

Chapter 1 -- Introduction and Research Overview

This thesis seeks to strengthen our understanding of culture contact under state expansion by recognizing the forces of local history and culture within broader political and economic structures. It details the results of research conducted in northwest Argentina in the Calchaquí Valley, which was partially incorporated into the Inka empire in the 15th century AD, and finds that the Inkas faced a myriad of autonomous societies posing distinct challenges at every turn. Subsequently, Inka interactions with these diverse Calchaquí populations unfolded according to a patchwork logic that involved the interests of all the participating actors. My interpretations of colonialism in this corner of the Inka realm, therefore, strengthen our understanding of culture contact by highlighting how the forces of indigenous self-determination, compliance, resistance, accommodation, and cooperation help transfigure imperial encounters.

The archaeological research presented here finds parallels in historical and social anthropological studies of colonial encounters that suggest that locally-motivated events and intentions influence the success or failure of the colonial enterprise (Adas 1992, Bhadha 1994, Cooper and Stoler 1997, Stoler 1989, Tiffin and Lawson 1994). Studies from social anthropology in particular contend that imperialism needs to be viewed from the point-of-view of the histories of local societies, and not just from the bird's eye-view of the colonizer (Haynes and Prakash 1991, Irschick 1994, Miller 1995, Thomas 1997, Wolf 1982). As I draw from this multidisciplinary approach I maintain an appreciation for the details particular to life in prehispanic northwest Argentina. Andean scholars, after all, consistently remind us that the interplay between Inka strategies of colonization

and the initiatives of subject groups created diverse encounters across the Andes (Morris 1998, Stanish 1997, Williams and D'Altroy 1998).

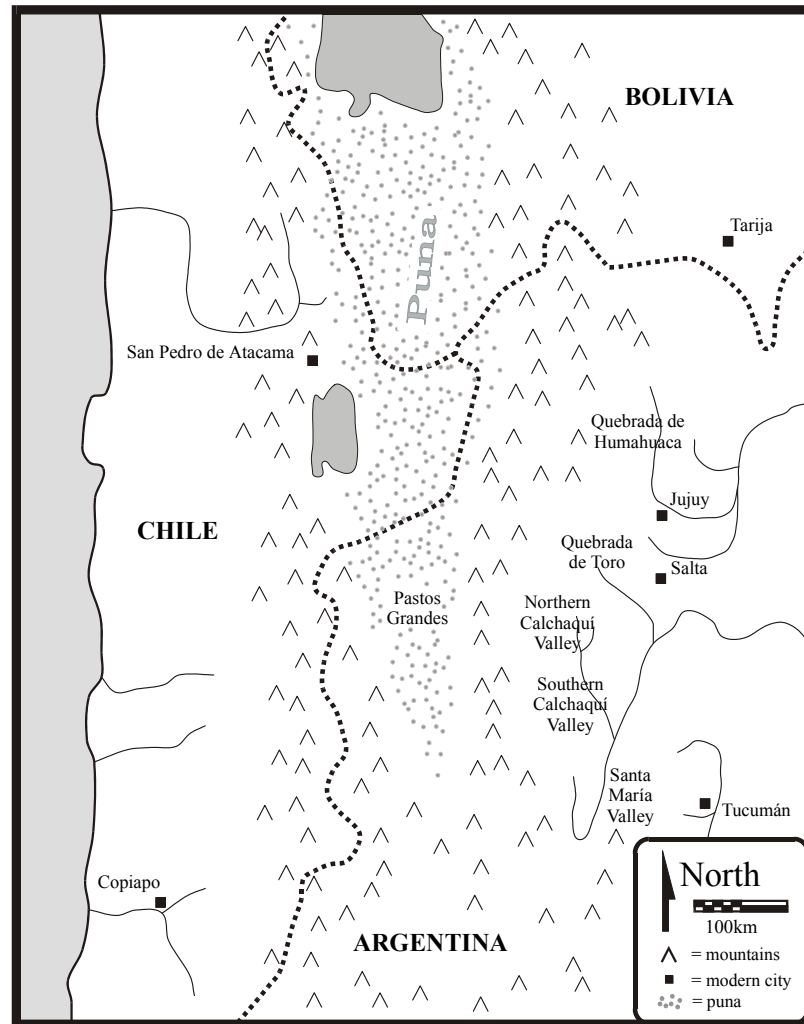


Figure 1: Map of South Andes

The study area is located in the Northern Calchaquí Valley. The southeastern part of the Inka empire was called Kollasuyu, which included areas of southern Peru, western Bolivia, northwest Argentina, and northern Chile.

The Inka state and its activities in the South Andes are well suited for a study of this sort. In the 150 years prior to the Spanish conquest of South America in AD 1532, the Inkas seized control of hundreds of Andean societies stretching from Ecuador to Chile and Argentina to create the largest state ever formed in the prehispanic Americas.

The Calchaquí Valley, which today is a rural area in the Province of Salta, lay at the southeastern frontier of the maximum extent of the Inka realm (Figure 1). Specifically, the valley was part of Kollasuyu, or the southeastern part of the Inka empire, which included areas of southern Peru, western Bolivia, northwest Argentina, and northern Chile. Over a century of research in the region has shown that the Inka occupation of this largest part of the empire was more extensive than previously thought as the Inkas established as many as 300 installations ranging from major provincial centers to small way-stations along an extensive road network. In the Calchaquí Valley alone the Inka established, reoccupied, or came into contact with as many as 30 settlements. In addition to the extraction of mineral resources and the production of metals under Inka supervision in northwest Argentina, there is evidence now for a broad array of activities associated with Inka-related groups, including specialized manufacturing of ceramics and textiles and the development of large, state-run agricultural centers.

The indigenous societies living in the Calchaquí that greeted the Inkas are also ideal for a study of this type. In the period prior to the arrival of the Inkas, the Calchaquí Valley was occupied by dispersed agro-pastoral societies that saw the need for political unification and cooperation only on occasion. These independent polities were marked by densely occupied settlements located in smaller, lateral valleys, alongside valuable resources. Some villages were located in defensible positions, which suggests an atmosphere of competition and conflict similar to that seen among contemporary societies in the Central Andes. Spanish accounts further suggest that, while some populations in the Calchaquí Valley accepted Inka expansion, such as the Pulares who occupied the north, others resisted, such as the Calchaquíes in the southern valley

(Lorandi and Boixadós 1987-88). These and other valley societies figure prominently in the story of Inka-period colonialism in the valley and play a central role in this thesis.

The Archaeology of Imperialism and Colonialism

As clear as it may be that the Inkas expanded into parts of the South Andes, it is less obvious how to conceive of the totality of the events surrounding Inka encounters in the region. On a general level this history can be explored under the rubric of culture contact, which informs the investigation of any encounter between people from different geographical, ideological, or social backgrounds. But the Inka case also encompasses the overlapping concepts of imperialism and colonialism, because it clearly involves one society (the Inka) seeking control over other societies through relations of exploitation involving military intimidation, the extraction of economic resources, lopsided trade, and the deliberate spread of its political, social and economic institutions into conquered areas (Dyson 1999:950). To avoid ambiguity at the outset, I explore below the mingling senses of the terms imperialism and colonialism as they inform the central arguments of this thesis.

Imperialism

Stepping out of the Andes, then, the word 'imperialism' has acquired so many meanings that books have been written on the definition itself (e.g., Koebner and Schmitt 1964). Some contemporary meanings of the word link it to the spread of late-form capitalism at the end of the 19th-century and to Marxist authors like Lenin (1939), economic theorists like Hobson (1965), and underdevelopment scholars like Frank (1967). In these sorts of treatments imperialism is characterized predominantly as a forcible attempt by one nation to gain favorable and unbalanced economic relations with

underdeveloped countries. But empires and the idea of imperialism have been around for centuries and find their origins in the Latin words imperare (to command) and imperium (dominion). To sort through these and other contemporary and ancient meanings of the word 'imperialism', the following discussion offers a pragmatic definition of the word as it is employed in this thesis. The discussion that follows draws directly from an assortment of recent comparative studies of ancient empires (Alcock *et al.* 2001, Algaze 1993, Blanton 1996, Cherry 1992, Demarest and Conrad 1992, Dyson 1999:9-24, Nichols and Charlton 1997, Sinopoli 1994, Smith and Montiel 2001, Stein 2002).

An imperial society (or an empire) is a union of societies in which one comes to rule over many. Imperial rule comprises a real power to control subject societies, for without it the subjects can reestablish their independence and thus terminate the imperial character of the ruling society. This rule is authoritarian in the sense that its practitioners (the imperialists) demand obedience to their authority. The rule is not necessarily autocratic, despotic, oppressive, tyrannical, dictatorial, or totalitarian, though it may be. Becoming an empire involves capturing, brandishing, and using power to control subject societies, which of course means establishing control over living, thinking people. Having control over people, in turn, begs a number of questions relating to self-determination, compliance, resistance, accommodation, and cooperation. For instance, how many individuals in a subject society are under an empire's control? Only a few of the leaders? Or all of the workers, merchants, and priests? Also, what aspects of people do empires control? Their wills, thoughts, hunger, or labor? And finally, what portion of the people even consider themselves to be under the empire's control? These questions

evoke issues central to my research regarding the forces of autonomy, agency and history in the face of imperialism.

For the purpose of this thesis, then, I submit that a state becomes an empire when it has successfully seized authoritarian rule over other societies, their resources, and their land. Imperialism is the related state policy whose aim is to create, extend, and maintain an empire and provide motivation and legitimization for these actions. Imperialism, at least as it is being used here, is as much an ideology as it is an operation, or as much a cultural phenomenon as it is a material one. Because imperialism can be thought of as a policy of state that is especially ingrained in the citizens at the core, it can be difficult to see in the vestiges of day-to-day life of people living outside the imperial heartland. In the case at hand, for instance, it would be a formidable task to trace the ideas and precepts of Inka imperialism as conceived in Cuzco in the everyday material artifacts of the people living in northwest Argentina, because life in the peripheries is as much the product of local intentions as it is the product of Inka mandates. At this point the similar but divergent concepts underlying colonialism are helpful and, thus, are explored forthwith in reference to a number of recent studies of ancient colonialism (Dietler 1997, 1998, Gosden 1999:179-205, 2001, Rowlands 1998, Schortman and Urban 1994, van Dommelen 1997, 1998, Woolf 1998).

Colonialism

Colonialism was and continues to be perhaps the most outstanding force to ever shape human history as it is difficult to identify a contemporary society that escaped its ripple effect (Osterhammel 1997). Colonialism contains within it the idea of the translocation of a group of people away from their area of origin. Typically, the

transplanted groups come from the core area of a powerful and dominant society (e.g., from an empire) in search of wealth, power or prestige. But sometimes colonists come from weaker or previously conquered areas and are moved from their homes against their will. Colonialism can occur, however, without formal domination by one society over another, for instance when relationships are established that involve trade, missionary activities, raiding and/or migration. For example, White (1991) considers the early French-Canadian relationships developed on 'Middle Grounds' to be colonial and Sider (1986) describes similar shades of European colonialism in Newfoundland.

