers north of Paako near the important precontact pueblo of Tunque, which gives the drainage its name. From Tunque, this drainage system flows northwest, ultimately draining into the Rio Grande at present-day San Felipe Pueblo. Paako is situated on the upper reaches of the Arroyo San Pedro watershed, approximately seven kilometers north of the forested divide separating it from the Tijeras drainage (Figure 3.2).

The site’s upland setting likely presented both challenges and opportunities to its inhabitants. Elevations in the mountains ringing Paako range from 2,804 to 3,255 meters (9,200 to 10,678 feet) along the crest of the Sandias to 2,259 meters (7,411 feet) at Monte Largo, the highest peak in the southern San Pedro Mountains to the east of the site. Within the Arroyo San Pedro watershed, the topography slopes gradually northward, with elevations ranging from approximately 2,175 meters (7,136 feet) along the divide with the Tijeras Arroyo watershed to 1,675 meters (5,495 feet) at the Arroyo San Pedro’s confluence with the Arroyo Tonque (Figure 3.3). Paako itself is located at an elevation of approximately 1,980 meters (6,496 feet).

National Weather Service climate data compiled for a rolling series of thirty-year averages between 1961 and 2010 at the weather station at Sandia Park, the nearest recording station to Paako, indicate an average frost-free period ranging between 190 and 202 days, a sufficient period to accommodate most historically and ethnographically documented southwestern planting regimes (e.g., Muenchrath et al. 2002). Average Corn Growing Degree Day (CGDD) heat units accumulated at Sandia Park over the same period for a typical Puebloan growing season range between roughly 1,900 and 2,175, well short of the average CGDD total required from planting to maturity by 123
historical-period maize varieties grown out by archaeobotanist Karen Adams and her colleagues (K. Adams et al. 2006:54) in a 2004–5 experimental study (Van West and Cordell 2013). According to a recent climate study at Tijeras Pueblo, however (Van West and Cordell 2013), Adams believes that some indigenous varieties of maize could, in fact, mature with only 1,900 to 2,100 CGDD
heat units, a total well within the possible range at Paako. However, considerable annual variation exists, and the growing period in some years was likely inadequate for crop production (Lycett 1997:13): according to Kurt Anschuetz (1984:123), the shortest recorded period between killing frosts on record at Sandia Park is only 87 days, in 1945.

FIGURE 3.2. Local watersheds and drainage systems in the vicinity of LA 162.
On the other hand, annual precipitation in the area averages roughly twenty to thirty centimeters higher than average annual precipitation observed in the Rio Grande Valley to the west. Likewise, the Arroyo San Pedro floodplain in the immediate vicinity of the site is the largest expanse of relatively level quaternary floodplain soils in the overall East Mountain area, and one of the largest such areas within the entire Arroyo Tonque watershed (Anderson et al. 1997). Although the East Mountain region as a whole is characterized by soils considered marginal by modern agricultural standards (Anschuetz 1984:127–29), floodplain soils in the vicinity of Paako exhibit the best mix of characteristics among these (Hacker 1977; Hacker and Banet 2008). This is especially true for the soil types along the San Pedro drainage in the immediate vicinity of Paako, surrounding the Arroyo’s confluence with a large intermittent drainage approximately 1.25 kilometers north of the pueblo.

Finally, the San Pedro Spring, some 165 meters southeast of Paako, represents one of the most reliable and highest-volume water sources in the area, allowing a spring-fed segment of the Arroyo San Pedro to run perennially for distances ranging from 3.5 to 6.6 kilometers depending on runoff or local precipitation (Campbell Corporation 2000). According to available hydrological data (US Geological Survey 2012), this represents one of the only perennial drainages in a level, relatively low-elevation setting in the entire East Mountain region, and the longest expanse of perennial stream—and one of only two total—in the entire

**Figure 3.3.** North-south elevation profile of the Arroyo San Pedro watershed.
Arroyo Tonque watershed. Together, then, the region in the immediate vicinity of Paako combines many of the attributes necessary for the establishment and maintenance of a successful community on both Puebloan and Iberian terms, including relatively large, gently sloping expanses of comparatively fertile soils and a reliable water source with significant, dependable outflows. And while Puebloan agricultural camps and farmsteads of all periods were situated to take advantage of these affordances, the small settlements of the seventeenth century appear to have been located in particularly close proximity to the most advantageous settings.

**Cultural Setting**

Although settlement along the eastern and southern flanks of the Sandia Mountains on at least a seasonal basis began during the Rio Grande Developmental Period (AD 600–900) or earlier, the Arroyo San Pedro around Paako was relatively thinly occupied until the late thirteenth century and early fourteenth century, when a marked increase in site frequency and the advent of larger multiroom pueblos may mark the first year-round settlement of the area (Anschuetz 1984; Cordell 1979, 1980; Lycett 1997).

