Negotiating Community and Landscape in the Peruvian Andes: A Transconquest View

ABSTRACT This article explores how constructs of “community” and “landscape” mediate power relations between households and colonial states. I analyze archaeological and documentary data in a common spatial framework to reconstruct the local-scale negotiation of community and land-use organization during successive colonial occupations by the Inka and Spanish states in the Colca Valley of southern highland Peru. Using GIS-based analytical tools, I present a detailed reconstruction of the land-tenure patterns of Andean corporate descent groups (ayllus) registered in colonial visitas from the heartland of the Collagua Province. I then compare these land-tenure patterns to archaeological settlement patterns from the Inka occupation (C.E. 1450–C.E. 1532) and subsequent early Colonial Period occupation up to the forced resettlement of the local populace into compact, European-style reducción villages in the 1570s. This analysis reveals how both Inka and Spanish colonialist projects for reordering and rationalizing local community and land-use organization were met by local understandings and interests that emerged from patterns of land tenure, residence, and the features of the built environment. [Keywords: community, landscape, colonialism, Inkas, Andes]

Colonialist ideologies always indulge in the conceit of remaking indigenous societies in the colonizers’ ideal self-image. But such utopian pretensions inevitably become entangled with inherited structures of power, both within the societies of the colonizers and of the colonized. Whether or not colonial policies become actively confronted by a “culture of resistance,” the “resistance of culture” (Sahlins 2005:4) generates new kinds of people and places, as local actors engage colonial plans according to their own cultural postulates and practices. In the Americas, researchers are increasingly aware that such colonial encounters did not begin with the European invasion (D’Altroy 2005; Schreiber 2005; Spence 2005). Pre-columbian empires trumpeted ideologies aimed at reordering and rationalizing the social, political, and economic organization of subject peoples. From a local perspective, the Spanish were only the latest aggressive foreigners with grandiose schemes to appear from over the horizon, and local peoples’ engagement with prehispanic empires prepared them in many ways for interpreting and responding to the machinations of the Spanish colonial state. But traditional disciplinary boundaries have impeded understanding of such local negotiations as a continuous process by cleaving inquiry to either side of the conquest (see Lightfoot 1995).

Instead, “domination” and “resistance” have often stood in for a multiplicity of colonialist and local understandings, dispositions, motivations, and interactions during the transition from indigenous to Spanish rule. Resistance frameworks were formulated to give analytical and historiographical space for the agency of the colonized, but one of their ironic effects has been to flatten the many dimensions of that agency into a one-dimensional, reactive role. Although both domination (e.g., Foucault 1977) and resistance (Scott 1985, 1990) have been parsed to include less institutionalized but more permeating forms of power (Ortner 1995:174–175), this oppositional analytical playing field is founded on the same cultural and analytical dichotomies inherited from the master narrative of imperial conquest: dominant and subordinate, sovereign and subject, self and other. Perhaps as a consequence, such approaches have been loathe to extend equally incisive analysis of power relations and politics to prehispanic times. The effect has been a kind of romanticized, “sanitized politics” in discussions of prehispanic power relations and internal conflicts in many otherwise exemplary and influential colonial historical monographs (Ortner 1995:175). Growing awareness of colonialism in prehispanic contexts has not been carried through to an integrated, comparative view of the negotiation of successive waves of colonialism in...
local contexts, further cementing assumptions of categorical difference between European colonialism and that which preceded it.

This division remains particularly problematic in the Andean area, despite the widely documented colonial policies of the Inka empire. In the span of just a few generations, the Inkas conquered a vast area encompassing much of five modern republics and had reimagined their realm as a fourfold domain—Tawantinsuyu—whose four quarters converged at the imperial capital of Cuzco, itself an elaborate cosmogram dotted by shrines that choreographed the ritual enactment of imperial ideology and history in time and space (Bauer 1998; Zuidema 1964). The state resettled people throughout the empire on a colossal scale—as many as three to five million people—creating a class of ethnic colonists (mitmaq) displaced from their homelands, sometimes by thousands of kilometers (D’Altroy 2005; Rowe 1982; Wachtel 1982). The Inkas also attempted to rationalize the internal organization of their subject populations by recasting ayllus—ancestor-focused corporate descent groups of varying scales—into bureaucratically equivalent tributary units in an elaborate decimal administrative system (Julien 1988). Each of these programs was met by varying responses and interpretations from local groups, and state capabilities and motivations for imposing them varied widely by historical and geographical context. Thus, although they ideally created hierarchical and centralized structures amenable to imperial incorporation and governance, Inka policies were necessarily adapted to local conditions (Covey 2000; D’Altroy 1992; Malpass 1993; Pease 1982; Wernke 2006c).

To local people across the Andes, then, the colonial projects implemented by the Spanish in the 16th century must have appeared only comparably audacious, if different in quality. But local-level understanding of the ways in which Andean communities engaged Spanish colonial projects remains weak, for both methodological and theoretical reasons. Methodologically, archaeological research has overwhelmingly focused on prehispanic societies; colonial archaeology is a growing but still nascent field in the Andes (Gasco et al. 1997; Jamieson 2005; Rice 1996; Wernke in press). Theoretically, much Andean archaeological and ethnohistorical research has revolved around the concept of lo andino—those enduring cultural traits and institutions considered to be distinctive of the region (Jamieson 2005; Starn 1994; Van Buren 1996). As a result, putatively ancient Andean ideals of dispersed community and land-use organization have become anthropologically iconic in opposition to the urban, Christian ideals of the Spanish colonizers.

In this regard, the reducción resettlement policy instituted by the viceroy Francisco de Toledo in the 1570s is often depicted as a historical watershed in which the imposition of Spanish urban and Christian ideals erased a number of ancient Andean institutions and practices (Gade and Escobar 1982; Hemming 1983:392–410; Málaga Medina 1974; Murra 1972; Wachtel 1977). In this grand experiment in social engineering, the Toledan regime forcibly resettled over 1.5 million indigenous Andeans into compact, European-style villages, each built on a grid organized around a central plaza, church, and civic buildings. It is often pointed to as the example par excellence of colonial domination, met by varying forms and degrees of indigenous resistance. But surprisingly little is known about the process of how reducción villages were emplaced in local landscapes, both because documents describing specific Toledan protocols of resettlement are exceedingly rare in the archives, and because research has tended to truncate analysis at conquest, precluding exploration of how reducción resettlement related to indigenous patterns of ayllu organization, settlement, and land-use patterning.

To address these lacunae, in this article I undertake a spatially integrated archaeological and ethnohistorical analysis of community and land-use organization from Inka times to the first decades following reducción resettlement in the Colca Valley of southern Peru. The analysis begins with the examination of 16th- and 17th-century colonial visitas (administrative surveys) of the Collagua Province, with which I reconstruct how Inka attempts to refashion local community organization according to Cuzco–Inka ideals were unevenly achieved across the two moieties that structured provincial Inka-era political organization. This analysis reveals an underlying dualistic organization that remained largely intact under Inka rule and subsequent incorporation into the Spanish empire. I follow this with a review of settlement data from an archaeological survey I conducted around the political center of the Collagua Province documenting the transition from Inka to Spanish rule up to Toledan resettlement. These data demonstrate that reducción was locally experienced as an intensification of the centrifugal trends initiated during Inka times, rather than a radical disjuncture from indigenous settlement patterns. Lastly, a Geographic Information System (GIS)-based reconstruction of the land-tenure patterns of local kin-based corporate groups (ayllus) derived from landholding declarations in the colonial visitas illustrates how both Inka and Spanish colonial strategies mapped onto extant community organization while simultaneously grafting new state-ordered ideas of community onto the local landscape. By showing how specific local forms of community and land use articulated with their Spanish and Inka counterparts, this reconstruction also reveals how local agency was shaped by durable features in the built environment. This analysis thus identifies how new arrangements of community and landscape emerged from common processes of negotiation between local interest groups and two very distinct colonial states.