For this thesis, then, a colony is defined as a community of emigrants (foreigners) living in a distant region under the control of a homeland polity or nation. To colonize is to settle colonies with members of a nation or with a group of third-party colonists, most of whom ideally remain loyal to the parent, or colonial nation. While colonies inevitably interact with surrounding (or 'host') societies, by no means do they always seek to establish dominion over them, since there are reasons outside of conquest to colonize an area, including exploration, trade and migration. As a policy of state, colonialism, like imperialism, is meant to motivate and legitimize the act of colonization and thus can be thought of as a culture or ideology. Unlike imperialism, however, colonialism has an unequivocal operational and material sense as realized in the periphery. In discussing the distinction between these terms, Jacobs (1996:16-17) makes the observation that the terms can ultimately be differentiated by their place in the geography of the empire: while the intent to expand at the core is imperialism, the effect at the edge is colonialism.

Because the focus of this thesis lies very much 'at the edge', that is, on life in the Calchaquí Valley at the time of contact with the Inkas, I use 'colonialism' according to

this spirit of the term. In fact, aside from my particular argument, by almost any definition the Inka imperial phenomenon was colonial: the Inkas intruded into independent areas, they conquered societies, they exploited people's labor and resources, and they dominated some populations outright. More significantly, however, the question of whether the Inka state was a colonial state comes down to the startling fact that as much as a third of the Andean population was uplified and resettled under Inka rule (D'Altroy 2002:248). While there are a number of reasons why the Inkas forced such migration (to break up recalcitrant populations, boost productivity in key areas, strengthen strategic locations with soldiers, etc.), the fact remains that this policy is colonization. Lorandi (1983, 1991) provides the best description of the Inka practice of moving labor colonist, or mitmaqkuna into the South Andes and even describes one account that places groups from the Peruvian province of the Canas in the Calchaquí. It is for these reasons, then, that I argue that many of the concepts developed in studies of non-Andean colonialism can be usefully applied to the Inka case.

Local Perspectives

One persistent theme found in the literature on colonialism is that of the diversity of indigenous responses to colonial intrusion that range from revolt, to resistance, to ambivalence, to accommodation (this theme is well-developed in the literature on European expansion in the Americas, e.g., Deagan 1983, 1990, Fitzhugh 1985, Rogers and Wilson 1993, Taylor and Pease G.Y. 1994, Thomas 1989, 1990, 1991). The inclination to recognize diversity in the actions and reactions of the colonized echoes a larger trend in anthropology, which stresses the fact that people tend to maintain their identities, even in the face of incredible adversity, and that outsiders are rarely permitted

to interpret and control the details of people's everyday lives (Adas 1992, Guha 1982, Haynes and Prakash 1991, O'Hanlon 1988, Scott 1985, 1990).

If it is not useful, then, to see societies as 'Island Cultures' that are small, self-contained, and isolated from the outside world (Gosden 1999:181), there is little reason to ignore the rich histories of these societies when they are faced with the threat of colonization. In other words, this fact that colonialism is not reducible to an one-sided, imperial narrative transcends space and time and, thus, should also be built into studies of ancient colonialism. This point brings me back to the heart of this thesis as it relates to prehispanic encounters with the Inkas in the Calchaquí Valley. Clearly, the history of the Inkas in this distant valley is very much a story of imperialism and colonialism. But my goal is to interpret this history from the inverted perspective of the actions and experiences of the Calchaquí people. The implication here is that Inka expansion and the incorporation of Andean societies is not merely explicable in terms of the actions of Inka leaders. Instead, the self-determination of the Andean people helped shape encounters with the Inkas, which in turn shaped the strategies, the possibilities, and even the outcome of Inka expansion.

In this approach to ancient imperialism and colonialism, the principal task quickly becomes a matter of conceptualizing imperial encounters in ways other than as unilateral exercise of hegemony (van Dommelen 1998:32). Most importantly, imperial expansion and incorporation as well as the colonial administration of indigenous societies are negotiated between various parties with divergent interests. Sometimes these interests are clearly imposed violently from the outside by an imperial interest, but they are also constructed from the inside by indigenous resistance, accommodation, compliance, and

cooperation-- in short, by the self-determination of the subjects themselves (Stoler 1989:139). That the designs and efforts of potential subject groups shaped colonial histories will come as no surprise to most historians and social anthropologists in light of some well-known historical and contemporary cases (Dirks 1992, Irschick 1994, Jacobs 1996, Said 1993, Thomas 1991, 1994).

It is one thing to evoke an inverted perspective in name and another to see it archaeologically. The challenge of seeing local initiatives and self-determination in material culture is daunting when we consider what collaboration or resistance might look like on the ground in the Calchaquí Valley (this question is taken up in detail in Chapter 2, but see Bermann 1994, Dietler 1997, Schortman and Urban 1994, van Dommelen 1998, Woolf 1998). In general, suffice it to say that we can readily accept that any negotiated relationship between colonizer and colonized is as much a physical event as it is a cultural or ideological one. In fact, the actual events surrounding incorporation in places like the Calchaquí would have been, one way or another, unmistakably material, which of course benefits the archaeologist. In the research at hand, the material culture that I rely on to support this investigation is extensive in nature and includes information about settlement planning, architecture, and a number of portable artifacts, including ceramic, faunal, and lithic remains. As I describe in Chapter 3, this evidence was gathered systematically through archaeological surface study and excavation at 13 prehispanic settlements in the Calchaquí Valley.

Looking at the history of imperialism and colonialism from the perspective of the colonized (and not just the colonizer) is an additive exercise that is meant to complete 'partial texts'. As described by Thomas (1997), partial texts are accounts of colonialism

that favor the colonialist perspective and assign passive or non-existent roles to the colonized. In other words, while this thesis recognizes the potency of the wider Inka phenomenon of domination and control, it is primarily concerned with the complex processes that took place in one specific colonial area. I ultimately argue in this thesis that, while the Inkas clearly established themselves as an empire in much of the Andes, they fell short of establishing effective control over all of the communities of the Northern Calchaquí Valley. This would imply generally that there were degrees of success in the Inka imperial project. Williams and D'Altroy (1998) recognize this discontinuity of imperial control in the South Andes and call it 'selectively intense' domination. I might further suggest an island metaphor, in so far as the landscape of Kollasuyu was dotted with 'islands' of imperial control. Whether this arrangement was entered into by choice or circumstance on the part of the Inkas is harder to determine, and is taken up in more detail in Chapters 7 and 8.

The Calchaquí Valley: The Setting and Its Chronologies

The following short descriptions of the research setting and its record of human occupation serve two purposes. First, they provide a footing on which the theoretical issues that drive this research and the methods it employs are explored in Chapters 1-3. Second, they introduce a number of central themes that appear and reappear in this work. These reoccurring themes serve as threads that tie together analyses of the data and the interpretations, and include (1) how regional interconnections in and out of the study area fostered long-distance contacts and exchange before the Inkas appeared in northwest Argentina; (2) how indigenous sociopolitical life in the Northern Calchaquí Valley was pluralistic long before the Inkas appeared; and (3) how the valley's natural and cultural

landscapes played central characters in the drama of people's lives. These themes are fully developed in later chapters, especially in relation to evidence from pre-Inka contexts that shows that valley politics were continually shifting, foreign contacts were consistently in the offing, and valley polities were rising, falling, and constantly shifting across the landscape. In other words, as I try to make clear in this thesis, by the time Calchaquí societies met with the Inkas, they were entirely familiar with the idea of living in a non-insular and dynamic world that required them to constantly negotiate their own fates. These themes, then, ultimately speak to the overriding questions discussed above about the role of local matters in instances of culture contact.

The Research Setting at Three Scales: Valley, Region, and Suyu

The research presented in this thesis was conducted at 13 archaeological sites in the Northern Calchaquí Valley in the province of Salta, northwest Argentina (Figure 2). The full length of the Calchaquí Valley runs 200km north-south along the eastern edge of the Andes. This 'intermontane' valley and other like it in Argentina are much larger than the east-west lateral valleys that run down the slopes of the mountains. Throughout time, while human activity has reached into the highest and most remote corners of the Andes, humans have especially congregated in these hospitable intermontane valleys, of which the Calchaquí is a classic example.

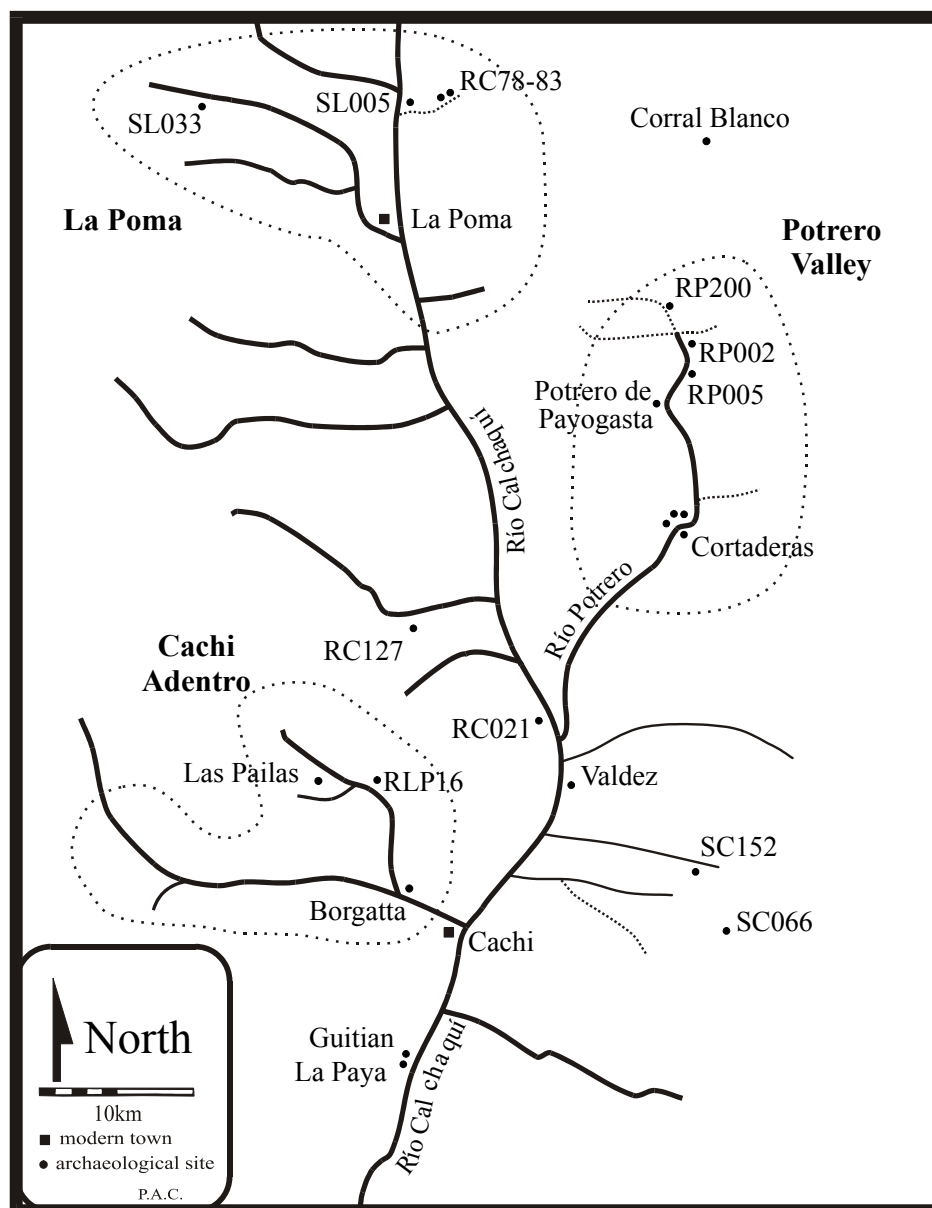


Figure 2: The Northern Calchaquí Valley, Salta (Argentina)

Pre-Inka populations were concentrated in the southern reaches of the study area, especially near Valdéz and in Cachi Adentro. The highest concentration of Inka sites is found along the Río Potrero in the northeast corner of the study area.