Certainly, site frequencies in the vicinity of Paako increase dramatically during the early Rio Grande Classic Period (ca. AD 1310–1450), jumping from only six sites with Rio Grande Coalition Period (ca. AD 1215–1310) materials to 105 sites with evidence for Early Classic occupations (Gossett and Gossett 1990; Walley 2006). Paako itself was initially settled at this time, as were the two other large, aggregated settlements in the East Mountain area, Tijeras Pueblo (LA 581) and San Antonio Pueblo (LA 24), both of which were located within the Tijeras Arroyo watershed, some 15 and 12.5 kilometers southwest of Paako respectively (Figure 3.4). Paako was the largest of these Early Classic Period communities, with at least twenty-six roomblocks constructed and occupied between AD 1300 and 1425 (Lambert 1954; Lycett 1997, 2002a) and perhaps a thousand or more rooms (Eckert and Cordell 2004). Early Classic Paako was organized into two architectural divisions separated by a small intermittent drainage, with at least eleven primarily adobe roomblocks located in the H-shaped southern division around an enclosed central plaza and several adjacent plazas, and fourteen masonry, adobe and mixed masonry-and-adobe roomblocks in four adjoined plaza groups making up the northern division (Figure 3.5) (Lambert 1954; Lycett 1997). The extensive Early Classic occupation at Paako came to an end during the early fifteenth century, followed by an apparent occupational hiatus (Lambert 1954; Lycett 1997). This period saw a decline throughout the East Mountain area: Tijeras Pueblo was also abandoned as a residential site during the first quarter of the fifteenth century, with only San Antonio consistently occupied throughout the Classic Period (Akins 2004; Anschuetz 1984; Cordell 1980; Dart 1980; Lycett 1997).
After a hiatus of perhaps a century or less, a much smaller population returned to Paako at the close of the sixteenth century or perhaps the earliest years of the seventeenth. This occupation, which is associated with a decorated assemblage dominated by Glaze E and F types, had a much smaller footprint as well, focused on a group of four masonry roomblocks surrounding a single plaza in

**FIGURE 3.4.** Major Early Classic–period sites in the East Mountains.
the pueblo’s northern division (Figure 3.6) (Lycett 1997, 2002a). Although the documentary record surrounding LA 162 is sparse and somewhat ambiguous, a sizeable pueblo located in approximately the correct geographic position was repeatedly visited by sixteenth-century expeditions (Barrett 2002; Lambert 1954;
The name Paako appears in a list of East Mountain–area villages paying tribute to Oñate in 1598 (Lambert 1954; Lycett 1997, 2002b), the basis by which Adolph Bandelier, Marjorie Lambert, and other investigators attributed it to LA 162. Colonial records from the early and mid-seventeenth century refer to the establishment of a visita at a site called San Pedro, the granting of an encomienda at this location, and its subsequent abandonment and resettlement by mid-century (Lambert 1954:6). According to Lycett (2002b:68), no documentary evidence for residential occupation at San Pedro exists after the early 1660s. However, this place-name remained associated with LA 162 through the seventeenth and eighteenth centuries (e.g., Eidenbach 2012:52–53), was applied to Hispanic communities founded in the area beginning in the mid-nineteenth century (Cordell 1980; Lycett 1997), and was the name used by Bandelier when he visited the site in 1892 (Lange and Riley 1966:380–81).

VILLAGE SPACES: PAAKO AND ITS PLAZA

Within both Puebloan and Iberian settlements of the seventeenth century, space and place were conceptually and physically centered on open public plazas constituting important communal, extramural spaces, and venues for activities both economic and sacred. Among the pueblos, as discussed above, public plazas
were the sacred and symbolic centers of both the pueblo itself, the broader community lands encompassing it, and, ultimately, the cosmos. Physically embodied by the earth navel shrines typically found at their centers, plazas were—and are—the conceptual “center of centers” or “middle-heart-place” evoking the place of emergence, concepts of male and female duality, and a complex, multilayered system of dualities, oppositions, and directional associations (Fowles 2009; Snead and Preucel 1999; Swentzell 2011; Wilson 2011). In the large, plaza-oriented towns that emerged throughout the Puebloan region around AD 1275–1300 (Graves and Van Keuren 2011), with one or more central plazas surrounded and enclosed by roomblocks, plazas were also a primary focus of economic life, functioning as a shared community activity area, with many aspects of a household’s daily round frequently carried out on the plazas themselves or on the shared rooftops overlooking them. Plazas were and are also the primary venues for dances, ceremonies, feasts, and other large-scale ritual performances integral to community religious practices. In many pueblo communities, plazas are also the locations of kivas, the semisubterranean ceremonial chambers where other rituals are conducted, often before an audience consisting only of initiated members of religious societies privy to special ritual knowledge (Triadan 2006). As such, plazas serve both to promote community integration through economic and ceremonial activities shared among the village as a whole, and to serve as venues for more restricted activities that enforce and reiterate community power relations and social norms (Graves and Van Keuren 2011; Triadan 2006).

Colonial Spanish rules for town planning, as codified by the 1573 Laws of the Indies (Crouch et al. 1982), afforded plazas a similarly central role within an idealized colonial community. Drawn ultimately from Greek and Roman antecedents as much as conventions of medieval Iberian town-building, these regulations specify the plaza as the center of town life, “the point at which civic identity was expressed” (Crouch et al. 1982:42), and the proper venue for a range of community activities, from fiestas and religious processions to markets and trade fairs. Spanish plazas, like their Puebloan counterparts, were spaces intended for the display and reinforcement of exemplary civic conduct. Unlike Pueblo plazas, however, plazas laid out in accordance with colonial Spanish ideals were designed to highlight the civic and ceremonial trappings of the imperial state. With building space along plaza edges designated for administrative structures and the residences of the elite citizenry, the idealized Spanish plaza was above all oriented around and toward the community church, prominently sited on the plaza in a location selected for maximum visibility and authority (Crouch et al. 1982; Wilson 2011:21–22).