COMMUNITY AND LANDSCAPE IN THE LATE PREHISPANIC AND EARLY COLONIAL ANDES

My approach to the negotiation of community organization in colonial contexts builds on interactionist approaches, which conceive of communities as emergent networks of social interaction that both create and emerge from a sense of common interest and affiliation (Goldstein 2000;
This orientation contrasts with behaviorist and functionalist frameworks, which approach community as the “natural” unit of suprathousehold social and biological reproduction, necessarily constituted by proximity and shared economic-ecological praxis (Murdock 1949; Redfield 1955, 1956). In the behaviorist view, the “quality of distinctiveness” (Redfield 1955:4) of community identity is the epiphenomenal product of habitual interaction. Given that habitual interaction is affected by proximity and coresidence, some have advocated behaviorist frameworks as the most pragmatic and testable models for reconstructing community organization in archaeological contexts (Kolb and Snead 1997).

Although daily interactions reiterate structures of power and meaning that constrain imagination and action (Bourdieu 1977), communities can be composed of individuals and groups who do not frequently interact but nonetheless share a deep sense of affiliation (and are thus “imagined,” sensu stricto Anderson 1991). Community solidarity thus emerges not only from daily practice but also through discourses and “practices of affiliation” that highlight certain within-group commonalities as essential to that community and downplay differences (Yaeger 2000). This approach admits to the importance of patterned social interaction—itself partly a function of the spatial or-sociocultural interaction—and testable models for reconstructing community organization.

That community identity need not refer to any particular sociospatial unit is especially apparent in the late prehispanic and early colonial Andes, where multiscalar, territorially discontinuous, kin-based collectivities called ayllus structured community organization. Ayllus were named, resource-holding groups whose membership was reckoned by reference to an actual or fictive focal ancestor. Ayllus have been variously described as having “nested” (Platt 1986), “Chinese-box” (Astvaldsson 2000; Bouysse-Cassagne 1987), and “fractal” (Goldstein 2005:30) structures because the same criteria of ayllu membership could refer to collectivi-ties of varying scales—from the consanguines of a lineage to an entire ethnic group. Increasing scales of ayllu inclusivity were linked to descent from increasingly temporally remote ancestors—ranging from the actual mummified corpse of a relatively recently deceased focal ancestor of a lineage-like grouping to the ancestral couples who emerged from a mythical place of origin to found entire ethnic groups (Salomon 1991:22–24).

Although the “imagined” and politically charged aspects of the ayllu are apparent, this construct generally has been framed in functionalist terms that conceive of ayllus as uniquely Andean cultural adaptations to the region’s distinctive ecology. Discussion of ayllu organization and its relationship to Andean economic systems have been dominated by the vertical complementarity model of John Murra (1972), who posited that the close spacing of very distinct ecozones produced by the steep Andean terrain required unusual cultural mechanisms that permitted a community to access a sufficiently diverse resource base. Asymmetrical systems of redistribution were often treated as epiphenomenal to these adaptations (Van Buren 1996). Today, archaeologists working in prehispanic contexts are moving toward models of ayllus that permit more conceptual space for social change and contestation. This has stimulated productive debates that are generating new models of prehispanic Andean social organization and dynamics. For example, William Isbell (1997) recently posited that the ayllu originated from the innovative strategies of local communities in their efforts to resist the advance of expansionist states. Other scholars have suggested, in contrast, that ayllu organization was actually foundational to early Andean state formation, either as part of a centralized, nested hierarchical command structure (Kolata 1993) or as integrated-but-segmentary confederations (Goldstein 2005; Janusek 2004). But when crossing the artificial intellectual divide created by the Spanish Conquest, we find that many functionalist assumptions still underlie discussions of how Andean communities responded to and articulated with Spanish colonial administration (Van Buren 1996).

**ALTERITY AND CONVERGENCE: AYLLUS, REDUCCIONES, AND VISITAS**

In Andean colonial historiography, Spanish ideals of urban settlement and bounded territory are often framed in categorical opposition to putatively ancient prehispanic ideals of ayllu communities and dispersed land use. The Toledan reducción program is commonly represented as a tipping point when the incompatibility of these cultural logics was resolved through outright imposition of colonial structures of domination in the wake of four chaotic decades of plunder, civil war, and ad hoc colonial governance (Gade and Escobar 1982; Málaga Medina 1974; Murra 1972; Wachtel 1977). The reducción program was one part of a comprehensive plan implemented by Toledo to put down the neo-Inka insurrection, strengthen colonial government and legal institutions, indoctrinate the native populace in Catholicism, and shore up faltering revenue streams (Stern 1982:71–89). In concert with the resettlement, an inspection tour and general census (visita general) of the viceroyalty was conducted to establish colonial tribute levies and quotas for a new forced labor system (the colonial mita). The sheer scale of the resettlement program would seem prima facie evidence of rule by administrative fiat (Gade and Escobar 1982). But in comparison to the scope and ambition of the reducción project, the corpus of administrative documentation left in its wake is virtually nonexistent. Exactly how reducciones were established—that is, the actual processes by which towns were founded...
and their inhabitants chosen and resettled—remains one of the great enigmas of colonial Andean history (Mumford 2005). With a few notable exceptions (e.g., Bauer 1992; Julien 1991; Urton 1990), we know very little about how decisions were made regarding where particular reducciones were to be emplaced in local landscapes.

Our understanding of the establishment of reducciones derives primarily from high-level viceregal correspondence, provisions, and royal decrees—sources that are short on details but long on discourses of colonial regimentation and surveillance. The crown had long issued decrees—largely unheeded—ordering the establishment of “civilized” and “orderly” towns built on a grid plan, where colonial officials could more closely monitor the natives and ensure that they lived “like Christians” (see Abercrombie 1998:213–258; Cummins 2002; Mumford 2005). Toledo himself, echoing the thinking of the architect of his reforms, the jurist Juan de Matienzo (1910), considered the dispersed, “disorderly” hamlets and villages that predominated in the rural Andes to be one of the region’s defining characteristics and a source of its inhabitants’ alleged barbarity.

It follows, then, that for Toledo, establishing urban centers was not only a necessary precondition for establishing social order (policía) among the república de indios; it was actually constitutive of it. For Toledo, to “reduce” the natives was more than the simple act of physically moving them into a confined and bounded space; it was a means of bringing them closer to an ideal image of Christian order that was embodied in the city (civitas; Cummins 2002:200–201). In complement to ecclesiastical decrees of the Second Lima Council (1567–68) calling for greater doctrinal uniformity to correct increasingly heterodox indigenous understandings of Catholic dogma, Toledo viewed resettlement as an essential precondition for overcoming indigenous “resistance” to Catholicism. Ironically, contemporary resistance-oriented scholarship echoes these colonial discourses of an insurmountable native alterity: Just as “resistance” elides the thinking of the architect of his reforms, the jurist Juan de Matienzo (1910), considered the dispersed, “disorderly” hamlets and villages that predominated in the rural Andes to be one of the region’s defining characteristics and a source of its inhabitants’ alleged barbarity.