Two mountain ranges border the Calchaquí Valley, including the majestic Sierra de Cachi to the west, which rises to a maximum height of 6380m, and a lower series of ranges to the east (Figure 3). The valley is not land-locked between these ranges; instead, it falls steadily in elevation from north to south, affording easy travel between the distinct

environments lying along its course. The Río Calchaquí and its tributaries, which have flowed through this arid valley for millennia, form a natural network of routes connecting the warmer lower-elevation Andean foothills to the south and east with the high-elevation puna lying to the north and west (foreign words like 'puna' are defined in the Glossary in Appendix 2). The floor of the valley, therefore, essentially serves as a corridor offering passage between a myriad of ecozones that provide distinct possibilities for human occupation. Specifically, the semi-tropical and forested areas to the south and east offer wild resources for hunting and some gathering; the valley itself and nearby drainages provide opportunities for the agricultural production of a number of tubers, squash, beans, and maize; and the high elevation areas are easily accessible for camelid pastoralism and hunting.

The archaeological research presented in this thesis was conducted along the northernmost segment of the Calchaquí Valley, which roughly corresponds to the 50km-stretch of the valley between the modern towns of Cachi and La Poma. A large tributary that figures prominently in this research lies in the northeast corner of the study area along the Río Potrero. This valley in particular contains a variety of Inka installations known by their distinctive forms, such as administrative centers, forts, and way-stations, all of which are associated with the Inka road.

in this uphill direction is afforded by smaller east-west tributary valleys that form a network of lateral connections through passes in the mountain ranges. At this greater geographic scale archaeologists and historians identify the whole of northwest Argentina as a culture area of study (Lorandi and Bunter 1990:283). Included in this region are the modern provinces of Jujuy, Salta, Catamarca, La Rioja, Tucumán and parts of Santiago del Estero and Córdoba. To some degree this culture entity is certainly a historical artifact that reflects regional traditions of scholarship falling within modern Argentina (contra Chile and Bolivia). But northwest Argentina is also partly distinguishable as an entity in physical terms: to the east lie the Argentine Chaco and Pampas; to the north the landscape is dominated by the Bolivian altiplano; to the west rise some of the highest peaks of the Andes along the Argentine-Chile border; and to the south the conventional boundary used by researchers passes between the modern cities of San Juan and Mendoza.

All in all, northwest Argentina is more closely related topographically to the Central Andes than to other areas of Argentina. The snowcapped mountains that alternate with the deep river valleys dominate the landscape and have served as the natural context for centuries of human life. The vertical profile of the ecozones that typify other latitudes in the Andes also characterize life in northwest Argentina, wherein open stretches of high-elevation puna alternate with dry intermontane valleys that ultimately give way to the more humid foothills and desert plains of the lowlands. In the past, each of these climes was of some use to humankind: the mountain peaks were common destinations for sacred ceremonies; the seasonal grasses of the puna supported camelid grazing and hunting; the drier valleys offered enough water in the form of

springs, glacial runoff, and rain to sustain pockets of agriculture; and the humid forests of the foothills provided more hunting and gathering opportunities. Perhaps most importantly, northwest Argentina as a region provided its inhabitants with ample opportunity to develop and exploit mutually advantageous social and economic relationships across these areas. Such relationships, which took the form of both culture exchange and trade networks, were as old as the human occupation of the area itself. There is little reason to think that, as a culture unit, northwest Argentina and its long-distance human relationships did not extend well beyond its own geographical limit. For instance, many of the higher elevation societies in northwest Argentina have cultural counterparts in the Bolivian altiplano and across the mountains in northern Chile. This theme of interregionalism is central to this work and is discussed in more detail below.

Expanding geographically in scale, the next spatial entity that appears in this research is Kollasuyu, or the southeast conceptual part of the Inka empire-- 'conceptual' because the territorial parts, or suyus are vastly dissimilar in actual dimension. From north to south, Kollasuyu includes the Lake Titicaca region, most of modern Bolivia, northwest Argentina and northern Chile to as far south as Santiago. The Inkas divided each suyu into provinces, or administrative areas-- again as much conceptual as geographical-- a number of which have been identified in Kollasuyu through reading colonial documents (González 1982). According to standard scholarship, the Inkas organized activities around these provinces, shifting populations and resources as benefited their needs (a literature review and discussion of the archaeology of northwest Argentina is provided in Appendix 10).

While the boundaries of the provinces in the Peruvian heartland are known with more certainty, they are not as clearly known in the South Andes. The study area itself probably fell into the province of Chicoana, which corresponds roughly to the Northern Calchaquí Valley and, most likely, the Quebrada de Toro, which lies some 50km northeast of the Calchaquí Valley. The province of Quire-Quire lies further south and includes the area around the confluence of the Yocavil and Calchaquí Valleys, and the Andalgalá, Hualfin and Abaucan Valleys. The southernmost province is not identified by name in the historical documents and is only loosely delineated (González calls it 'Provincia Austral', or Southern Province). All that is known about this province, which extended from Argentina into central Chile, is that it was certainly occupied by the Inkas, who constructed their familiar roads, settlements, and buildings in the region. There are a number of questions about the organization of the provinces neighboring Chicoana to the north and northeast. González (1982, 1983) argues that there was a province called Humahuaca situated in the valley of the same name with its capital at the site of Pucará de Tilcara, and his views are supported by Lorandi and Boixadós (1987-88:296).

Whether these Inka provinces had meaning on the ground for the indigenous societies living in the South Andes is open to debate, because it remains to be seen exactly how much of Kollasuyu was under strict Inka control from place to place. Some argue that their domination was limited insofar as the Inkas had little interest in the South Andes beyond some mineral exploitation (González 1983, Raffino 1983). Others characterize their presence as complete and all-encompassing (Bennett *et al.* 1948:15). Still others argue from a middle position and suggest that the Inka presence was selectively intense (Williams 2000, Williams and D'Altroy 1998). Historical sources are

not helpful on this question given the scarcity of early documentary records for the South Andes. So, while these designations of provinces offer some insight into what the Inka-period landscape might have looked like according to the Inka ideal, it is just as important to note that these provincial designations may reflect the distribution of pre-Inka societies onto which the Inkas tried to graph their empire. All this, of course, requires a careful consideration vis-à-vis the archaeology of the region.

Chronologies in the Calchaquí Valley

Archaeologists working in northwest Argentina generally pin their site and area sequences to the regional timelines that were developed in the 1960s and 70s by González and Pérez (1990:37) and, for the Calchaquí Valley, by Tarragó (1974, 1978). In sweeping terms, the span of human life in the Calchaquí Valley can be divided into 6000 years of preceramic and preagricultural mobile life followed by 2000 years of ceramic, agricultural, and sedentary life (Figure 4). We know very little about the first 6000 years and only a little more about the brief transition to the ceramic period. The archaeological picture of life in the valley ever since is clearer. The Formative period (200 BC to 1000 AD) is characterized by the valley's first sedentary societies that supplemented a life based on gathering and hunting with simple horticulture. Metallurgy was also developed in this period. Evidence for interregional relations is present in the Formative period insofar as cultural material from distant societies like La Aguada, Ciénaga, and Candelaria appear in parts of the Calchaquí Valley (Baldini 1981-82). This is not surprising given that regional networks in northwest Argentina were exceptionally well-developed in subsequent periods. While it is clear that human groups, raw materials, and finished goods (and ideas and styles) are moving with some ease across the

region at this time, the motivations for this activity remain a topic of debate (e.g., Baldini 1981-82, Pollard 1984).

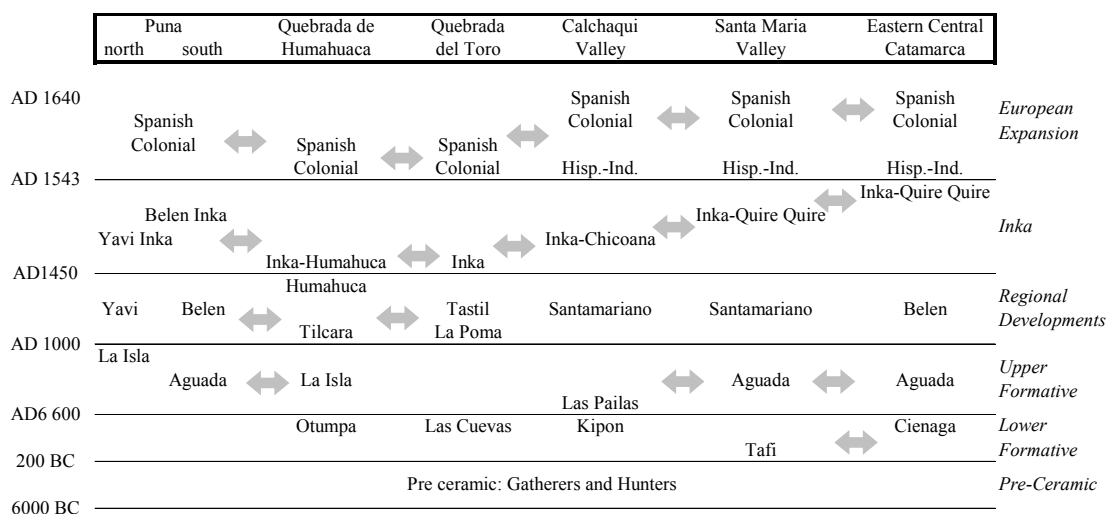


Figure 4: Chronology of the Calchaquí Valley and neighboring areas

While the chronologies in the four principle regions of northwest are similar, researchers have begun to tease apart sub-categories in the chronology (after DeMarrais 1997:124, González and Pérez 1990:37, Tarragó 1999:470). The arrows indicate possible moments of intensive interregional interaction.