In seventeenth-century New Mexico, however, the idealized concepts of Iberian town planning stipulated in the Laws of the Indies were formally enacted only at Santa Fe, the colonial capital, and then only in an incomplete, attenuated
sense (Crouch et al. 1982; Wilson 2011). Elsewhere in New Mexico the small pop-
ulation of secular Spanish settlers resided primarily in dispersed *estancias* often
occupied by fewer than twenty inhabitants including servants (Trigg 2005:90–91).
Like the similar farmsteads operated by Franciscan missionaries (Ivey 2005, 2006),
these dispersed settlements were typically situated adjacent to existing Puebloan
population centers and relied upon both the *encomienda* labor of pueblo inhabi-
ants and the economic, agricultural, and social infrastructure afforded by the
pueblos and the Franciscan missions and residential/administrative complexes,
or *conventos*, that were constructed in the vicinity of many major villages by the
early 1630s (Ivey 2005, 2006; Lycett 2014; Trigg 2005). As many as twenty mission
complexes occupied by resident friars were established, with another ten settle-
ments served by smaller, periodically visited visitas, and another nine fluctuating
from one status to the other (Lycett 2004, 2014).

In the absence of planned Spanish towns, pueblos and mission conventos
both became primary focuses for Spanish notions of civic structure and organi-
zation (Wilson 2011). The array of domestic, industrial, and religious structures
composing the convento were major centers of economic production as well as
religious and social indoctrination, “the single most important location of
colonial and indigenous contact” (Lycett 2002a:63). Even beyond the massive,
relatively lofty fortress-churches at their centers, the extensive, planned archi-
tectural complexes established at major mission sites such as Nuestra Senora
de los Angeles de Pecos (Ivey 2005) were monumental constructions at a scale
unprecedented in the Puebloan world, representing a mobilization of raw mate-
rial, labor, and time that in and of itself must have constituted a fundamental
reshaping of Puebloan society (Lycett 2004:371–72). As elsewhere in New Spain,
seventeenth-century mission churches themselves were built for maximum
effect on their audiences, exploiting local topography (Lycett 2004) and natu-
ral light (Wilson 2011:22) to imbue church buildings with imposing power and
divine inspiration (Liebmann 2015).

In most cases, the large seventeenth-century convento complexes established
at major Puebloan population centers were placed at the margins of existing
pueblo communities, rather than within them (Ferguson 1996; Ivey 1988, 2005;
Jojola 1997:180–82; Lycett 2002a, 2004). Several authors have suggested that the
relatively isolated situation of such complexes illustrates the “contested nature
of the missionary enterprise” (Lycett 2004:371), with Puebloan leaders perhaps
offering resistance to the physical intrusion of mission infrastructure into more
integral village spaces (Ferguson 1996:117; Kubler 1940). Over time, however, the
economic, social, and political importance of major mission centers frequently
drew the indigenous communities surrounding them more tightly into their
orbits. The subsequent architectural histories of communities associated with
major mission complexes are diverse and complex, but in many communities an
occupational shift occurred as some pueblo inhabitants relocated their dwellings away from traditional village plazas and into closer proximity to the mission and convento (Ivey 1988, 2005; Jojola 1997). The resurgence of extremely traditional, archetypal forms of plaza-centered spatial organization in pueblo communities established in the wake of the Revolt of 1680 may be seen in this context as an effort to reclaim Puebloan understandings of plaza and village space from the influences imposed by eighty years of mission-centered interaction (Liebmann 2006, 2012; Liebmann et al. 2005). Similarly, many villages reestablished by colonial authorities after the Spanish Reconquest were organized around church-centered plazas, imposing at least a physical accordance with Spanish concepts of community space (Jojola 1997:181; Liebmann 2012:215–16).

Beyond the Rio Grande Valley and the network of the missionized major village that were the primary focus of Spanish colonization and settlement, efforts to impose religious architecture and other trappings of Spanish community organization onto existing Puebloan public and community spaces were more varied and met with mixed success. At Paako, the village layout that emerged during the village’s initial fourteenth-century occupation exhibits most of the hallmarks of other plaza-centered Pueblo towns of the period. Between the site’s major north and south divisions, twenty-two roomblocks surrounded at least eight or nine enclosed plazas. Where tested archaeologically, the plazas display features and artifacts suggesting their intensive use for a range of domestic and public activities (Lycett 2002a, 2002b). Although the only kivas associated with the early occupation identified to date are located within roomblocks rather than at a subterranean level (Lambert 1954), available evidence suggests public spaces were organized in accordance with Puebloan norms: at least one potential plaza shrine, a group of large boulders located in the central plaza of the south division’s main roomblock, was noted by Bandelier in the early 1880s (Lange and Riley 1966), and may remain partially visible today.