The ayllu organization of the Collagua Province has been the subject of extensive ethnohistorical analysis and is often cited as a textbook example of how the Inka state manipulated ayllu organization to construct an elegant nested administrative hierarchy based on Cuzco–Inka ideals (Benavides 1989; Cock Carrasco 1976–77; Pease 1977; Rostworowski de Diez Canseco 1983:121–123; Wachtel 1977:77; Zuidema 1964:115–118). The province was divided between two ethnic groups during Inka and colonial times: the Aymara-speaking Collaguas of the central and upper stretches of the Colca valley, and the Quechua-speaking Cabanas in the valley’s lower reaches (see Figure 1). The Collaguas were further subdivided into two ranked and territorially discrete subgroups: the lower-ranking Laricollaguas of the central valley and the higher-ranking Yanquecollaguas of the central and upper portions of the valley.

Each of these three groups within the province—Yanquecollaguas, Laricollaguas, and Cabanaconde—formed the basis of repartimientos within Spanish colonial administration.1 Each was also internally divided into two ranked moieties, Hanansaya (upper moiety) and Urinsaya (lower moiety). In the cases of Cabanaconde and Laricollaguas, each moiety formed the basis of a different encomienda,2 whereas both moieties of Yanquecollaguas, the largest and highest ranking of the repartimientos, were granted together in what would be one of the richest and most sought-after encomiendas in all of the Viceroyalty of Peru (Cook and Cook 1991:29–32; Málaga Medina 1977:94–97). The resettlement of the population into reducciones by the Toledan visitador Lope de Suazo in 1572 did not change the fact that colonial tribute
FIGURE 1. Overview of the Colca River Valley, showing subdivisions of the Collagua Province.
revenues continued to be fundamentally structured by the preexisting internal moiety and ayllu structures of these repartimientos (Málaga Medina 1977:100–101). Yanque, as capital of the highest-ranking repartimiento, functioned as the provincial capital (Málaga Medina 1977; Pease 1977).

Ethnohistorical reconstructions of the ayllu organization of the province generally use as a starting point the 1586 account prepared by the provincial magistrate (corregidor) Juan de Ulloa Mogollón for the Relaciones geográficas de indias (Ulloa Mogollón 1965:330). Building on Ulloa Mogollón’s imperial decimal administrative unit of 300 households, which describes how the ayllus of each moiety were named according to Inkaic tripartite ranking categories. According to Ulloa Mogollón, each of these ayllus, bearing the names Collana, Payan (Pahaha), and Cayao in each moiety, corresponded with an Inka pachaca ayllu (Ulloa Mogollón 1965:330). Building on Ulloa Mogollón’s short account, several studies have argued that the pattern of ayllu names recorded in Colca valley visitas reveal an elegant tripartite and decimal administrative system in which each of these ayllus of 300 households was composed of three smaller ayllus of 100 households (i.e., *pachaca* ayllus), which were ranked according to the same tripartite logic (Cock Carrasco 1976–77; Pársinnen 1992:362–371; Rostworowski de Diez Canseco 1983:121–123; Zuidema 1964:115–118). The striking feature of this reconstructed organization is that it appears to precisely reproduce Inkaic categories of descent-based rank (see Table 1). As first noted by Tom Zuidema (1964:115–118), and reiterated by others (Bauer 1998:35–37; Benavides 1989; Cock Carrasco 1976–77; Pársinnen 1992:362–371; Pease 1977; Rostworowski de Diez Canseco 1992:362–371; Pease 1977; Rostworowski de Diez Canseco 1983:121–123; Treacy 1994; Wachtel 1977:77), this nested tripartite hierarchy exactly matches the sequencing of the *ceque* lines that synchronized the rituals of the royal ayllus (*panacas*) of Cuzco.

However, this ideal reconstruction appears only partially correct (Wernke 2003:348–359, 2006b, 2006c), in part because it was based on the visitas of only the lower-ranking Urinsaya moiety. Scrutiny of other visitas reveals that the names of the ayllus in the Hanansaya moiety do not consistently conform to this tripartite and decimal scheme. The most complete record of ayllu names for Hanansaya comes from a visita recorded between 1615 and 1617 (APY Yanquecollaguas Hanansaya 1615–17). Ayllus conforming to the Inkaic tripartite and decimal nomenclature in this document are rare. In fact, the only regularly occurring ayllu name consistent with the Inkaic scheme is the ayllu Collana, but this is a common honorific for high-ranking ayllus in Aymara polities (Astvaldsson 2000; Bouysses-Cassagne 1987; Wernke 2003:354–359, 2006a). Nearly all the other ayllu names were Aymara terms, the native language of the Collaguas, suggesting that this moiety was made up of autochthonous Collagua ayllus, whereas Inkaic ayllu reorganization was largely restricted to the lower-ranking Urinsaya moiety (Wernke 2003:354–359, 2006a).

This being the case, the names of the Hanansaya ayllus seem to reflect autochthonous Collagua political organization. Specifically, they suggest an underlying dualistic structure based on a directional “right–left” concept. Within the declarations from the village of Coporaque, this is manifest in the names of two groups of ayllus: One was named *Cupi* (*Cupi* means “right side”) and the other *Checa Malco* (*Checa* means “left side,” and *Malco* means “honored lord”; for both, see Table 2). Other ayllus with the honorific *Malco* suggest an affinity with the left-side ayllu as well.

These observations suggest that the Inkas sought to both co-opt an autochthonous left–right dualism within a larger Hanansaya–Urinsaya moiety division and to reconfigure ayllu organization according to a specific

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### TABLE 1. Schematic of the Ideal Ayllu Organization of the Collagua Province as Reconstructed in Prior Research

<table>
<thead>
<tr>
<th>I. Yanquecollaguas</th>
<th>II. Laricollaguas</th>
<th>III. Cabanaconde</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Hanansaya</strong></td>
<td><strong>B. Urinsaya</strong></td>
<td><strong>A. Hanansaya</strong></td>
</tr>
<tr>
<td>1. Collana</td>
<td></td>
<td></td>
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<tr>
<td>1.1 Collana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Collana Taypi Pataca</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Collana Cayao Pataca</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Pahana (Payan, Taypi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Pahana Collana Pataca</td>
<td>Structure Repeats</td>
<td></td>
</tr>
<tr>
<td>2.2 Pahana Taypi Pataca</td>
<td></td>
<td></td>
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<tr>
<td>2.3 Pahana Cayao Pataca</td>
<td></td>
<td></td>
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<tr>
<td>3. Cayao</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Cayao Collana Pataca</td>
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<td></td>
</tr>
<tr>
<td>3.2 Cayao Taypi Pataca</td>
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<td></td>
</tr>
<tr>
<td>3.3 Cayao Pataca</td>
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</tbody>
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### TABLE 2. Coporaque Ayllu Names, in Order of Appearance in the Visitas