The Calchaquí societies that encountered the Inkas took sociopolitical shape in what is known in Argentina as the Regional Developments period (or 'DR', for Desarrollos Regionales), which lasted from AD 1000 to 1470. The corresponding material culture tradition of this time period is called Santamariano, which takes its name from the Santa María Valley located south of the Calchaquí. This archaeological habit of naming and dating eras-- of giving them beginnings and ends-- is, of course, a practice of convenience, and such dates are meant to approximate shifts in the archaeological chronologies in an area of study. The date of '1470', then, which is used to mark the end of the DR period, signifies the approximate date that the Inkas arrived in northwest Argentina.

Hallmarks of the Regional Developments period include the increase in village size, the appearance of irrigation agriculture, and the sharp increase in indigenous metallurgical production, all of which point to a growth in population and the intensification of social hierarchies during this time period. Also, for the first time in the Calchaquí Valley people lived in dense, conglomerate villages built in difficult-to-access locations suggesting defense against conflict. Recent settlement pattern research (DeMarrais 1997) in the Calchaquí Valley suggest that a number of polities existed independently-- sometimes at peace, sometimes at war-- although it has been extremely difficult to delineate the limits of these polities.

There are a number of general aspects of Santamariano society to keep in mind when trying to understand the nature and character of the people who encountered the Inkas. First, while subtle differences are seen from area to area, the polities that existed in the Calchaquí Valley during the DR period shared in a deep cultural tradition that is reflected in the overall stylistic similarity of the Santamariano material culture. Second, despite occasional bouts of conflict between local polities, these polities were in constant contact as reflected in the steady flow of raw materials and finished objects circulating around the valley. It is possible that the Calchaquí polities maintained this contact to keep relations sufficiently strong so that if and when hostile foreign groups entered the valley they were prepared to join together in resistance. Third, there has always been tremendous movement in the location of settlements not just during the pre-Inka period but throughout all of human occupation in the valley. Places were constantly settled, abandoned, and resettled. Many forces contributed to this constant shifting, including external and internal threats of conflict, depletion of natural resources (especially

agricultural lands), changes in political loyalties, and the likely migration of communities out of and immigration into the Calchaquí Valley. This last idea touches on one of the central themes of this thesis, namely that even before their encounters with the Inkas, indigenous populations participated in a form of interregionalism that created a social history replete with community movement and human migration.

Turning to the last prehispanic period, then, the 70 years or so that the Inkas were in northwest Argentina was an infinitesimal drop in the eight-millennia bucket of human life in the region. Because of its popularity and the pan-Andean connections it generates in academic circles, the Inka period continues to receive the bulk of scholarly attention. Generally speaking, the Inka period begins when the Inkas expanded into the region around AD 1471 and was effectively over by 1543, when the Spaniard Diego de Rojas visited the Calchaquí Valley and noted the lack of an organized Inka presence in the area. The following brief discussions show that, by and large, the documentary sources and the archaeological record agree on the details of this chronology.

Ethnohistorical Timelines

Over 50 years ago Rowe (1946:271) published what has become the most widely accepted chronology of Inka history. His timeline, which is largely based on Miguel de Cabello Valboa's 16th-century account (1951), places the Inka in northwest Argentina for the first time during the reign of Inka king Thupa Inka Yupanki, who ruled from AD 1471-1493. Betanzos (1996:Pt.1:Ch.35:160), who describes how Thupa Inka assumed control of the Inka military from his father Pachakuti Inka Yupanki, more or less corroborates these dates and places the Inkas in the South Andes between 1470 and 1480. Either set of dates for the conquest of the south imply an episode of extraordinarily rapid

expansion given the common belief that the first moments of Inka expansion came only 30 years earlier (and some 1500km to the north) when Pachakuti Inka Yupanki began the expansionist era in 1438. Current archaeological research in the Inka heartland in Peru by Bauer and Covey may cast some light on the precise timing of the rise of the Inka state.

According to many of the same documentary sources, during the reign of the next Inka ruler Wayna Qhapaq (AD 1493-1526) the empire was successfully breached in northwest Argentina by Guaraní societies from the Argentine plains east of the Andes. On an interesting historical note, the Guaraníes were not acting alone-- they were accompanied by the Portuguese explorer Alejo García, who arrived in the Andes before the Spanish by way of the Atlantic (von Nordenskiöld 1917). This momentary lapse in Inka strength is accounted for in the documents by the fact that during the early part of Wayna Qhapaq's reign his attentions were turned fully to military matters in the northern provinces of Peru and Ecuador. Eventually Wayna Qhapaq sent his military to retake control of the provinces in Argentina, and it was during this re-conquest that Yaska is reported to have strengthened the defense of the empire by ordering the construction of a string of forts along the eastern frontier (Cieza de León 1943:Ch.63:211-212).

The Spanish invasion of the Andes in 1532 triggered the downfall of the Inka state in the Peruvian heartland, and undoubtedly there was a delayed collapse of Inka activity in the South Andes. Eventually, in the early months of 1536 a Spanish co-governor named Diego de Almagro led a group of soldiers and retainers through northwest Argentina (Raffino 1995). According to their own accounts, Almagro and his soldiers were assisted in the Calchaquí Valley by people who controlled the region from

Chicoana and supplied the travelers with food out of Inka storehouses (Strube 1958:279). It is not clear (1) whether these people were agents of the Inka state from Cuzco, (2) if they were Inkas, whether they were still in positions of power over indigenous communities, (3) whether they were Inkas simply living in the area on their own in the wake of Inka collapse, or (4) whether they were local groups that had taken over Inka storehouses. These are distinctions that are difficult to read in the chronicles, but the point is more than semantic. There is a great deal of difference between 'Inka domination over' versus 'Inka presence in' northwest Argentina. The former is too frequently assumed when the latter notion (that agents and representatives of the Inka state were present in northwest Argentina) is a more conservative assumption from which to begin this study. The only conclusion that can be securely drawn from Almagro's account is that there is reason to believe that some Inka and Inka-related groups stayed on in the provinces for as long as a decade after the Spanish made contact in Peru in 1532. Regardless of how we interpret these accounts in regard to the nature of the indigenous-Inka relationships, it is clear that the Inka power in the area had fully dissolved by 1543 when the Spaniard Diego de Rojas visited the area in that year (D'Altroy *et al.* 2000:14). In sum, the chronicles provide a window of time of AD 1471-1543 in which the Inkas were in the Calchaquí Valley. In turning next to archaeological timelines I emphasize that this range of dates derived from historical documents is a starting point, and that it is certainly possible that the arrival and departure of agents of the Inka state were either earlier or later, or both.

Archaeological Timelines

Published radiocarbon dates are the most convenient and secure archaeological measure of time available in the research area for corroborating or denying the timeline offered by ethnohistory. While other methods of archaeological dating have been used by researchers in the study area, including a number of reports employing ceramic seriation and obsidian hydration, they do not afford the temporal sensitivity needed to refine the limits of the Inka period one way or another. For the time being, the only radiocarbon dates that fall in or near the likely limits of the Inka period come from fieldwork conducted in the early 1990s by the Proyecto Arqueológico Calchaquí (the 'PAC' project is the wider entity under which this thesis research was conducted). Seven dates were collected at Potrero de Payogasta (D'Altroy *et al.* 2000:8), a DR-period Santamariano site that was later inhabited by the Inkas. While two dates fall solidly in the Regional Developments period (AD 1283 and 1287), and while two dates fall solidly in the Inka period (AD 1486 and 1537), three dates in the middle are thought to link to Inka-related activities, but are intriguingly early. The specter of these dates raises the complex question of what constitutes 'Inka' in a material sense in the first place, which is a question I explore in detail in Chapter 4. For the moment what matters is that these radiocarbon dates do not absolutely necessitate changing (i.e., lengthening or shortening) the dates presented by ethnohistorians.

In sum, the history and archaeology agree for the most part on the question of the limits of the Inka period (e.g., Hiltunen 1999). Before moving on, however, it should be noted that there is some debate in Inka-studies regarding the possibility that Inka expansion may have gotten under way 40 years earlier than the date of AD 1438 traditionally offered by ethnohistorians. Sarmiento's (1943) chronicle in particular

provides substantially earlier dates for the rise and expansion of the Inka state. While two archaeological challenges to the ethnohistorically-derived dates have gained attention (Adamska and Michczynski 2000, Stehberg 1991-1992), and while another is pending publication (D'Altroy *et al.* n.d.), the entire question may soon be settled in light of important settlement data being gathered around Cuzco that shows some moderately early dates for the rise of the Inka state (Bauer and Covey 2002). While this question remains one of the central issues in Inka studies, it does not figure prominently in this thesis. So, until this issue is further explored through more research, the working chronology for this thesis assumes that the Inka period fell roughly between AD 1471-1543, leaving a window of time of some 70 years in which to explore the nature of culture contact in the Calchaquí Valley.

The time period after 1543 in the Calchaquí Valley is understudied. Perhaps the most interesting aspect of life after Spanish-contact is, paradoxically, the nearly complete absence of a Spanish presence in the valley for some 100 years (AD 1543-1640). This century, known as the Hispano-Indígena period, sees only sporadic contact between Spanish and Calchaquí populations. The degree to which indigenous societies demonstrated independent political identity in this period raises a question about how devastating or fracturing the Inka period was to Calchaquí societies, which touches again on a central theme of this work concerning Calchaquí participation in their own subjection to the Inka vis-a-vis their negotiations in the encounters. Eventually the Calchaquí Valley did enter the Spanish colonial system in the mid-17th-century, when Spanish colonists establish churches and towns laid out according to Spanish standards and eventually evangelized and organized indigenous populations.

Conclusion

The foregoing section on the research setting and chronology serves two purposes. First, it provides a footing on which the theoretical issues that drive this work and the methods it has employed are explored in Chapters 1-3. Second, this preamble introduces three central themes or claims that are woven throughout this thesis, which are (1) how regional interconnections in and out of the study area fostered long-distance contacts and exchange before the Inkas appeared in northwest Argentina; (2) how indigenous sociopolitical life in the Northern Calchaquí Valley was pluralistic long before the Inkas appeared; and (3) how the valley's natural and cultural landscapes played central characters in the drama of people's lives. These claims take greater shape in later chapters as they emerge in the theoretical space between the meaning of the archaeological evidence and the subsequent interpretations about Inka colonialism in the Calchaquí Valley. This thesis, in fact, turns on the use of these claims to help establish the plausible links between data and interpretations. This logical process is described in the next chapter in relation to the production of knowledge in this thesis. The remainder of this chapter presents summaries of each of the chapters that appears in this thesis.

Chapter Overviews

Chapter 2 returns to the issues of colonialism and imperialism in more detail. It explores the ways archaeologists conceive of these phenomena at decreasing scales in order to sort through their material processes as they occurred in the past. First, it considers studies of colonialism in archaeology from a global or comparative perspective. Second, it looks closely at general studies of Inka colonialism, presenting an overview of the Inka empire itself as well as some idea about the materiality of Inka colonialism as

seen from perspective of the provinces. Third, Chapter 2 examines treatments of the Inka period in the very particular context of the Northern Calchaquí Valley. As would be expected, all of Chapter 2 concerns itself with the material world of colonialism from the inverted perspective of indigenous histories.