As mentioned, the site’s seventeenth-century occupation had a much smaller footprint than its predecessor, presumably reflecting a much-reduced local population. A single plaza in the site’s northern division was the focus of activity during the period. Multiple test excavations conducted between 1996 and 2005 during University of Chicago investigations at Paako indicate its intensive use and reuse during the colonial period, with multiple well-maintained plaza surfaces associated with late glazeware ceramics and faunal evidence for goats, sheep, horses, and other European domesticated animals (Lycett 2002a; Morrison, Cole, and Lycett 2002). Features documented by excavations include possible jacal structures, hearths, and small pits, indicating the continued economic use of at least portions of the plaza in a manner consistent with earlier periods (Morrison, Cole, and Lycett 2002). The persistence of traditional Puebloan ceremonial uses of the plaza during at least the early portion of the colonial period is indicated
by the presence of at least two and probably three subterranean plaza kivas, each apparently associated with late glaze artifacts and other historical-period evidence (Lambert 1954).

As the colonial period progressed, however, evidence suggests the plaza’s function changed. As recounted by Mark Lycett (2002a, 2004), a probable kiva in the southwestern corner of the plaza was demolished, filled, and leveled, and a rectangular, east-southeast-oriented structure measuring approximately fifteen meters by eight meters was constructed atop the resulting small elevated mound (Figure 3.7). In its dimensions, placement, orientation, and construction, this structure is consistent with small seventeenth-century visitas from the Zuni area, the Tompiro region, and elsewhere (Johansen 2002; Lycett 2002a). If this structure, which was associated with late glaze ceramics including a candlestick fragment, is in fact the remnant foundations of a visita chapel, its construction atop a probable kiva and its imposition into the center of Paako’s main plaza suggests an attempt at a clear symbolic replacement of the architectural elements of one ceremonial system with another (see chapters by John G. Douglass and William M. Graves [15], and David Hurst Thomas [15], this volume).

**FIGURE 3.7.** Rectilinear structure constructed in the southwest corner of Paako’s seventeenth-century plaza.
Its placement also suggests that it was an attempt to subdivide and reconfigure this public space akin to the similarly sited visita constructed at the Zuni pueblo of Kechiba:wa, which Thomas Ferguson suggests was situated in the middle of the site’s main plaza as part of an effort to supplant plaza-based ceremonial activities (Ferguson 1996:118). If chapel construction at Paako did represent an effort to transform a Puebloan ritual and public space into one organized along Spanish lines, however, it seems to have been largely unsuccessful: the chapel structure may never have been completed, and in any event its use seems to have been short lived. Eventually, it may have been partially dismantled and incorporated into the postresidential corral network that ultimately consumed much of the plaza (Lycett 2002a).

As efforts to reconfigure Paako’s plaza as a public and ceremonial space organized along Spanish norms began and faltered, probably as the village’s resident population declined (Lycett 2002a), an ultimately more comprehensive transformation of the plaza in conjunction with novel Iberian economic and subsistence activities proceeded alongside it. Artifact assemblages dominated by seventeenth-century ceramics in association with animal dung and other evidence for animal husbandry, as well as a paucity of artifactual evidence from later time periods, suggest that the repurposing of plaza space for animal penning apparently began relatively early in the colonial period. Along the southern edge of the plaza, data from test excavations includes evidence for the construction of a series of enclosures associated with large deposits of animal dung, indicating the use of this area for animal penning. Excavation evidence suggests the corral network increased in size over time, perhaps as adjacent roomblocks ceased to be residually occupied as residential structures (Lycett 2002a; Morrison, Cole, and Lycett 2002; Seddon 2002). Finally, a network of stone enclosures was built that eventually incorporated as much as 40 percent of the total plaza for animal pens, including the entire frontage of the plaza’s southern roomblock (Figure 3.8). As this stone corral complex was constructed at the very end of Paako’s occupational sequence, Lycett (2002a) suggests it may indicate the site’s postresidential use as a logistical herding camp.

Simultaneous with the subdivision of Paako’s plaza by an expanding corral network, a group of roomblocks at the southeastern corner of the plaza was developed into a large, intensively used metal-smelting and metallurgical facility, with evidence for a diverse range of activities, including charcoal production, the preparation, smelting and assay of copper and lead ores, and the production of copper ornaments, again within a broader artifact assemblage dominated by seventeenth-century ceramics (Thomas 2008). In addition to requiring fairly intensive labor and large quantities of wood to feed the production of charcoal fuels, the production of precious metals at the smelting complex also involved intense heat and the incorporation or production of numerous noxious
substances such as sulfur, copper sulfide, and lead slag (Thomas 2008). While less extensive than the corral network, the presence of the smelting facility at the heart of seventeenth-century Paako’s residential, social, and ceremonial spaces was in many respects an even greater impact on the ability of these spaces to function in accordance with Puebloan principals of village organization and public space.