<table>
<thead>
<tr>
<th>Hanansaya (1616) Ayllu</th>
<th>Folios</th>
<th>Urinsaya (1604) Ayllu</th>
<th>Folios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collana Malco</td>
<td>ff. 490v-493r</td>
<td>Collana</td>
<td>ff. 208v-236r</td>
</tr>
<tr>
<td>Ila Tunga Malco</td>
<td>ff. 493v-513r</td>
<td>Pahana Collana</td>
<td>ff. 236v-270r</td>
</tr>
<tr>
<td>Checa Malco</td>
<td>ff. 513v-525r</td>
<td>Pahana Taypi Pataca</td>
<td>ff. 270v-290r</td>
</tr>
<tr>
<td>Yumasca</td>
<td>ff. 526v-550v</td>
<td>Pahana Cayao Pataca</td>
<td>ff. 290v-309r</td>
</tr>
<tr>
<td>Calloca [sic; Cupi]</td>
<td>ff. 550v-565r</td>
<td>Calloca</td>
<td>ff. 270v-290r</td>
</tr>
<tr>
<td>Cupi 1</td>
<td>ff. 565v-585r</td>
<td>Pahana Collana</td>
<td>ff. 236v-270r</td>
</tr>
<tr>
<td>Cupi 2</td>
<td>ff. 585v-603v</td>
<td>Pahana Taypi Pataca</td>
<td>ff. 270v-290r</td>
</tr>
<tr>
<td>Oficiales Ollerros</td>
<td>ff. 603v-611v</td>
<td>Pahana Cayao Pataca</td>
<td>ff. 290v-309r</td>
</tr>
</tbody>
</table>
structural model drawn from the imperial capital. But Inka administration did not erase local ayllu organization; rather, local ayllus of the higher-ranking Hanansaya moiety remained largely intact, whereas a greater degree of transformation is evident in the lower-ranking Urinsaya moiety. Thus, reorganization of the Collagua province by the Inkas was not as sweeping across both moieties as suggested by prior ethnohistorical reconstructions.

But how did these ideal—or “imagined”—structures accord with actual settlement patterning and land-use organization during Inka and colonial times? In the following sections, I employ spatially integrated archaeological and ethnohistorical analyses to examine the articulation of community and imperial administrative structures across the pre- to post-Hispanic “divide.” First, I trace the local historical arc forward in time using archaeological data, and then I retrace it backward from postreducción to prehispanic times through combined analysis of colonial land-use organization and archaeological settlement patterning.

SETTLEMENT AND LANDSCAPE IN THE COLCA VALLEY UNDER AUTONOMOUS AND IMPERIAL RULE

Recent archaeological research reveals intriguing parallels with the documentary evidence for centrally administered but locally mediated Inka and Spanish administration in the province. Results from a systematic survey I conducted in the area surrounding the colonial provincial capital of Yanque and the neighboring village of Coporaque illustrate a spatial dimension of these hybrid local–imperial arrangements not evident in the documentary sources.

The Shift from Autonomous to Inka Rule

In the centuries immediately prior to the Inka occupation of the Colca valley, the valley’s population underwent a major expansion marked by the appearance of villages and hamlets with distinctive Collagua domestic architecture and ceramics (the Late Intermediate Period, C.E. 1000–C.E. 1450; see Brooks 1998; de la Vera Cruz Chávez 1987; Doutriaux 2004:224–254; Shea 1987; Wernke 2003:171–181, 2006a, 2006c). This demographic expansion is broadly coeval with the extension of irrigated agricultural terracing systems over earlier unirrigated sloping fields and terraces (Brooks 1998; Denevan 2001:172–173, 192–201; Malpass 1987; Treacy 1994). Wealth and status inequalities are evident in disparities in the size and elaboration of domestic and mortuary architecture during this period (Wernke 2006c), but several archaeological indices signal a decentralized form of political organization (Wernke 2003:176–181, 2006c). For example, no single settlement stands out in terms of size, location, or architectural elaboration in the central (Wernke 2003:176–181, 2006c) or lower (Doutriaux 4 sections of the valley. Within my survey, settlements were concentrated on the north side of the river around the site that would later become the reducción of Coporaque (see Figure 2). Here, the settlements of San Antonio–Chijra (CO–100) and Uyu Uyu (YA–050) shared the top tier of the settlement pattern with almost identical numbers of domestic structures (N = 136 and 139, respectively), although the more-dispersed San Antonio was larger by spatial extent.

Changes in settlement patterning and organization associated with the Inka occupation of the valley during the Late Horizon (C.E. 1450–C.E. 1532) indicate that, in a similar manner to the hybrid Collagua–Inka ayllu organization evident in colonial documentation, Inka administration was centrally administered but locally mediated through extant settlements (Wernke 2003:182–195, 2006c). No single administrative center dominates the settlement pattern in the valley; rather, new Inka administrative centers appear to have been established in each of the three major subdivisions of the valley, forming a locally centralized but
regionally decentralized settlement pattern (Wernke 2003:182–195, 2006c). In Yanquecollaguas, the Inka founded a new center on the alluvial plain above the river gorge, in the location of what later became the reducción and colonial provincial capital of Yanque (Wernke 2003:290–295, 2006a). In Laricollaguas, the reducción and repartimiento capital of Lari was also built atop a large Inka settlement of similar size as Yanque (Doutriaux 2004:278–287). In Cabanaconde, the primary Inka center of Kallimarka was built on a steep ridge and organized around a central plaza with ceremonial architecture and an ushnu (stepped ceremonial platform; de la Vera Cruz Chávez 1987; Doutriaux 2004:265–268).

These administrative centers were founded and built within a larger context of overall settlement continuity from the Late Intermediate Period through the Late Horizon. Within my survey area, 87 percent (46 of 53) of Late Intermediate Period sites continued to be occupied during the Late Horizon (see Figure 3). The largest Late Intermediate Period settlements with elite Collagua domestic architecture on the north side of the river around Coporaque became secondary centers under Inka rule. At these sites—Uyu Uyu (YA–050), San Antonio—Chijra (CO–100), and Tunsa—Llactapampa (CO–150/163)—plazas and Inka “great hall” (kallanka) structures were constructed in central locations adjacent to elite residential compounds. These are common features in Inka settlement planning (Hyslop 1990:18–19) and are widely understood as venues for enacting state largesse through commensal rituals, especially feasting (Coben 2006; Dillehay 2003; Moore 1996; Morris and Thompson 1985).

**Colonial Period Transitions**

In the early years following the Spanish conquest, these same primary and secondary centers of power became early centers of evangelization. Franciscan friars established missions (doctrinas) in the Colca valley as early as the 1540s (Cook 2002:890–891; Tibesar 1953:46, 65). My survey documented how the friars mapped their evangelical missions onto Inka ritual spaces at Uyu Uyu and San Antonio, where rustic chapel structures are found in close association with kallankas and plazas (Wernke 2003:322–330, in press). At Uyu Uyu, a chapel faces the central plaza, opposite the kallanka (see Figure 4). At San Antonio, a similar chapel occupies a promontory adjacent to the Inka kallanka and plaza (see Figure 5). During the 1560s, the Franciscans formalized their mission in the Colca valley, building monasteries in the locations of what later became the reducciones of Yanque and Callalli, which served as headquarters (guardianías) for the doctrinas of the central and upper portions of the Colca valley, respectively (Tibesar 1953:65–68). In Coporaque, the friars erected the chapel of San Sebastian in 1565 and began constructing the main church in 1569 (Málaga Medina 1977), both of which remain standing today (Tord 1983:87–89). In Yanque, the Franciscans built a monastery in 1565, which was destroyed in an earthquake in 1688 (Benavides 1994).

This local trajectory illustrates that the reducciones of Yanque and Coporaque were both built in the locations of earlier Franciscan missions. Yanque was also built atop the Inka administrative center, and thus the disruption caused by resettlement would have been minimal for high-status families who originally resided there. It was, like Lari (Doutriaux 2004), quite literally a “negotiated settlement” in this regard, and it maintained its status as provincial capital. But in Coporaque, in contrast, the friars established a new doctrinal settlement in a virtually unoccupied location. This implies a much more significant displacement of local communities during the process of reducción. Such dislocation would seem to signal Spanish colonial domination and the
Figure 4. Oblique airphoto of the settlement of Uyu Uyu (YA–050) and surrounding terracing, from the south. Plaza (center) is flanked by an Inka kallanka structure (left) and chapel (right). (Source: 1931 Shippee-Johnson aerial expedition, Image # D–29, American Museum of Natural History Library)

erasure of prehispanic patterns of settlement and land use, as the process of reducción is most often understood.