Chapter 3 details the methods employed in this research. It describes the fieldwork and laboratory activities that were conducted in the Calchaquí Valley in 1998 and 1999. It describes how, in the field, site plans were made, excavations conducted, architecture studied, artifacts collected, and so on. It also describes how, in the lab, various types of artifacts were treated, curated, analyzed and coded. In short, this exposition on methods in Chapter 3 will seem familiar to archaeologists and foreign to non-archaeologists. In either case it is a necessary prelude to the subsequent four chapters of this thesis, which form the evidentiary center of this thesis.

In Chapters 4-7 I argue that the topics of time, affiliation, action, and interaction are crucial to understanding Inka-period colonialism in the Northern Calchaquí Valley. These can be considered in question form as follows: When did colonial encounters occur in the valley that might have involved the Inkas (time)? What groups of people were involved in these encounters (affiliation)? What actually occurred and what aspects of life were involved when the interested parties met (activities)? How did groups ultimately interact (interactions)? These questions correspond to Chapters 4-7 and have served to organize all aspects of the research from the fieldwork activities, evidence collection, data analysis, to the presentation of information in this thesis. The following descriptions of these four chapters, then, also serve as previews for the corresponding research questions.

Attempts have been made throughout this research, then, to simply understand the timing and duration of the Inka period in the Calchaquí Valley. Chapter 4, which reviews radiocarbon assays of excavated material and data from ceramics, architecture, and spatial planning, presents the material evidence of a chronology of colonial contact in the Northern Calchaquí Valley. Because of the abbreviated nature of the Inka period in this chronology relative to the thousands of years of human occupation in the area, chronological information about the pre-Inka period is also offered. Expanding the chronology of inquiry to pre-Inka life allows for comparison between life from before and after contact with the Inkas. It also provides some understanding of how rich, how varied, and how deep local history was and, by extension, how peripheral and even commonplace the presence of the Inkas may have been in the lives and minds of indigenous people. In other words, from the vantage point of this deeper time perspective, I argue in Chapter 4 that the persistent elements that were characteristic of Calchaquí societies endured and strengthened indigenous determination and resolve in the face of contact with the Inkas. I am referring in particular to a historical familiarity on the part of indigenous groups with interregionalism as well as habits that favored the persistence of cultural identity.

Chapter 5 is the result of efforts to trace the characteristic differences in the ways that groups in the study area identified themselves through creating, adopting, altering, and maintaining the planning of settlement space, architecture, and portable artifacts. No matter how humans might be organized internally-- politically, socially, religiously, ethnically, etc.-- defining them archaeologically remains one of the biggest challenges in the discipline. Part of the problem concerns interpreting dynamic social relations from

static material culture, which will always be a challenge. Also problematic is the mistaken habit of thinking that people organized themselves in the past (or present) into monolithic structures, because individuals constantly create, maintain, and shift their identities and group loyalties. In light of this fluidity, Chapter 5 focuses on the concept of affiliation in its attempts to outline the actors involved in the drama of Inka colonialism, which means defining the groups of people living in (and moving in and out of) the Calchaquí Valley in the Inka period.

Chapter 6 explores the third topic that structures this research, which concerns the activities that took place at each of the study locations. Some of the activities that are clearly recognizable in the material record include domestic, agricultural, manufacturing (metallurgy, lapidary, stone tool, textile, ceramic), ceremonial, religious, military, and storage activities. Distinguishing between these assorted behaviors involves interpreting the function of different forms of material culture through, for instance, analyzing how settlement space was organized, how installations and structures were designed, and how portable artifacts were used. Some of the key findings described in Chapter 6 regarding the Inkas include the fact that there were only a few Inka-sponsored workshops in the Northern Calchaquí Valley, that Inka-managed agricultural systems were perhaps non-existent, and that Inka storage was minimally concentrated in a marginal corner of the region. In regard to the intensity of activities relating to the indigenous Calchaquí societies, opposite observations are made: manufacturing of Calchaquí-inspired material continued unabated into the Inka period, agricultural systems persisted that were established long before the Inkas arrived, and the interregional movement of goods continued as it had before. This last point-- that interregional networks organized by the

societies in northwest Argentina persisted even under Inka expansion-- appears repeatedly in this research and figures prominently in my argument that the indigenous agents had at least some control of their own destinies in the Inka period.

While the first three evidentiary chapters make clear who was doing what and when, Chapter 7 describes the tenor of group interactions or, in more colloquial terms, how everyone got along. The answers presented in Chapter 7 to this last research question clearly depend on the accumulation of information presented in Chapters 4-6, as it would be difficult to describe interactions without understanding who was involved and what they were doing and when. Chapter 7 expands the discussion beyond a simplified reduction to how 'foreign' Inkas interacted with 'native' Calchaquíes. Instead, attempts are made to consider the relationships that existed (1) between the valley communities themselves, (2) between these communities and people from elsewhere in northwest Argentina, and (3) between all these societies and Inka-related groups that may have come to the region from the central Andes. The possible combinations of interaction between the various parties are almost endless, which is both a challenge and a blessing. Sorting through the scenarios in which these groups were involved belies facile interpretation, but attempting to do so gives a glimpse of the richness of the colonial moment, which undoubtedly included intrigue and suspense about each community's willingness to negotiate, resist, or support other groups.

While the methods I use to investigate colonial interactions are described in Chapter 7, they merit preview here because of the central role that they play in my ultimate interpretations of Inka colonialism. In short, I attempt to expand archaeological explanations of variation in material culture in reference to forces like persistence,

hybridization, and emulation, which are three of the many locally-based processes that take place during colonial encounters (Higginbotham 1996, 2000, Joyce 1993, Rogers and Wilson 1993, Watson 1981, Wells 1992, Westney 1987). I study such processes in the archaeological record by investigating (1) how groups modified and shifted within their landscapes, (2) how space and architecture were re-formed within affected settlements, (3) how relations changed within regional economic systems, and (4) how interactions affected expressions of identity. In the Andes, for example, colonial encounters were frequently negotiated over local sacred places revealing in some instances the staying power or persistence of indigenous ideologies. The composite use of space and architecture that reflect localized reformations of foreign standards exemplifies hybridization, which underscores the presence of indigenous initiatives in constructing arenas of interaction. Examples of emulation are common and can be seen in the way local consumption of foreign luxury goods affected regional socioeconomic relations and in the way local populations incorporated new state production demands. Interpreting colonial negotiations according to these types of subtle processes is a challenge archaeologically, a point I return to in Chapter 7.

The final chapter of this thesis (Chapter 8) offers a general discussion of the research presented in this thesis. It focuses on the events and colonial encounters that occurred during the transitional moments between the Regional Developments and Inka periods in the Northern Calchaquí Valley. In particular, it summarizes the findings presented in this thesis about the 50 years of prehistory surrounding the point in time in the 15th century AD that the Inkas appeared in northwest Argentina. As with the rest of this thesis, Chapter 8 focuses as much as possible on both sides of colonial events. On

the one hand, it recognizes that once the Inkas weighed their imperial needs against their assessment of the valley they did what they could to impose on Calchaquí groups their imperial economy, politics, culture and ideology. But on the other hand, it allows that the history of colonialism also unfolded according to local attempts and determined efforts to preserve indigenous autonomy. It was in this dynamic context, then, that phenomena like persistence, emulation, and hybridity occurred as various societies came together on the stage of the Northern Calchaquí Valley.

Chapter 2 -- The Archaeology of Colonial Encounters

In this chapter I return to the topic of the archaeology of colonialism in order to anticipate the possible material manifestations of its influences. In particular, this chapter I look at the archaeology of colonialism at three scales. First, I consider it in a comparative context where the highlights of a number of examples from around the globe are reviewed. The second section reviews the corpus of research that has been produced across the Andes concerning the Inka empire and draws some generalizations about the materiality of the Inka colonialism in the provinces. In the third section the history of research of the Inka period in the very particular case of the Calchaquí Valley is considered. These last two sections, then, consider over a century of valuable scholarly research in the Andes on the question of Inka colonialism. While this scholarship contains a number of examples of how and where other researchers have had success in trying to understand Inka colonialism, as I make clear below it would be a mistake to construct a strict programmatic statement about how the archaeology of all instance of Inka colonialism should be conceived. Instead the following discussions of pre-modern colonialism in a variety of contexts are designed simply to highlight the observations and discoveries other researchers have made that actively inform the present study.

Comparative Colonialism in Archaeology

As has been emphasized for quite some time (Adams 1979:59, D'Altroy 1992:10, Schreiber 1992:3), reviewing archaeological studies of colonialism cross-culturally can generate some guidelines for how to think about and study pre-modern empires at a general level. Such large-scale comparative ventures are typical in the study of

expansionist states (e.g., Alcock *et al.* 2001, Berdan *et al.* 1996, Champion 1989, Chase-Dunn and Hall 1991, Collier *et al.* 1982, Cusick 1998, Demarest and Conrad 1992, Garnsey and Wittaker 1978, Larsen 1979, Nichols and Charlton 1997, Rowlands *et al.* 1987), and are useful sources of careful and creative ideas about how colonialism has been studied in other times and places. It is in this spirit that a review is presented here of a selection of studies of colonialism from a comparative perspective.

Understanding the nature of colonialism in the wake of state expansion stands as one of the central problems in the anthropological study of pre-modern empires (Blanton 1996:219, Dietler 1998:288, Stanish 1997:195), and archaeologists have long struggled to define terms like colonialism, imperialism and empire (Adams 1979:59, Blanton 1996:219, Garnsey and Wittaker 1978:1, Sinopoli 1994:159). An indication of the diversity of perspectives that archaeologists have brought to the study of ancient colonialism and imperialism can be seen in the assortment of explanatory models that they have borrowed over the years from modern history and anthropology. One of the more popular models already mentioned has been Wallerstein's world-systems theory (1974, 1980), which has been applied to archaeological contexts around the world (e.g., Algaze 1993, Blanton and Feinman 1984, Champion 1989, Chase-Dunn and Hall 1991, Kohl 1989, Kristiansen 1987, Kristiansen and Rowlands 1998, La Lone 1994, Rowlands *et al.* 1987). World-systems (or core-periphery) theory as it is used in archaeology posits that relations between expanding states and foreign societies can best be understood in terms of the large and unbalanced exchange networks that exist between a central core, a semi-periphery, and a distinct periphery. This model can be criticized for its exclusionary focus on economic aspects of international relations and for the manner in

which its practitioners focus on the intentions, wishes, and designs of the imperial leaders at the core at the expense of the periphery. I return to this basic yet crucial point below.