In summary, while Puebloan and Spanish attitudes toward village organization and public space in the vicinity of larger villages were focused on the interplay between traditional Puebloan plazas and emerging public spaces focused around the Spanish church and convento, changes within the historically occupied plaza at Paako over the course of the seventeenth century indicate that efforts to transform it into a public space ordered around Spanish religious architecture ultimately faltered. Instead, Paako’s plaza saw a transition from an open, domestically, and ceremonially focused space into an economically focused one, subdivided into discrete zones of industrial and pastoral activity. Such a transformation is not unusual: many ancestral sites residually abandoned during the sixteenth and seventeenth centuries were eventually reconfigured into sporadically occupied herding camps for sheep and goats (Ferguson 1996; Lycett 1995;
COMMUNITY SPACES

Just as they overemphasized the similarities between Spanish and Puebloan systems of community and public space within pueblos, Spanish accounts from the sixteenth and seventeenth centuries likewise overemphasize and misrecognize evidence for canal irrigation in the lands surrounding northern Rio Grande communities (e.g. Anschuetz 1998, 2003; Cordell 1979; Levine and Anschuetz 1998; Lycett 2004, 2005, 2014; Wozniak 1987), reflecting the central role played by acequia systems within Iberian concepts of agriculture and land use (e.g., Crouch et al. 1982; Rivera and Glick 2010; Vassberg 1984). Similarly, while Iberian agriculture certainly incorporated dry-farming technologies alongside acequia irrigation, Spanish documentary sources uniformly suffer from an apparent inability to fully recognize other elements of Puebloan agriculture, particularly the extensive, dispersed systems of water-harvesting features designed to maximize the diversity of ecological and topographical settings exploited for subsistence purposes, thereby minimizing and spreading out the risk of precipitation or crop failure in any particular setting. Even when discussed, Puebloan agricultural systems not tied to canal irrigation are frequently attributed to the “natural” fertility of the land (Anschuetz 2003), while failure to engage in the kind of intensive irrigation agriculture familiar to the Spanish is seen as evidence for fundamental Puebloan shiftlessness (Hackett 1937; Hodge et al. 1945).

The notion of “community” and community lands superficially shared between Puebloan and Iberian populations likewise masked extremely different understandings of the appropriate structure and use of these communal spaces. Spanish concepts of communal land use during the colonial period make a clear distinction between fields and lands intended for grazing, emphasizing shared pasturage, mobile herds, and the use of “fallow”—that is, untended—field systems for forage (Crouch et al. 1982; Melville 1997; Vassberg 1984). It is not clear to what extent this land use system was implemented within Puebloan communities wholly or partially integrated into the seventeenth-century colonial system. However, fragmentary documentary evidence indicates that both missionaries and civil colonists maintained large herds of sheep, goats, and cattle by the middle decades of the seventeenth century, and that this rapidly expanding economy was accompanied by disputes between civil and religious authorities over the use of Puebloan labor (Baxter 1987; Hackett 1937; Hodge et al. 1945). In any case, it is easy to see potential conflicts between Iberian notions of land use based largely on the combination of livestock and acequia irrigation and Puebloan land
use concepts based on extensive, dispersed agricultural systems, and to envision some of the potential negative effects of such a conflict upon the latter.

On the whole, evidence suggests the economic and social landscape of the community of field houses and agricultural camps surrounding seventeenth-century Paako was, like the occupation of the seventeenth-century pueblo itself, substantially smaller and less intensively occupied than the precontact antecedent whose footprint it occupied. In general, outlying sites and structures with evidence for seventeenth-century occupation or use were much closer and much more tied physically to Paako on the one hand and the reliable water and relatively optimal soils afforded by the Arroyo San Pedro and its floodplain on the other. While structures and camps associated with the late thirteenth-century to early fifteenth-century Arroyo San Pedro community stretched out along the Arroyo floodplain, its tributaries, and adjacent slopes to distances of five kilometers or more, seventeenth-century settlement contracted to areas that were to an almost complete extent no more than 1.5 kilometers from either the perennial segment of the Arroyo San Pedro or from Paako itself (Figure 3.9). While this settlement pattern represents a literal reoccupation of the core of the precontact Arroyo San Pedro community, with nearly all field structures either located in immediate proximity to or remodeled from their fourteenth-century antecedents, artifact patterns suggest this was likewise contracted, with a considerably smaller spatial extent and a reduced occupational intensity.

As a spring-fed, perennial drainage with relatively regular, predictable flows (Campbell Corporation 2000), the Arroyo San Pedro represents a setting where the canal irrigation technologies available to Puebloan farmers during the precontact period might have been effective (Anschuetz 1998, 2003; Cordell 1979; Eckert and Cordell 2004; Ford 1972). No direct evidence for such a system along the Arroyo San Pedro has been documented to date, however, and given the heavily downcut nature of the contemporary drainage and the rather impermanent, ephemeral nature of ditches, headgates, and most of the other archaeological trappings of such a system, none seems likely to be forthcoming (e.g., Anschuetz 1998; Arbolino 2001). Neither is direct evidence available for any intensification of irrigation or other agricultural technologies during the seventeenth century, though several colonial-period features at Paako itself (Figure 3.10)—including large berms erected across several intermittent drainages that cross the site, and a relatively large reservoir adjacent to and potentially fed by runoff redirected by the berms—could be interpreted as the remnants of a system for redirecting and storing water to benefit agricultural fields located along several gentle slopes adjacent to the pueblo (Lycett 1997).