However, the following analysis of land-tenure patterning among Coporaque ayllus reveals how the location of the reducción actually reflects a negotiated solution for balancing local and colonial interests. Systematic comparison of reconstructed ayllu land-tenure patterns with the late prehispanic settlement pattern provides a means for specifying where ayllus resided prior to resettlement, and in turn illustrates how the ayllu organization discussed above articulated with both Inka and Spanish colonial administration.

Reconstructing Ayllu Land Use and Residential Patterns: A “Reverse Site Catchment” Approach

To reconstruct prereducción ayllu residence patterns from their land-tenure patterns, I employ what I call a “reverse site-catchment” approach. In contrast to traditional site catchment analysis, which simulates land-use catchment areas around known site locations (Roper 1979; Vita-Finzi and Higgs 1970), this methodology does the opposite: It retrodicts prehispanic residence patterns from land-use data by comparing the land-tenure patterns of local ayllus with the settlement locations registered in the archaeological survey. This approach reveals how the dispersed landholding constellations of the ayllus resettled to Coporaque continued to reflect their prereducción land-tenure and residence patterns. This, in turn, enables a reconstruction of how autochthonous structures filtered land-use practices and articulated with the successive Inka and Spanish colonial administration and settlement planning.

The Colca valley visitas provide the essential data needed for reconstructing the land-tenure patterns of local postreducción households. These periodic censuses were conducted by moiety (Hanansaya–Urinsaya) within each
repartimiento, so each visita records only the data for one of moieties within each village. Complete cross-sectional data for a given village therefore requires two visitas, but no complete synchronic pairing survives in the current sample of visitas. Thus, I use visitas from different years to provide a view of both moieties: the 1604 visita of Yanquecollaguas Urinsaya and the 1615–17 visita of Yanquecollaguas Hanansaya.5

Household declarations listed all of a household’s agropastoral holdings, including the location and size of each agricultural landholding and the predominant crop grown there, as well as any livestock. The key to reconstructing household and ayllu land-tenure patterns lies in the fact that the visitas locate fields using place names. In the Colca valley, as in many other regions within the Andes, toponyms tend to be historically durable, and consequently, landholdings registered in the visitas can be located with considerable precision by mapping them with modern toponyms. Local toponyms are also generally quite small and discrete; they usually refer to a small cluster of fields that share a distribution canal at the distal end of an irrigation network. These names continue to be used today for coordinating water apportionment at irrigation distribution meetings (Treacy 1994).

To map modern toponyms, I consulted with local farmers, mapping toponym perimeters with Global Positioning System (GPS) receivers.6 In a GIS, the toponym sectors could then be represented as polygon themes with unique identifying codes linking the map to a database with the visita landholding declarations. The base map (see Figure 6) consists of 51 modern toponyms in Coporaque that also appear in the visitas (see Table 3). These toponyms locate 703 agricultural fields in the visitas, accounting for 23 percent of 3,054 fields declared. In terms of surface area, the mapped fields represent a 24 percent sample, 249 out of 1047 topos (see Table 4). The topo is an Andean unit of measure used to quantify field sizes in the visita declarations. During Inka and early colonial times, the actual surface area of a topo...
was not a fixed figure but, rather, was varied relative to soil quality, elevation, topography, and other factors that affected agricultural productivity (see D’Altroy 2002:246–247; Rowe 1946:324). For the purpose of visualization, however, a colonial topo can be roughly compared to its modern standardized equivalent of 3,496 square meters. Thus, the total area of the mapped fields was approximately 87 hectares (see Table 4).

To implement the reverse site catchment methodology, I compare the distribution of ayllu landholdings to the archaeological settlement pattern using the standard devi-
Because toponyms were the minimum unit of provenience provided in the visita declarations, the exact location of individual fields cannot be specified. Also, toponym boundaries almost certainly shifted to some extent over time, most likely in an agglutinative fashion as some small toponyms were absorbed into larger ones. However, point-level provenience of field locations can be simulated by generating a randomized point location for each field within a given toponym polygon in the GIS. To measure the between-sample variance introduced by this randomization, five point-location randomization iterations were performed. The between-sample coefficient of variation of the resulting SDE areas ranges between 1.78 and 12.39 percent, and all but two ayllus have coefficients of less than six percent (see Table 5). The difference between the simulated and the actual field distributions is likely similarly small, because the size of individual toponyms are small relative to the overall distribution of fields over several toponyms for a given ayllu. Thus, despite the limitation of toponyms as a minimal unit of provenience in the visitas and probable changes in their exact boundaries, the reconstructed ayllu land-tenure patterns probably closely approximate their actual distributions. For clarity of presentation, in the following figures, only the average SDE of these five iterations along with one field location iteration is displayed for each ayllu.

**THE AYLLU AS POLITICAL-ECOLOGICAL INTERFACE: LAND-TENURE AND SETTLEMENT PATTERNS COMPARED**

**Hanansaya: Autochthonous Ayllu Land-tenure and Residence Patterns**

As discussed above, the names of the Hanansaya ayllus suggest a dualistic organization based on a ranked, directional, “right–left” logic that was later submerged by a higher-order, Inka-introduced Hanansaya–Urinsaya moiety structure. The reconstructed land-tenure patterns of the Hanansaya ayllus reveal the spatial referent of this right–left dualism. Figure 7 shows the landholding distributions of the higher-ranking, “right-side,” Cupi ayllus and the lower-ranking, “left-side,” Checa Malco ayllu. As would be expected in this highland Andean setting, their land-tenure