Other common approaches that have been pursued in the archaeological study of empires and colonialism use (1) Marxist models derived from the study of 19th-century expansionist Europe (e.g., Wolf 1982), for instance as used by McGuire (1989) and others (Conrad 1992, Patterson 1987); (2) territorial-hegemonic models developed in Roman studies (e.g., Luttwak 1976), for instance as used by D'Altroy (1992) and Hassig (1985, 1988); (3) theories about consumption and culture (e.g., Appadurai 1986, Bourdieu 1984) for instance as used by Dietler (1998); and (4) theories developed by political scientist Doyle (1986) and sociologist Mann (1986). Because of their popularity in archaeology in recent years (e.g., Blanton 1996:219, D'Altroy 1992:17-19, Sinopoli 1996:5, Smith and Montiel 2001:246-247), Doyle's ideas merit some attention. Doyle (1986:22-30) describes three explanatory frameworks that are typically used to account for why empires expand: metrocentric approaches, which suggest that empires result from the outward expansion of a central polity; pericentric approaches, which stress that empires rise as a central polity responds to economic, political, and military developments in outlying regions; and systemic approaches, which argue that empires are the natural outcome of the imbalances in power in international relations. Doyle's observations, therefore, are not only useful in explaining why empires expand, they also help as a shorthand to locate and describe the interpretive position of the researcher. I employ his terms heuristically from time to time in the following chapters.

Turning back to archaeology, there are few basic observations that have been made that provide a starting point for an analysis of premodern colonial encounters. In

her overview of the archaeology of empires Sinopoli (1994:160) characterizes expanding states as variations along a continuum from weakly integrated to highly centralized polities. This conceptualization immediately supersedes core-periphery models, which fix imperial states and subject societies in terms of dichotomous opposition. Similarly liberating is Schreiber's (1992:9) idea that there are three stages of the colonial-imperial process that archaeologists can potentially recognize: (1) expansion, which is the bid by a polity to gain power and control over foreign societies; (2) consolidation, which is the attempt to integrate these societies into colonial networks; and (3) rule, which is the administrative use of power and control in order to restrict freedom, enact compulsory service, extract tribute, and confiscate land. Schreiber's observations recall that colonial relations can change dramatically through time and space, a point that forces archaeologists to see events associated with colonialism in non-monolithic terms.

Another productive observation made recently concerns the likelihood that colonial encounters will vary distinctly between regional contexts, and that such variation should be anticipated by the archaeologist (see discussion by Blanton 1996:219). This point is appealing because it begins to recognize the typical patchwork quality of the colonial process. The source of this variation for Blanton lies in the evolutionary adaptability of the unified imperialists and their allies to respond to the diversity of societies that they encounter across their domain. While Blanton is quick to emphasize the cultural complexity of colonized societies (as multi-ethnic, Creole, etc.), he seems to overlook the fact that the colonizers themselves were heterogeneous and riddled with conflict and tension, a point long since made clear in the study of modern colonialism

(Stoler 1989), and that all of this variety influences the character of colonial relations across space and time.

The source of the regional variation in colonial expansion described by Blanton is especially complex when considered archaeologically. Brumfiel (1994) offers a logical place to start in trying to tease apart these differences in her discussion of factional competition and political development. Borrowing directly from agent-centered theories of practice, Brumfiel describes a factional competition model that has distinct applicability to pre-modern colonial situations. In short, Brumfiel implores archaeologists to consider the importance of internal dynamics in societies, for example between similarly positioned individuals combating for access to limited social and physical resources, and how these dynamics can drive political development at almost any level of society. In the case of the Inka empire, for example, factional infighting among imperial agents could have easily determined transitional moments in the history of the empire (Bauer 1992, D'Altroy 1994, Stanish 2000). According to Brumfiel (1994:10-12), histories of factional competition manifest themselves in the archaeological record, for instance in the way that people and groups use material resources to construct coalitions of support, to build alliances, and in the way that groups commit resources to participate in any number of political contests (see examples in Brumfiel and Fox 1994, DeMarrais *et al.* 1996).

While it is important to look for diversity and possible contradiction among agents of the imperial state in terms of affiliation and building alliances, it is equally important to outline the social and political phenomena constantly unfolding among the potential subject societies themselves. Obviously, two of the most overt forms of local

determination are resistance and rebellion, and these are critical forces in shaping colonial encounters, which is a point that archaeologists have long explored (e.g., Delle 1999, Gailey 1987, McGuire and Paynter 1991, Miller *et al.* 1989, Morrison 2001, Patterson 1993). As is outlined in the previous chapter, in the case of Inka empire there are historical accounts that describe indigenous rebellions against the Inkas in northwest Argentina. Information like this emphasizes a paradox of imperialism; namely, the creation of an empire can link subject societies together that were once independent and unrelated in an allied network of rebellion. The difficulty comes in recognizing that these neighboring societies may otherwise look entirely unlike in their association with the ruling state.

Some archaeologists have consistently represented colonial societies along these variegated lines-- that is, as something other than monolithic and static. These researchers have in common their attempts to demonstrate that, in order to understand colonialism in general, it is crucial to understand the particular histories of the subject societies that came into contact with expanding states. In his work in western Sardinia, van Dommelen (1998) compares Phoenician, Carthaginian, and Roman colonialism in the first millennium BC through a detailed study of rural settlement. He compares his survey data with existing published information about indigenous societies in an effort to trace the specific historical conditions of this region. He particularly looks at the ways in which people deployed material culture and inhabited the landscape in ways to maintain and create identities of cultural resistance from generation to generation in order to cope with the different colonial situations. In a similar case Dietler (1997, 1998) looks at Early Iron Age France and its encounters with agents of the ancient Etruscan and Greek

states that had entered the region. Through his research he attempts to turn upside down classic world-systems and Hellenization models, which he sees as too deterministic. Focusing particularly on the history of the wine trade in and out of the area, Dietler contextualizes colonial contact in local cultural and social life to show that typical material items from Italy and Greece were used atypically in local political circles and, as such, help drive subsequent colonial encounters. Alcock (1993), another Mediterraneanist, examines Roman expansion into Greece after 200 BC from the point of view of Greek societies. Using archaeological surface survey as well as other archaeological and historical sources she traces indigenous societies and their social and economic developments during the Roman colonial period, all of which allows her to fully comprehend the repercussions of the Romanization of Greece as well as the role Greek populations played therein.

A similar approach has been taken in South India, where Morrison (2001) draws from her own research and secondary sources to document the nature and response of subject societies to the expansionist Vijayanagara state of south India. In so doing she shifts the focus from elite-centered explanations for imperial expansion in order to understand how the process and force of negotiation helped steer the colonial moment. In the New World, Charlton (1994) investigates whether the economic behavior and material production on the periphery of the Aztec empire of Central Mexico (AD 1350-1519) was exclusively determined by imperial administration. Drawing equally from post-conquest historical accounts, archaeological excavation, and settlement survey research in the Aztec hinterland, Charlton has shown that the entire process of imperial

consolidation in different areas was determined in part by the political and economic determination of the peripheral polities themselves.

Moving closer to Argentina, Bermann (1994) uses household archaeology as well as community and regional settlement data to trace the 1300-year life of the site Lukurmata in highland Bolivia (AD 400-1200). During the middle 800 years of its existence, the community living at Lukurmata was overrun by the Tiwanaku state, a polity dominant in the area. Using a local perspective Bermann studies domestic life, household rituals, mortuary activity, and relationships with neighboring communities to further our understanding of state formation and expansion. Schreiber (1992), another Andeanist, looks at the later Wari empire of Peru (AD 650-1000). In her analysis of the activities and material remains of the Wari in the Ayacucho Basin, she demonstrates that the internal variation of the expanding empire was determined as much by the preexisting political conditions in the incorporated areas as by the empire's own intentions of expansion.

There are a number of salient points to draw from these examples of the study of ancient colonialism. First, reconstructing the imperial moment archaeologically should begin with a full consideration of the material correlates of the imperial society itself. While Sinopoli (1994:169-174) offers an overview on how to accomplish this theoretically, she and Morrison (1995:84) provide an example of the types of material that should be considered in practice. For instance, they discuss the material consequences of imperial control over economic production, distribution, and consumption as well as the appearance of recognizable imperial styles in art, architecture, and portable artifacts relating to administration and militarism. The list of the possible

material signatures of an empire is potentially endless and attempting to characterize it here is beyond the scope of this work. I consider, instead, this point in some detail in the following section as it relates directly to the Inka empire. The second methodological point that can be drawn from these comparative studies (and which I also explore below as it relates to the Inka case) is that it is important to come to some understanding of the archaeological signatures of the sociopolitical organization of the indigenous societies that encountered expanding states. To this end, it is essential to understand that, like its modern descendent, ancient colonialism and all its parts (imperial expansion, colonial administration, indigenous initiative, etc.) was never a simply sequence of political acts. It is more accurate and productive to think of colonialism as sets of social and cultural routines, which were complex and often full of contradictory intentions and meanings.

Inka Colonialism

The task in this section is to critically explore Inka colonialism as it has been presented and imagined in contemporary studies. Again, the purpose of this exercise is to catalogue observations and discoveries made by other researchers that have marked their successes. This review not only highlights potential directions that are then taken in the data analyses that appear in later chapters, it also makes clear the degree to which the interpretations presented in those chapters do or do not correspond to standard interpretations of Inka history.

To begin, it is clear that many treatments of the Inka phenomenon favor a metrocentric perspective (e.g., Conrad 1992, Murra 1986, 1999, Patterson 1991, Pease G.Y. 1991, Rostworowski 1988, 1997, 1999, Rowe 1946, 1985, Wachtel 1986, Zuidema 1990), meaning that the majority of the observations made in these accounts are based on

an understanding of the predilections of Cuzco's imperial elite. According to many of these statements, some of which have reached canonical status, the encounters between indigenous societies and Inka agents followed a predictable pattern that was more or less determined by the Inkas themselves. Working within the lo Andino tradition described in the previous chapter, the empire is seen as unique among other pre-modern empires for its reliance on the mechanisms of reciprocity and redistribution to control its subject societies. According to a one popular hypothesis (Murra 1980), for instance, Inka hegemony also reflected the timeless Andean practice of verticality as it sought to establish chains of colonial outposts that would have existed beside and extracted from Andean subject societies.

Adhering to these general principles throughout the empire, Inka administration (according to the standard view) would have looked something like this: (1) governance was vertically organized in order to discourage horizontal bonds between state and provincial officials; (2) the highest offices were filled by ethnic and honorary Inkas; (3) the empire was divided into four territorial quarters and more than 80 provinces; (4) these provinces corresponded to pre-existing political territories with ethnic elite frequently left in place to govern under Inka supervision; and (5) the Inkas organized provincial populations into hierarchically organized groups based on an idealized decimal system with tributaries nested in groups of 10000 (a hunu), 1000 (a waranqa), 100 (a pachaca), and 10 (a chunka). These last two policies (i.e., heeding hegemonic control to local elites and creating decimal groupings of subject peoples) are clearly contradictory (Morris 1988), and would have created a certain amount of tension in practice among and between the conquered groups and the Inkas.