However, evidence for domesticated European crops in Paako’s macrobotanical and pollen records is to date almost absent (Morrison, Arendt, and Barger 2002; Rozo 2012), suggesting agricultural production during the seventeenth
Figure 3.9. Precontact- and contact-period Arroyo San Pedro community settlement patterns.

century remained focused on the same species for which precontact Puebloan agricultural systems were developed. The best indirect evidence for irrigation along the Arroyo San Pedro during either the precontact or seventeenth-century occupations at Paako may therefore be the settlement patterns evident for the Arroyo San Pedro community itself: although the slopes and side drainages that the distribution of sites and agricultural camps suggests were part of the subsistence landscape of precontact community likely represent a broader, more
Figure 3.10. Colonial-period water-management features at Paako.

diversified agricultural base than that attested to by seventeenth-century evidence, the perennial arroyo banks where seventeenth-century land use is focused appear to have been used to an equally intensive degree during the fourteenth and early fifteenth centuries as well (Figure 3.11 and Figure 3.12).
As discussed above, faunal evidence exists for the relatively vigorous adoption of European fauna by Paako’s indigenous population (e.g. Sunseri and Gifford-Gonzalez 2002), including horses and sheep but consisting primarily of goats. In contrast to the very limited evidence for the use and adoption of European food
plants, European animal domesticates are fairly common within seventeenth-century assemblages from Paako (Lycett 1997, 2002a, 2004, 2005, Sunseri and Gifford-Gonzalez 2002). Limited evidence also exists to suggest environmental change in the vicinity of Paako during the seventeenth century that potentially
relates to the impacts of livestock, including increased erosion and the appearance of Old World weedy taxa in the site’s pollen record (Morrison, Arendt, and Barger 2002; Rozo 2012). These pressures may have disrupted dispersed agricultural systems reliant on water harvesting, adding to the factors influencing the upper Arroyo San Pedro’s residents to refocus their agricultural and economic activities on the best available agricultural lands and most reliable water sources.

However, it may also reflect the beginnings of a refocused subsistence strategy among Paako’s residents in which the diversification of subsistence risk and investment previously reflected in extensive water-harvesting strategies and the exploitation of dispersed, diverse ecological, and topographic settings was gradually superseded by a dual risk-management strategy on the Iberian model, pairing the use of novel technologies for agricultural intensification, such as acequia irrigation, with mobile subsistence resources in the form of goats or sheep. To some extent, patterns present within archaeofaunal data at Paako suggest that livestock at the site were primarily managed and used by Puebloan, rather than Iberian populations, with butchering patterns and cooking strategies seemingly a continuation of pre-contact practices (Sunseri and Gifford-Gonzalez 2002). A similar pattern has also been noted at missionized villages in the southern Tompiro region (Spielmann et al. 2009).

The refocus of seventeenth-century agricultural land use along the Arroyo San Pedro on easily accessible—and controllable, protectable, or fenceable—floodplain lands located within minutes of the central pueblo may therefore reflect the beginning of a changing system of landscape use and land tenure that may ultimately have culminated in the abandonment of the settlement and its postoccupational reuse as a shepherding camp (Lycett 2002a; Seddon 2002; Morrison, Cole, and Lycett 2002), as seen elsewhere in the Pueblo world as discussed above. Throughout the New Mexico Colony, shepherding and the use of remote sheep camps eventually developed into a parallel, but similarly motivated system of maintaining land tenure over valuable resources—such as the San Pedro Arroyo and Spring—with similar goals and functions to the systems of rotating sedentism discussed extensively by Anschuetz (1998, 2003, 2006) for the Tewa Basin. While seventeenth-century herds were typically owned by missions or encomenderos rather than Pueblos, the mobility afforded by shepherding may have provided a vehicle for continuing patterns of circulation and dispersed resource use within a Spanish colonial system that was otherwise suspicious of Puebloan mobility and at least occasionally acted to constrain the movement of Pueblo peoples beyond their villages (Hackett 1937:108, 111; Hodge et al. 1945:170). If the sheep camp at Paako was in fact used by Puebloan herders after its residential occupation ceased, this perhaps served as a means of maintaining traditional access to local resources in the face of a transformed land use system (Ferguson 1996; Lycett 2002a; Morrison, Cole, and Lycett 2002; Murrell et al. 2010) akin
to similar patterns of focused reoccupation seen in prehistory on the Pajarito Plateau and elsewhere (Kohler 1992; Van Zandt 1999).

While the dual influences of livestock grazing on the one hand and acequia irrigation on the other may have contributed to changing uses and conceptions of space and landscape within the seventeenth-century Arroyo San Pedro community, colonial Spanish attitudes toward sedentism, population mobility, and the appropriate behavior of a missionized population may also have played a role in the transformation of the community landscape. As Lycett (2004:364) notes, the Franciscan mission system sought to “impose control over time, labor, language, and learning,” introducing new rhythms and patterns of work as well as a new series of economic activities linked to the mission economy and intended to indoctrinate the mission’s charges into colonial systems of production. The presence of such attitudes and beliefs among New Mexico’s religious and civil administrators likely discouraged traditional dispersed farming of the sort discussed by Robert Preucel (1988), with farmers in residence at remote camps for weeks or months. On a more local scale, they may also have encouraged a land use pattern focused on the day use of nearby agricultural camps, with populations returning daily to residences in the pueblo (e.g., Bayer and Montoya 1994). Certainly, the kind of precolonial land use pattern suggested for at least some areas in the Arroyo San Pedro community, in which field houses seem to have been the center of a full range of domestic and social activities that ultimately included burial, does not seem consistent with the demands and goals of a missionized landscape. Although Paako’s incorporation into the mission system was apparently limited and temporally discontinuous, the close proximity of seventeenth-century agricultural camps to Paako and the relatively sparse, spatially constricted ceramic assemblages associated with these camps may suggest the presence of some of these pressures.