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**TABLE 3. Modern Toponyms of Coporaque with Counterparts in the Visitas**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Area (ha)</th>
<th>Code</th>
<th>Name</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anchocllo</td>
<td>1.8</td>
<td>27</td>
<td>Nasana</td>
<td>0.9</td>
</tr>
<tr>
<td>2</td>
<td>Ancollaya</td>
<td>4.6</td>
<td>28</td>
<td>Pasnalla</td>
<td>1.0</td>
</tr>
<tr>
<td>3</td>
<td>Antacala</td>
<td>7.6</td>
<td>30</td>
<td>Pataha</td>
<td>7.5</td>
</tr>
<tr>
<td>4</td>
<td>Aquerana</td>
<td>3.2</td>
<td>31</td>
<td>Quelqata</td>
<td>6.4</td>
</tr>
<tr>
<td>5</td>
<td>Bombomcilla</td>
<td>6.8</td>
<td>32</td>
<td>Sabuara</td>
<td>23.8</td>
</tr>
<tr>
<td>6</td>
<td>Canaque</td>
<td>37.5</td>
<td>33</td>
<td>Sallihua</td>
<td>3.1</td>
</tr>
<tr>
<td>7</td>
<td>Caneria</td>
<td>0.1</td>
<td>34</td>
<td>Saymana</td>
<td>0.9</td>
</tr>
<tr>
<td>8</td>
<td>Cayra</td>
<td>0.1</td>
<td>35</td>
<td>Sumo</td>
<td>1.1</td>
</tr>
<tr>
<td>9</td>
<td>Chacco</td>
<td>5.4</td>
<td>36</td>
<td>Sunatira</td>
<td>0.3</td>
</tr>
<tr>
<td>10</td>
<td>Chaquire</td>
<td>3.1</td>
<td>37</td>
<td>Suripampa</td>
<td>38.9</td>
</tr>
<tr>
<td>11</td>
<td>Chijra (Chishra, Chirsha)</td>
<td>7.3, 37</td>
<td>Suripampa</td>
<td>38.9</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Chilcarani</td>
<td>1.0</td>
<td>38</td>
<td>Taccowiri</td>
<td>2.4</td>
</tr>
<tr>
<td>13</td>
<td>Chocpayo</td>
<td>20.7</td>
<td>39</td>
<td>Tañaapaque</td>
<td>19.9</td>
</tr>
<tr>
<td>14</td>
<td>Churqui</td>
<td>4.9</td>
<td>40</td>
<td>Taqllapukio</td>
<td>3.0</td>
</tr>
<tr>
<td>15</td>
<td>Cocawire</td>
<td>14.6</td>
<td>41</td>
<td>Toco</td>
<td>4.1</td>
</tr>
<tr>
<td>16</td>
<td>Corunapa</td>
<td>5.3</td>
<td>42</td>
<td>Totraní</td>
<td>2.0</td>
</tr>
<tr>
<td>17</td>
<td>Cupi</td>
<td>5.0</td>
<td>43</td>
<td>Tumsa</td>
<td>8.9</td>
</tr>
<tr>
<td>18</td>
<td>Cuyo</td>
<td>8.5</td>
<td>44</td>
<td>Umañoso</td>
<td>7.9</td>
</tr>
<tr>
<td>19</td>
<td>Fallero</td>
<td>7.7</td>
<td>45</td>
<td>Umaro</td>
<td>3.9</td>
</tr>
<tr>
<td>20</td>
<td>Kello</td>
<td>3.5</td>
<td>46</td>
<td>Wakanterá</td>
<td>4.9</td>
</tr>
<tr>
<td>21</td>
<td>Korinapampa</td>
<td>15.4</td>
<td>47</td>
<td>Waykirí</td>
<td>50.7</td>
</tr>
<tr>
<td>22</td>
<td>Kusipampa</td>
<td>11.1</td>
<td>48</td>
<td>Wayki rí</td>
<td>2.6</td>
</tr>
<tr>
<td>23</td>
<td>Lama</td>
<td>31.8</td>
<td>49</td>
<td>Wajuyawa</td>
<td>2.6</td>
</tr>
<tr>
<td>24</td>
<td>Lactapampa</td>
<td>17.8</td>
<td>50</td>
<td>Wichokata</td>
<td>9.3</td>
</tr>
<tr>
<td>25</td>
<td>Llanca</td>
<td>17.1</td>
<td>51</td>
<td>Yawiso</td>
<td>3.8</td>
</tr>
<tr>
<td>26</td>
<td>Malcapí</td>
<td>5.6</td>
<td>52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**TABLE 4. Descriptive Statistics for Land-tenure Reconstruction, by Ayllu: Ayllus Listed in Order of Registry in the Visitas**

<table>
<thead>
<tr>
<th>Moiety</th>
<th>Ayllu</th>
<th>Population</th>
<th>Total No. Fields</th>
<th>No. Mapped Fields</th>
<th>% of Total Fields Mapped</th>
<th>Total Field Area (Topos)</th>
<th>% of Mapped Field Area (Topos)</th>
<th>Total Field Area Mapped</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanansaya</td>
<td>Collana Malco</td>
<td>178</td>
<td>146</td>
<td>15</td>
<td>10</td>
<td>67.50</td>
<td>7.00</td>
<td>10</td>
<td>ff. 480v-493r</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Ila Tunga Malco</td>
<td>318</td>
<td>233</td>
<td>37</td>
<td>16</td>
<td>89.50</td>
<td>14.75</td>
<td>16</td>
<td>ff. 493v-513r</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Checa Malco</td>
<td>157</td>
<td>128</td>
<td>29</td>
<td>23</td>
<td>45.38</td>
<td>11.25</td>
<td>25</td>
<td>ff. 513r-525r</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Yumaska</td>
<td>251</td>
<td>313</td>
<td>97</td>
<td>31</td>
<td>91.75</td>
<td>28.25</td>
<td>31</td>
<td>ff. 526r-550v</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Calloca [sic; Caloca]</td>
<td>188</td>
<td>158</td>
<td>34</td>
<td>22</td>
<td>58.75</td>
<td>15.25</td>
<td>26</td>
<td>ff. 550v-565v</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Cupi 1</td>
<td>177</td>
<td>249</td>
<td>56</td>
<td>22</td>
<td>85.13</td>
<td>20.25</td>
<td>24</td>
<td>ff. 565v-585r</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Cupi 2</td>
<td>191</td>
<td>211</td>
<td>61</td>
<td>29</td>
<td>66.00</td>
<td>19.75</td>
<td>30</td>
<td>ff. 585r-603v</td>
</tr>
<tr>
<td>Hanansaya</td>
<td>Official Potters (Oficiales Olleros)</td>
<td>135</td>
<td>155</td>
<td>25</td>
<td>16</td>
<td>47.50</td>
<td>7.25</td>
<td>15</td>
<td>ff. 603v-611v</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>1595</td>
<td>1593</td>
<td>354</td>
<td>22</td>
<td>585.50</td>
<td>123.75</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Urinsaya</td>
<td>Collana</td>
<td>398</td>
<td>387</td>
<td>107</td>
<td>28</td>
<td>137.25</td>
<td>40.25</td>
<td>29</td>
<td>ff. 208v-236r</td>
</tr>
<tr>
<td>Urinsaya</td>
<td>Pahana Collana Pataka</td>
<td>406</td>
<td>495</td>
<td>110</td>
<td>22</td>
<td>167.25</td>
<td>39.50</td>
<td>24</td>
<td>ff. 236r-270r</td>
</tr>
<tr>
<td>Urinsaya</td>
<td>Pahana Taypi Pataka</td>
<td>294</td>
<td>265</td>
<td>54</td>
<td>20</td>
<td>89.50</td>
<td>21.25</td>
<td>24</td>
<td>ff. 270v-290r</td>
</tr>
<tr>
<td>Urinsaya</td>
<td>Pahana Cayao Pataka</td>
<td>300</td>
<td>314</td>
<td>78</td>
<td>25</td>
<td>101.75</td>
<td>24.25</td>
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<td>ff. 290r-309r</td>
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<td>1461</td>
<td>349</td>
<td>24</td>
<td>495.75</td>
<td>125.25</td>
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<td>Total</td>
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<td>3054</td>
<td>703</td>
<td>23</td>
<td>1047.25</td>
<td>249.00</td>
<td>24</td>
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</tr>
</tbody>
</table>

Sources: Hanansaya: APY, Visita de Yanquecollaguas Hanansaya 1615–1617, ff. 480v-611v; Urinsaya: APY, Visita de Yanquecollaguas Urinsaya 1604 ff. 208v-309r.
patterns are dispersed, but their SDEs are discrete from one another, revealing how risk-minimizing patterns of field dispersion were mediated by community organization. Their SDEs show how the fields of the two “right-side” Cupi ayllus were distributed in a nearly identical fashion toward the west, while those of the “left-side” Checa Malco ayllu were concentrated to the east.