As more and more researchers began working outside the imperial heartland, this logical objection and others like it began to counter the generic, metrocentric view of Inka power. The pioneer in these efforts was Menzel (1959), who studied the Inka occupation along the south coast of Peru (see discussion Bauer 1992:11, Morris 1988:234). Mixing archaeology and documentary studies, Menzel's research was among the first to break down the distorted image of the monolithic Inka empire. In her work she emphasized the empire's multiethnic character and the various strategies adopted by the Inkas to assimilate so many vastly different societies. Ever since Menzel's study, years of archaeological research from across the Inka realm have made similar observations (see review in Stanish 2001), for example at Huánuco Pampa (Morris and Thompson 1985), the Upper Mantaro Valley (Earle *et al.* 1987), north central Peru (Matos 1994), and elsewhere (Burgi 1993, Covey 2000, Malpass 1993, Raffino 1993).

By the 1980s ethnohistorians (e.g. Julien 1983, Pease G.Y. 1982, Salomon 1986) were also beginning to recognize that the empire is better thought of as complicated network of relationships wherein the Inkas were forced to adopt flexible policies to integrate so many disparate societies. In nearly all these studies, a territorial-hegemonic model in one form or another dominates interpretations of Inka colonial administration. In other words, depending on the intensity of resources that the Inka committed to a region, either a hegemonic explanation is offered (which argues that Inca rule was merely a veil over polities loosely incorporated into the empire), or a territorial explanation is offered (which argues that the Inka introduced an extensive system of rule into the conquered territory that fully reshaped local sociopolitical structures).

By conceptually expanding the territorial-hegemonic dichotomy across a continuum of degrees of control researchers like D'Altroy (1992) have since recognized that the intensity of Inka rule in the provinces varied over both space and time. The growth of the Inka empire has also been characterized as concentric circles expanding outward, each associated with varying intensities of military, economic, political and ideological activities (Alconini 1996, Dillehay and Netherly 1988, Stanish 1997). These conceptualizations, which see colonialism happening in waves or stages, enables archaeologists to imagine and search for the ephemeral leading edge of contact between Inka and indigenous groups. Understanding that the Inkas used an assortment of strategies across time and space also allows researchers to imagine different scenarios of engagement in each of those regions between agents loyal to the empire and members of indigenous societies. These insights about the flexibility of Inka imperial growth do not imply that the Inkas were successful in their attempts to colonize whomever they wanted, wherever they wanted, whenever they wanted, as there are a variety of known cases when the Inkas failed (Conrad and Demarest 1984:136-137, La Lone 1994:28-30, Murra 1986, Patterson 1991:98-128, 1993, Schreiber 1992:9). The reasons for these documented failures are numerous: some attempts at expansion failed because of resistance, some attempts at consolidation were abandoned because of expense, and rule was occasionally broken because of rebellion.

Recognizing the possibility of resistance and rebellion is particularly important in studying Inka colonialism because these phenomena highlight some of the roles that indigenous people play in the colonial process, especially when faced by imperial aggression and manipulation. Murra (1986) has argued that military coercion appeared

late in the Inka imperial process as a result of logistical stress brought on by the empire's unprecedented size. In his account, early stages of expansion would have been carried out through ceremonial activities and the provision of economic rewards, especially within the imperial heartland. According to this logic, by the time the Inkas expanded to such distant territories as northwest Argentina in later years, conquest warfare may have been more common. This binary distinction between military intervention and diplomatic arrangement is largely artificial, meaning that these strategies are better understood along a continuum of types of engagement that were, to varying degrees, antagonistic or amiable (Schreiber 1992:12). When considered in this way the extant literature on Inka expansion reveals a host of colonial engagements that stretch subtly across this continuum. I describe a number of these cases in the following paragraphs to highlight the complexities implicit in any study of Inka colonialism. First I look at instances of military encounters and end with evidence for instances of collusion, a few of which may have been initiated by indigenous societies.

Military force is inevitable in episodes of expansions at the scale realized by the Inkas, and there is little doubt that the Inka army played a critical role in its expansion (Morris 1982:158). Spanish Colonial documents, which speak endlessly of non-Inka societies of unruly barbarians (behetrías) living under the tyranny of bellicose warlords (zinchí), have led some to argue that warfare, violence, and exploitation typified the standard colonial encounter (Conrad and Demarest 1984:99, Davies 1995, La Lone 1994:19, Patterson 1991). There is a deep and ancient tradition of warfare in the Andes which inspired Inka militarism (Burgi 1993:167, Murra 1986:49, Topic and Topic 1997), and there have been many treatments of Inka militarism (Bram 1941, D'Altroy 1992:71-

93, 2002:205-230, Rawls 1979, Rostworowski 1988:132-133, Rowe 1946:274-282).

Inka military tactics seem to have changed during the course of the empire. Early on during the Late Intermediate and early Inka period the Inkas commonly resorted to guerras de rapiña (raiding attacks), focusing on attacking, looting, and withdrawing from neighboring communities (La Lone 1994:20, Rostworowski 1988:132-133). By the mid-fifteenth century the Inka military had adapted to open terrain warfare: soldiers marched along prepared roads where they were accustomed to finding storage centers for supplies; armies drew up in mass formations and engaged in pitched battles fought on level ground; long-range weapons (slings, darts, bolas) provided concentrated volleys, rather than accurate individual shots; and the actual fighting was mostly hand-to-hand (Conrad and Demarest 1984:126-127, Rowe 1946:274-282).

The Spanish documents detail how the Inkas interacted with societies vis-à-vis their armies. Following on the heels of the period of auca runa ('the age of the soldier', or the turbulent pre-Inka period in the Andes), most narrative accounts of the imperial era list scores of military conquests (Betanzos 1996, Cieza de León 1943, 1959, Cobo 1979, 1990). The first Inka use of battles-of-conquest from this era has been attributed to the Inka kings Wiraqocha Inka (Conrad and Demarest 1984:106:fn.60) and his son Pachakuti (Schaedel 1978:290, 313:fn.1). Wiraqocha-- perhaps the first Inka king with imperial ambitions-- is thought to have staged a successful attack on the Ayarmaka and Calca societies in the Urubamba Valley and installed an Inka official from Cuzco to rule over the defeated society. This may have marked the first time that lands of the conquered enemy were now being occupied. While there is some question as to Wiraqocha's exact contributions in the empire's efforts to expand, militarism in the name of imperial growth

began in earnest under his son Pachakuti. In fact, according to legendary accounts it was Inka military savvy that gave Cuzco the motivation to expand. An attack on Cuzco by the neighboring Chankas spurred an Inka defensive under Pachakuti that quickly turned into an Inka offensive (Conrad and Demarest 1984:106-110). Many famous campaigns and battles quickly ensued that are attributed to Pachakuti and to his son Thupa Inka, the tenth Inka king, including Thupa Inka's efforts to expand into northwest Argentina. In short, at least in some cases, the Inka armies became a juggernaut (Patterson 1987:119).

The centrality of militaristic interpretations for the rapid growth of the Inka empire is attributable, in part, to the Eurocentrism of the Spanish chroniclers, who proposed familiar militaristic interpretations of the Inka phenomenon. Morris (1982:159-161) describes an outright bias in the documentary sources toward descriptions of conquests and military actions. To make this point, Morris argues that, based on the preponderance of military descriptions in the colonial accounts, evidence for military-related systems of support and supervision should be readily apparent throughout the empire. In his work at the Inka regional center of Huánuco Pampa, however, Morris struggled to find any direct evidence of military operations, although he rightly points out that such material is easily obscured in the archaeological record. In the preceding chapter I discuss the idea that some of the military paraphernalia that does appear in the provinces might be interpreted in light of the ritual significance of conflict in Andean prehistory (Gorbak *et al.* 1962, Urton 1993). Ritual warfare in the Andes was generally tied to the ceremonial calendar and, accordingly, was rich with social and ideological significance. Spanish chroniclers would have regularly mistaken ritual warfare for

coercive warfare, because in some cases even the former produced casualties (Hartman 1972).

In instances of noncompliance on the part of indigenous societies Inka threats of military force permeated a number of encounters, as Rostworowski (1988:132-133) points out in her discussion of accounts that describe Inka negotiators in the company of the Inka army approaching local societies and demanding submission. Ethnohistorical and archaeological research of these types of engagements is sorely needed. The archaeological implications of this type of engagement would be the presence of military contrivance in a given region (fortifications, garrisons, etc.) without evidence for actual violence (skeletal trauma, weapon refuse, etc.). This scenario, which implies the presence of an army but not the actual use of force, differs slightly from the less antagonistic approach of coercive diplomacy.

According to Rowe (1946:281), when the Inka resolved to expand into a certain region, they sent emissaries to the local societies, inviting them to submit peacefully. In these encounters the presence of an army was not necessary as the emissaries were offering indigenous leaders the protection of a 'Pax Incaica' that would bring an end to the violence of auca runa. If the local groups refused to submit then violence was likely to follow (Murra 1986:50). It is in exactly these types of scenarios that there would have been ample opportunity for indigenous agents and collaborators to maneuver according to their own free will, either to insure the peaceful compliance of specific communities or to resist Inka overtures. Examples of such engagement and negotiation frequently turn up in the documentary accounts, but are practically unknown archaeologically.

Beyond wanting to avoid the heavy costs and the potential destruction to resources that are associated with military conquests, there are a number of other reasons why Inka colonialism would have occurred consistently through nonviolent and diplomatic arrangements. As outlined in the preceding chapter, throughout Andean prehistory ceremonial hospitality was the oil that greased inter-polity relations. The idea is that this facet of Andean life would have been part of the collective mindset of the agents in almost any colonial encounter, whether it was realized in practice or not. Murra (1958:31, 1960, 1982:257) argued early and effectively that many of the features of Inka colonialism were indeed outgrowths of such traditional institutions of Andean society. He recognized that the structure behind the relations of labor reciprocity that obtained at the community level were reproduced writ large by the Inka as they diplomatically conscripted and used mit'a (corvée) labor to build and support their empire. In practice this meant that state workers would have to provide for their own subsistence, because food, shelter, and gifts were supplied by the reciprocal generosity of the state (Murra 1958:32). Likewise, rich gifts, feasts, and even the exchange of women as wives between indigenous elites and Cuzco were common as ways to strengthen ties (Rostworowski 1988:132-33).

A number of scholars have recognized and documented instance of these coercive and gift-giving engagements that the Inkas used to manipulate and promote their power. Salomon (1986:114) documents this process ethnohistorically in his examination of the structuring principles of frontier statecraft in the northern reaches of the empire. Closer to the heartland, Rostworowski (1988:100-102) describes the Castro-Morejón deposition of 1559, which relates how early Inka leaders tied up Chíncha Valley elites in an

asymmetrical relations of obligation through gift-giving in order to gain access to local land and labor. Archaeologically, Morris and Thompson (1985) made strides toward the recognition of the colonial phenomenon of gift-giving at Huánuco Pampa, where the encounters were marked by ritual ceremony, feasts, and the sharing of chicha beer. Once again, in cases such as these, when 'conquest' took the less militaristic form of generosity leading to relations of obligation, there would have been significant roles for active local collaborators who were at the receiving end of the giving.