**THE NORTHERN RIO GRANDE WORLD**

Just as Spanish perceptions of Puebloan plazas, villages, and shared community lands assumed broad tangency between Spanish and Puebloan notions of these phenomena, problematically overlooking the numerous functional and conceptual differences separating them, so too did Spanish attitudes toward the organization of the northern Rio Grande Pueblo world as a whole. Spanish misperceptions of Pueblo sedentism—specifically, the failure to recognize the importance of movement and migration as a land use strategy and as a process for temporarily leaving stressed or unproductive areas to let them recover (Anschuetz 2003, 2006)—has already been discussed above. To Spanish religious and civil authorities, the short- or long-term abandonment of large, seemingly permanent residential sites was seen on the one hand as fearful flight or escape from colonial control (Hackett 1937; Hodge et al. 1945) and, on the other, as a cessation of...
occupation and forfeiture of land rights, aggravating existing grievances and land disputes between Pueblo farmers and colonists (Hodge et al. 1945:172).

Likewise, rather than understanding the various Puebloan-occupied areas of New Mexico as a patchwork of numerous autonomous communities and groups of communities, each roughly equivalent to its neighbors and relying on similar mix of ecological zones and agricultural/gathering practices for sustenance, Spanish explorers and administrators in New Mexico emphasized linguistic and geographic boundaries to conceive of the Puebloan world as a series of finite, bounded “provinces” (e.g., Flint and Flint 2005; Hammond and Rey 1966; Hodge et al. 1945) that could be readily joined as a single political entity under Spanish rule. Within this Kingdom of New Mexico, colonial administrators focused their efforts on defensible, more densely populated areas suitable for a narrower range of subsistence strategies and centered on a finite network of missions intended as focal points for population movement and economic activity. Missionized communities also served as dispersal centers for new ideas and technologies such as domesticated livestock or irrigation methods (Ivey 2005, 2006). Franciscan stores built up to guard against drought, crop failure, or uncertainty (e.g. Hodge et al. 1945; Trigg 2005) also attracted immigrants from outlying zones. Emphasis of the Spanish colony on borders and defense and the resulting focus on Rio Grande Valley areas suitable for intensive irrigation aggravated this shift. With population movement into these areas accompanied by a general apparent population decline (e.g., Lycett 1995), the shrinking number of communities located in outlying areas became increasingly isolated.

If site densities are estimated among both major Early Classic (Figure 3.13) and contact-period and colonial (Figure 3.14) Pueblo sites (Adams and Duff 2004; Adler 1996; Barrett 2002), it is clear that Paako was always somewhat isolated from nearby pueblos compared to sites in the Rio Grande valley to the west or the Manzano Mountain and Tompiro areas to the south. No other major villages are located within twelve kilometers of Paako during either period, as compared to an mean nearest-neighbor distance of approximately eight kilometers among major Early Classic pueblos, and only eleven kilometers even among the more sparsely distributed pueblos occupied during the seventeenth century. That said, at the beginning of its late Classic occupation, Paako was still bordered by the major ceramic-producing village of Tunque roughly 18 kilometers to the north and the still-occupied pueblo at San Antonio roughly 12.5 kilometers to the south. At the beginning of the contact period, Paako remained at a crossroads of sorts, lying adjacent to several major routes between regions—from the Rio Grande Valley to the plains, from the Santo Domingo Basin and Galisteo Basin to the southern Albuquerque Basin / Isleta area via the San Pedro, San Antonio, and Tijeras Arroyos, or from the Santo Domingo Basin and Galisteo Basin to Tajique, Chilili, Quarai, and other pueblos along the eastern and southern margins of
the Manzano Mountains (Figure 3.15). By the mid- to late 1600s, however, Paako lay far outside the major centers of occupation and corridors of movement, as many Manzano and Tompiro sites and outlying Galisteo and Santo Domingo Basin sites ceased to be occupied by residential populations. By the middle years of the seventeenth century, the nearest occupied communities to Paako were

**FIGURE 3.13.** Density of major Middle Rio Grande pueblo sites during the Early Classic Period.
apparently San Felipe, some thirty-two kilometers to the north and Isleta to the southwest along the Rio Grande, at a distance of more than fifty kilometers along likely travel routes (Figure 3.16). To the northeast, the nearest occupied village in the Galisteo Basin after the contact-period abandonment of Pueblo Blanco was San Lázaro, some thirty-five kilometers distant along likely routes.

**FIGURE 3.14.** Density of major Middle Rio Grande pueblo sites during the contact and colonial periods.
This new isolation was aggravated by changing relationships with non-Puebloan nomadic groups sparked by Spanish notions of bounded states and policies toward “uncivilized” groups, especially in areas of cultural contact such as Paako. On seventeenth- and eighteenth-century European maps (Eidenbach...
2012), the East Mountain region sits upon a literal frontier, straddling the dense mountain ranges separating the named, mapped settlements and missions of the Kingdom of New Mexico from the surrounding tribal names of outlying, unconquered indios bárbaros. According to site records maintained by the New Mexico Cultural Resource Information System, four sites identified as Plains Apache are located within sixteen kilometers of Paako, including one potential Apachean site on the San Pedro floodplain within three kilometers of Paako.