Moreover, this right–left spatial duality is apparent not only for the explicitly named “left” (Checa Malco) and “right” (Cupi) ayllus but also for all the other ayllus of the Hanansaya moiety (see Figure 8). Here, the manner in which ideal community organization was reproduced and reified in the act of recording the visita actually aids in the interpretation of the land-tenure patterns. In the visita, the ayllus with the Malco honorific were listed in succession with the left-side ayllu Checa Malco, suggesting an affinity or relationship. The distributions of their fields reveal the spatial dimension of this relationship: They are all concentrated to the east or “left” side along with those of ayllu Checa Malco (see Figure 8). The ayllu Yumasca, listed immediately after the Malco ayllu in the visita, also shows “left” or easterly landholding distribution. By contrast, the ayllu Calloca and an ayllu of official state potters (Oficiales Olleros) both showed clear “right-side” or westerly distributions together with the Cupi ayllus, which are also listed in succession. Thus, all the ayllus of Hanansaya can be aggregated into two “right” and “left” groups. The spatial pattern of the right–left duality is again clearly apparent in their aggregate distributions and SDEs (see Figure 9).

How were these contrasting ayllu land-tenure patterns related to the prehispanic and colonial settlement pattern? A comparison of the prereducción settlement pattern in relation to these contrasting right–left land-tenure patterns suggests that they are rooted in contrasting patterns of residence prior to reducción resettlement, and by extension, illuminates how this local dualism articulated with Inka and Spanish administration. In the case of the right-side ayllus, the center of their landholding distribution is closest to the settlement of San Antonio, the largest of the Late Horizon secondary centers (see Figure 9). According to the reverse site catchment criteria outlined above, this suggests that the majority of ancestral population of these ayllus resided at that settlement. This interpretation is further supported by other documentary evidence. Colonial ecclesiastical sources relate how the friars established a chapel dedicated to San Antonio at a settlement formerly known as Cupi and resettled people from several other ayllus dispersed throughout local settlements at this doctrina (Echeverría y Morales 1952:80). This site appears as Calocacupi in the listing of villages that were resettled to Coporape in the 1615–17 visita (APY Yanquecollaguas Hanansaya 1615–17, f. 480v). Thus, independent documentary evidence establishes not only that the site today known as San Antonio was a pre-Toledan Franciscan doctrina but also that it was originally named after the right side Cupi and Calloca ayllus.

By contrast, the center of the aggregate distribution of the left-side ayllus (Checa Malco, Collana Malco, Ila Tunga Malco, and Yumasca) is adjacent to the large Late Horizon settlement of Llanka (CO–127; see Figure 9). This settlement is part of a cluster of five Late Horizon settlements all within 500 meters of one another, so the ancestral population of these ayllus could have resided at any one or several of these settlements. Among them, the site of Tunsá (CO–163), like San Antonio, housed local elite domestic architecture and an Inka kallanka.

This spatial synthesis thus illustrates how Inka administration literally mapped onto local bases of power by establishing a secondary administrative center with a kallanka and plaza at the principal settlements of each side of this dualistically organized ayllu structure. Such a hybrid arrangement would have minimized disruption and state investment, while local elites probably benefited by stabilizing their rank and authority through association with the state. Franciscan friars subsequently erected a chapel at the principal settlement of the higher-ranking of these two sides: Cupi, or the right side. Ecclesiastical documents indicate that this and other doctrinas grew during their brief
occupation prior to the establishment of the reducción of Coporaque (Echeverría y Morales 1952:80). In the case of San Antonio, the influx of new households almost certainly came from the “left-side” ayllu and their settlements to the east. In this light, the establishment of the reducción of Coporaque can be seen as an intensification of centripetal trends that began under Inka administration, rather than a radical truncation of “indigenous” tradition.

But what was the “center” or boundary between these two sides? Given the common Aymara pattern of axial division (Albó 1972; Astvaldsson 2000; Bouysse-Cassagne 1986, 1987; Harris 1985), we would expect a prominent topographic feature to divide these two “sides.” Looking at the local terrain, a deep quebrada (ravine) called the Chillihuitira forms a major topographical and hydrological division between the concentrations of fields of these right- and left-side ayllus (see Figure 10). Water from this quebrada and its tributaries feed most of the canals and fields to the west, while water from the neighboring quebrada Sahuara and its tributaries provides the most of the water for other canals to the east (see Figure 11). Facing downstream on the Chillihuitira, the fields to the west are on the “right” side, and fields to the east are on the “left” side. This hydrologically downstream orientation is consistent with the boundary between the conceptual right and left among Aymara populations in the Titicaca Basin, where the higher-ranking, conceptual right-side Urcosuyu and lower-ranking, conceptual left-side Umasuyo are located to

FIGURE 7. Land-tenure pattern of the ayllus Cupi and Checa Malco, reconstructed from the 1616 visita of the Hanansaya moiety of Coporaque. Each point represents an agricultural field declared in the visita.
the right and left, respectively, when facing downstream on the Azangaro River-Lake Titicaca-Desaguadero River hydrological axis (Bouysse-Cassagne 1986:203).

Although the Chillihuhitira likely formed the axial boundary between the right and left sides in the prehispanic landscape, the location of the reducción of Coporaque suggests that it constituted a new kind of “center.” The construction of Coporaque in a place that was virtually unoccupied during Inka times would seem to support the conventional interpretation that reducción effected an eradication of prehispanic patterns of settlement and land use. But the village appears to have been specifically situated to balance the interests of local communities, because the Chillihuhitira runs through the village itself (see Figures 10 and 11)—that is, the village was emplaced precisely on the boundary between the left and right sides. Such an arrangement would have thus minimized the disruptive effects of resettlement by situating the new village in a central location relative to established patterns of land use. In this sense, the location of Coporaque both appears rational from the point of view of the state and reflects the agency of local communities in negotiating its emplacement.

Urinsaya: Land-Tenure and Residence Patterns of Inka-Engineered Ayllus

In contrast to the Hanansaya ayllus, the names of the ayllus of the Urinsaya moiety conform exactly to Cuzco-Inka
ideals of tripartite ranking and decimal administration, suggesting a much more penetrating reorganization by the state. Of the nine ayllus that constitute the ideal structure of the Urinsaya moiety of Yanquecollaguas, segments of four were present in Coporaque: the high-ranking Collana and segments of all three of the pataca-level ayllus that make up the middle-ranking ayllu Payan (in descending order of rank, these were: Pahana Collana Pataca, Pahana Taypi Pataca, and Pahana Cayao Pataca). Analysis of their land-tenure patterns in relation to the Late Horizon settlement pattern indicates that the land-use and residential patterns of these state-engineered ayllus were very different from those of the local ayllus. Rather than the discrete interests and residential patterns evident among the Hanansaya ayllus, those of the Urinsaya ayllus suggest that Inka policies were aimed at dispersing agricultural interests widely by distributing their populations among several settlements on either side of the autochthonous dualistic boundary in the local landscape.

Figure 12 displays the land-tenure patterns of the Urinsaya ayllus. Their SDEs show how their landholdings are distributed more widely over both sides of the Chillihuittira than those of the Hanansaya ayllus. The centers of all but one of their distributions are closer to the Chillihuittira boundary itself than to any of the prereducción settlements. The one exception—ayllu Pahana Cayao Pataca—shows a central tendency nearer to the settlements to the east or “left” side of the Chillihuittira. But overall,
their more dispersed patterns on either side of the axial boundary between the two groups of Hanansaya ayllus signal correspondingly dispersed residential patterns among their prehispanic ancestral populations. The Inka state strategy may have been aimed at redistributing agricultural, and, by extension, hydraulic interests—interests that were almost certainly charged and contested among the Hanansaya ayllus during pre-Inka times.