**FIGURE 3.16.** Paako and neighboring communities in the mid-seventeenth century.
Seventeenth-Century Puebloan and Spanish Landscapes

Available documentation suggests these sites were more ephemeral and contained less material culture than adjacent Puebloan field houses, attributes typical of sites associated with mobile groups (Seymour 2015, 2016).

The considerable differences in attitude toward Apachean groups and other non-Puebloan nomads between Puebloans and the Spanish are well documented. Prior to the arrival of the Spanish, the social and physical boundaries between Pueblos and nomads were shifting, permeable, and contingent, with beneficial trade relationships sealed by kin ties playing as large a role as violent raids (Brooks 2002; Forbes 1994; Hickerson 1994; Kelley 1986; Seymour 2015, 2016). With the onset of Spanish rule, civil and religious colonial administrators attempted to firmly delineate social and physical borders between Pueblos perceived as settled and sedentary and indios bárbaros in outlying zones (Brooks 2002; Forbes 1994; Weber 2005). While Franciscans such as Alonso Benavides attempted conversions among nomadic groups on several occasions (Hodge et al. 1945), Apacheans and other non-Pueblo nomads were more typically seen as a significant threat, both in terms of the potential for raids and military conflict as well as their possible appeal as a refuge for backsliders among or incitement to newly missionized Puebloans (Forbes 1994). Policies intended to restrict potentially harmful contacts thus exacerbated tensions between the New Mexico villages and their former trading partners. The resulting conflicts were extremely difficult for places such as Paako, and intensified pressures to either relocate toward better-protected, better-supplied mission communities along the Rio Grande, on the one hand, or abandon the northern Rio Grande region entirely on the other (Brooks 2002).

From this perspective, the residential shifts of the later seventeenth century from areas under environmental and economic stress and threats of violence to locations with access to intensified agricultural methods, reliable stores, and better and more numerous social and economic connections were probably somewhat less negative within the mobile, shifting settlement framework of the Pueblos (e.g., Anschuetz 2006) than they were within the sedentism-focused paradigm employed by Spanish friars and colonial administrators and indeed, by many modern authors. As discussed above, the new subsistence strategies enabled by introduced technologies and domesticates—with intensified irrigation agriculture along the Rio Grande and other major streams coupled with the socially acceptable mobility afforded by sheepherding in the traditional Spanish mode—in many respects enabled continued ties to “abandoned” areas outside the Rio Grande Valley.

CONCLUSIONS

By 1776, when an expedition led by the Franciscan emissary Fray Francisco Atanasio Domínguez made its way across New Mexico en route to California,
the landscape Domínguez traversed was in many respects profoundly different from that explored by the entradas of two centuries earlier. The account of Domínguez’s journey details a greatly reduced number of Pueblo settlements, each with its mission church and array of nearby irrigated fields (Domínguez 1956). Villages with access to good water for irrigation are described as larger and more prosperous, their canal networks discussed in glowing terms. Conversely, outlying communities without such resources, such as Zia, are described as small and relatively poor. Pecos and Galisteo, the two remnant communities still hanging on in outlying areas to the east of the Rio Grande Valley, are portrayed in the direst terms, with dwindling populations living in constant fear of raids from Comanches and other nomads and contemplating abandonment.

If the world described by Domínguez is in many respects one ordered in accordance with Spanish attitudes and ideals on the colonial frontier, however, numerous traces of older Puebloan traditions are also apparent. While villages along the Rio Grande and other major streams are described as entirely dedicated to irrigation, for instance, the subsistence base for outlying communities such as Jemez, Santa Ana, Acoma, or Zia are also said to include milpas fed by floods or rainwater alone. In communities located sufficiently far from areas of major Spanish settlement to retain a large land base free of major encroachments—such as Acoma, Jemez, or Zuni—Domínguez also describes remote fields and outlying settlements, occupied seasonally to take advantage of opportune agricultural settings. Finally, despite the churches and missions he describes in each community along his path, Domínguez describes Pueblo culture in general in a way that makes clear both the lack of penetration of Spanish religious beliefs and customs even by the late eighteenth century and the relative resignation of Domínguez and other church leaders toward the persistence of pueblo dances and other customs.

In the New Mexico Colony described by Domínguez, the misapprehensions and misrecognitions of the early colonial period are perhaps not entirely resolved in favor of one perspective or other, but joined and layered such that the forms and attitudes of colonial Spanish culture are continually subject to reinterpretation in ways that retain space for Puebloan attitudes. On the one hand, for instance, plazas and villages in many communities are reordered along a Spanish model focused on prominent community churches, but these spaces also remain central to Puebloan rituals and worldviews (Scully 1989; Swentzell 2011). If the gaps in understanding between ostensibly similar aspects of Spanish and Pueblo worlds aggravated the painful, often violent imposition of colonial values and practices on seventeenth-century New Mexico, they also sometimes opened routes for synthesis and experimentation, enabling the creation of spaces within which Puebloan culture could survive and revitalize.
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