The dispersed land-tenure and residential patterns of the Urinsaya ayllus indicate considerable reordering of people and interests by the state. Were they composed of mitmaq colonists brought by the state from other areas, or were they composed of reshuffled local ayllus? The answer is far from certain, although there are reasons to speculate the former. Mitmaq ayllus were often assigned decimal administrative designations (Lorandi 1991; Salomon 1986), as is the case here. As a regional breadbasket, the Colca valley was a major economic center, and the movement of mitmaq populations to other such locales on very large scales has been documented (Wachtel 1982). Collagua mitmaq populations were recorded in the Mantaro valley of the central Peruvian highlands, and so it is possible that resettled mitmaq households replaced local populations resettled by the state in other provinces (Levillier 1940:14–37). Archaeologically, scant architectural or artifactual indices point to an influx of a foreign population during Inka times, but mitmaq colonies have proven surprisingly impervious to archaeological identification (D’Altroy 2005).

But regardless of the origin of the Urinsaya ayllu households, their contrasting patterns of land use signal a reorganization on a similar scale to the reducción project. Here, it appears that common state goals of rationalizing settlement and land use by the Inkas and Spanish were achieved via culturally specific solutions that are mirror images of one another. The Inka project at once mapped onto the extant political landscape through the construction of ceremonial spaces at the principal settlements on each side of the autochthonous dualistic boundary while also attempting to “overwrite” that boundary by dispersing the households and agricultural interests of the reengineered Urinsaya ayllu on either side of it. The solution negotiated by Toledan administrators, by contrast, was the creation of a new center in that dualistic landscape: the reducción of Coporaque.

CONCLUSION

This analysis explored specifically how Andean constructs of community and landscape constituted primary interfaces
between local households and the colonial projects of the Inka and Spanish states. Local land-tenure patterns were dispersed, as would be expected in this highland Andean setting, but there were important, patterned differences among the field-holding constellations of local ayllus. Moreover, comparison of the observed land-tenure patterns with the prereducción settlement pattern reveals how distinct Inkaic and Spanish models of community articulated differentially with these local constructs, resulting in new communities that were the product of both the state and local interest groups but which were not entirely controlled by either.

Although the underlying dualistic organization of local ayllus remained largely intact under Inka rule, imperial administration appears to have subsumed those local political interests within a larger-scale hierarchy of settlements and ayllus in a new moiety-based arrangement. Archaeologically, the construction of kallankas and central plazas at large Late Intermediate Period settlements with elite architecture suggests how local elites played an important intermediary role in the administration of the province. Reconstructed prereducción ayllu residential patterns reinforce this interpretation by showing how these ceremonial spaces and structures were built at the primary settlements of each group of ayllus in the local dualistic organization. This illustrates specifically how settlement pattern indices for centralized but locally mediated Inka administration corresponded to the articulation of local and imperial ayllu structures evident in the visitas.
Such moiety organization appears to have been introduced by the Inkas in many areas as a means of fostering competition and productivity among bureaucratically equivalent tributary units (Gelles 1995). Throughout the pre-Inkaic domain of the circum-Titicaca Aymara polities (the Collao), underlying dualisms similarly coexisted with this introduced Inkaic moiety organization. A detailed study of how this occurred in the Jesús de Machaca region of Bolivia suggests a similar process of Inka moiety superimposition (Astvaldsson 2000). Ayllu organization in Jesús de Machaca was also based on dualistic division between groups of right (higher-ranking) and left (lower-ranking) ayllus separated by an axial boundary (Albó 1972; Bouysse-Cassagne 1987). Astvaldur Astvaldsson has recently presented evidence indicating that the Inkas, and later the Spanish, established a central settlement on the boundary between the territories of local ayllus and superimposed a new Hanansaya–Urinsaya moiety division (Astvaldsson 2000:160). A similar pattern of a reducción straddling a local, axial moiety division has also been

The parallels with the case presented here are striking, and hint at common imperial strategies and processes of two-way negotiation in both the Inka and Spanish cases. In Coporaque, dualistically organized autochthonous ayllus were similarly divided by an axial topographic–hydrological boundary. Although there was no Inca center established between these two sides, the Inkas established secondary locations of the later reducció\_n and provincial capital of Yanque. The disruption caused by reducció\_n resettlement would have been relatively minor for the elite residents of Yanque, but even in the case of Coporaque, the reducció\_n actually straddles the boundary separating the old division between the right- and left-side ayllus.

Seen from this local perspective then, reducció\_n appears not to have been solely a top-down imposition by the colonial state. Instead, the specific emplacement of the reducció\_n acknowledged and even reaffirmed extant patterns of ayllu and land-use organization, forming a new kind of colonial Andean community and landscape. Thus, the bounded, urban community ideal of the Spanish colonial state embodied in the reducciones did not, and could not, produce a tabula rasa; local reducciones were literally suspended in webs of local interests—interests that were shaped by the already-hybrid conceptual and built features of the local landscape that emerged out of Inka administration. In sum, these findings illustrate how local actors and social formations affected the specific emplacement of Inka and Spanish imperial installations, and how the durable features and invested interests of the landscape structured those negotiations.

Through this spatially integrated analysis, I have attempted to move beyond the analytical dichotomy of domination and resistance to explore how locally embedded schema of community landscape both structured and were changed by successive colonial encounters. Here, the negotiations involved in what Marshall Sahlins (2005) calls the “resistance of culture” are evident. Invoking culture in this regard need not rely upon functionalist or normative assumptions; rather, it points to the ways in which local understandings, debates, and structures of power—structures that in part derive from the materiality of built features in the landscape—necessarily shape colonial encounters, and how in the process those structures are themselves altered.

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1. A repartimiento in this context refers to a subprovincial territorial unit that coincided with the encomienda grants.
2. An encomienda was a trusteeship granted to Spaniards for rights to Indian labor and tribute in exchange for duties of taxation and religious indoctrination.
3. Ludovico Bertonio (1956:79) defines Checa (C\_heca) as “left” and identifies its antonym (i.e., “right”) as Capi. He glosses Malco as “lord of vassals” (Bertonio 1956:212).
4. Although the Late Horizon site area of Coporaque registered during the survey is seemingly large, this reflects the presence or absence criterion for including survey sectors with diagnostic Late Horizon ceramics. Overall, the tiny sample of six Late Horizon sherds from Coporaque was dwarfed by that of Yanque (n = 209), the largest Late Horizon ceramic collection in the survey.
5. Both are housed in the Archivo Parroquial de Yanque (APY) of the Archidioce\_se Archives of Arequipa (AAA). Transcriptions of these unusually detailed visitas have also recently been published (Robinson 2005).
7. Some small plots were declared using other (less formal) units of measure, such as pata (patch or terrace), chacara (field), peda\_cillo (piece or small piece), anden or andencillo (terrace or little terrace), and solar (patio). Although the areas of these fields cannot be known, they were probably somewhat smaller than a quarter topo, the smallest fraction of a topo declared. I have equated them with one-eighth topo when reporting field areas in terms of hectares here.
8. Standard deviational ellipses and mean geometric center data were calculated using CrimeStat (version 2.0), a free spatial statistics application (Levine 2002).
9. Randomized intratoponym field location simulations were generated using Hawth’s Tools for GIS (http://www.spatialecology.com/htools/index.php).
10. Average SDEs were derived from the mean length, rotational angle, and center of the major and minor axes of the five SDEs generated for each ayllu.
11. Two ayllus of official state potters (olleros oficiales) were listed as segments within two different ayllus: Pahana Coli\_na Pataca and Pahana Cayao Pataca (APY Yanquecollaguas Urinsaya 1604, ff. 268v–269v, 309v–312r). These two ayllu segments are excluded from analysis because of insufficient sample size of mappable fields.

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