There are two further types of colonial entanglement to consider-- alliance and collusion-- that involved less antagonism and more self-determination on the part of indigenous societies. During the era of auca runa that preceded the Inka period, Andean polities frequently created alliances with other groups in order to defend themselves from (or initiate attacks against) third-party groups, and there is little doubt that the Inkas themselves actively sought out allies and collaborators in their own era. Through such partnerships societies were able to extend influence, power, and even control within their regional communities. The best examples of how Andean societies would have engaged in alliance-building come from early Inka history, when the Inkas were still a small polity centered at Cuzco. Schaedel (1978) points out that the first four Inka rulers, who were called zunchi, or war chiefs, were in the habit of regularly establishing alliances with other local tribes through marriage. Two well-documented examples of alliances-building from this time include an expedient marriage set-up between Viracocha and a daughter of the ruler of the neighboring Anta tribe (Cabello Valboa 1951:Bk.3:Ch.14:297-298, Cieza de León 1943:195, 1959:209, Sarmiento de Gamboa 1943:92), and the maintenance by an earlier Inka ruler, Capac Yupanqui, of an alliance

between Cuzco and Quechua groups held against the Chanca (Cieza de León 1943:184-185, 1959:201, Rowe 1946:203-204). The Inkas, then, were accustomed to manipulating and assimilating other groups through a combination of alliance and warfare long before the imperial period. By the time Inka expansion was well under way many societies entered freely into alliances with the Inkas that were beneficial to them in terms of the security and exchange opportunities that were opening up under the new Inka order. Once again, it is easy to imagine that, in this type of political atmosphere, there were many roles to be filled by indigenous agents in order to negotiate with Inka personnel.

Collusion is the last category of entanglement to consider along the violent-nonviolent colonial continuum and is minimally different from alliance building. It is worth isolating this last form of engagement in order to highlight those instances when local polities sought out an audience with the Inkas in order to be brought under the imperial umbrella. The only distinguishing difference, therefore, is that while the Inkas initiated alliances, collusions were initiated by non-Inka societies. In a few instances when this occurred in the Inka period, the polities that sought to be included in the empire did so in order to escape hostile advances being made on them by neighboring groups. One example comes from northwest Argentina and is supported by both historical documents and archaeological evidence. As described above in Chapter 1, according to the chronicler Cobo a Tucumán society sought out the Inka ruler Thupa Inka during one of his southern campaigns and asked to be included in the empire to escape attacks of warring groups from the east. Archaeologically, Lorandi and her colleagues (1991) believe that they have discovered indirect evidence for such a scenario among populations at the site of Potrero-Chaquiago in the form of inconsistent material remains

from a group native to the Chaco. In such instances it would be a mistake to assume that an Inka presence in the area was strictly the function of Cuzco's grand imperial plan. Inka colonial history unfolded as it did in this region in part because of the initiatives on the part of local individuals. With this example in mind it becomes quite easy to imagine a scenario wherein the Inka establish settlements in locations that were not strategically important, that were not necessarily rich in resources, and that were not consistent with any sort of imperial grand plan, but were important only in terms of alliance-building with local groups.

The purpose of this critical review of studies of Inka colonialism has been to catalogue aspects of the scholarship that can be used to inform the data analyses that appear in Chapters 4-7. Chief among these is the notion that it would be a mistake to attribute an Inka presence in the study area as the unilateral result of core-driven initiatives. Likewise, it would be a mistake to take for granted that an Inka settlement in the Northern Calchaquí Valley (for example) was a seat of domination over indigenous societies. In fact, the Inkas may well have designed particular settlements for purposes not relating to controlling Calchaquí groups at all, for example as locations for the resettlement of transplanted state laborers attending exclusively to state business apart from indigenous concerns. There is also the distinct possibility that whatever plans the Inkas may have had to control local societies failed entirely.

Both scenarios, one regarding an Inka colony that stood alone in the landscape and the other regarding the failure of Inka efforts to manipulate indigenous people, are typical of modern colonial situations. This point regarding the efficaciousness of the imperial project is especially relevant to Inka studies, because early Spanish documents

describing Inka exploits in the South Andes typically exaggerate Inka success. This comes as no surprise when we recall that the sources for the majority of chronicles were Inka descendents boasting about the prowess of their forebears. In short, the potential for diversity in the tenor of Inka colonial encounters is tremendous, and it is suggested here that one way to think about this diversity is in terms of degrees of antagonism-amiability between the parties involved. Similarly, one of the central tendencies of this research and the data analysis that ensues in Chapters 4-7 is to consider at length the forces of self-determination, compliance, resistance, accommodation, and cooperation in the face of imperialism. All that remains to be done is to consider some the archaeological implications of these topics.

The Materiality of Inka Colonialism

A crucial first step in recreating the colonial moment anywhere in the Inka realm is to characterize the sociopolitical organization of the contact societies in question (e.g., D'Altroy 1992:47-70, Julien 1983:35-62, Netherly 1977). Throughout their expanding domain, the Inkas faced polities that were consistently diverse in their organization and degree of centralization, whether they were groups as small as family communities occupying dispersed territories or as complex as expanding peer-states. In the far reaches of the Quito province in Ecuador, for example, the Inkas faced a series of chiefdoms, or middle-range societies (Salomon 1986); in the Conchucos and Huánuco provinces of highland Peru, where local populations were somewhat more spread out, societies were not as widely organized (Julien 1993); to the west, on the coast of Peru, the Inka had to contend with the highly centralized and well-known empire of Chimor (Ramirez 1990); in the Carhuarazo Valley of central Peru only two semi-centralized societies had formed

(Schreiber 1987); and finally, in the Wanka province populations were divided into bellicose incipiently stratified chiefdoms (D'Altroy 1992). The documentary literature is riddled with terms that capture the sociopolitical diversity of these societies; there were llactas (communities with multiple kin groupings), curacazgos (polities controlled by chiefs, or curacas, or sometimes caciques), señoríos (polities, domains), etc. The patterns of colonial engagement changed according to these regional differences, all of which need to be anticipated in terms of their materiality (Morris 1998). Regardless of the nomenclature, and regardless of degrees of complexity, the goal for archaeologists is to reconstruct the histories and sociopolitical formations of the potential subject society.

To understand the nature of societies outside of the heartland it is instructive to define the mutable social and ethnic formations among their populations through both pre- and post-contact periods. This means more than just studying Inka centers. It is also useful to study the spatial and temporal relationships established in non-Inka settlements from a time before the onset of Inka colonialism. In attempting to do this it should be recognized that imperialism, especially in a distant place like the Northern Calchaquí Valley, was not necessarily a quotidian force for everyone. In fact, even in the most heavily colonized societies, daily life sometimes proceeded uninterrupted. This is not to say that, when the Inkas came through a region, in all cases life was not altered even at the domestic level (e.g., Hastorf 1993). The point is simply that it is instructive to understand the nature of pre-Inka sociopolitical life and the ways that it changes with contact. This objective can be realized through a basic analysis of indigenous settlement planning, architectural layout and construction, portable material culture, local burial

customs and the expression and status of social identity. These are some of the categories that are utilized in Chapter 5.

A second step in recreating the colonial moment anywhere in the Inka realm is to distinguish military from nonviolent relations as reflected in regional settlement organization and planning. For instance, the nucleation of residences on a fortified hilltop speaks of a concern for defense (Earle *et al.* 1987, Julien 1983), while the destruction of a settlement's fortification wall may suggest actual violence (Moseley *et al.* 1991). Interestingly, in the case of northwest Argentina, we know that the Inkas frequently constructed installations within populated local centers (Hyslop 1990:244-269, Nielsen 1995:61, Raffino 1983), a phenomenon that may suggest Inka and local populations interacted more peacefully in some instances. By determining the order of founding of such integrated settlements, for example by looking at architectural building techniques and ceramic analyses, it is possible to establish whether such settlements were inhabited by the Inkas early or late during the Inka period and, by extension, whether the implied amiable relations occurred earlier or later.

If it can be determined that the initial encounters were not militaristic, to what degree did they involve political, ideological and economic pressures? Recalling for a moment that the Inkas often gained support of indigenous leaders through negotiation, ceremonial activities, and gift giving and that in turn these local leaders directed their own populations in state projects, there are several lines of archaeological evidence that can verify or refute such encounters. In the Calchaquí Valley, for instance, a number of usnus have been identified, which may reflect the sort of encounters described above. If material culture associated with feasting (e.g., decorated ceramics and open serving

vessels) were found in conjunction with these public spaces, these observations would be strengthened.

It is also possible to recognize non-violent encounters that were oriented towards economic and mercantile matters. In this tradition some researchers argue that the Inkas were prospecting in regions of Argentina and Chile for metallurgical wealth, especially copper ore (e.g., González 1983, Raffino 1983). Mill stones and furnaces at one Inka installation north of the Calchaquí Valley (Rodríguez Orrego 1979) and metal detritus recovered at the Inka center of Potrero de Payogasta (Earle 1994) tend to support this idea. However, since it is unlikely that Inka and local groups developed a single type of relationship during the Inka period, the multiple lines of evidence outlined here will test the proposition that colonial encounters were highly flexible as military, political, ideological, and economic strategies were in constant circulation.

A third step in recreating Inka colonial encounters is to recognize, if possible, the nature of local self-determination. Looking more closely at what appear to be indigenous settlements with intrusive Inka sectors in the Calchaquí Valley is an ideal locus for this line of inquiry and is pursued in detail in Chapter 7. The degree of local collaboration can also be reflected in the presence and use-context of imperial artifact assemblages collected from indigenous elite compounds. For example, evidence for collaboration might be reflected in the distribution of decorated ceramics of distinct forms, such as open serving and libation bowls. The Inkas controlled the use of their ceramic forms (e.g., the aríbalo, the duck plate, and the pedestal bowl), implying that imperial products were strategically meted out to local groups (Hyslop 1993). The majority of these imperial vessels can be recognized by their form and distinct decoration and polish

(Pärssinen and Siiriainen 1997). These lines of evidence are also considered at length in later chapters.

In sum, as this review of Inka studies shows, the quality and depth of research that has taken place in the Andes is outstanding. These studies have provided in turn methodological inspiration and essential comparative material for the research data collected in the Northern Calchaquí Valley by this project. In particular, given the diversity of societies, cultures and landscapes typical of the Andes in the later periods, there is little surprise that the relationships that developed between societies in the Northern Calchaquí Valley and foreign groups in the Inka period were likewise diverse and unpredictable. In light of the dynamic atmosphere of the later prehispanic periods, it would also be a mistake to enter into a study of the Inka period attempting simply to catalogue Inka traits and sites and Inka activities and strategies. In order to gain some understanding of what it was like when foreigners came into the Northern Calchaquí Valley, it is also essential to study the local societies and their traits and sites and their activities and strategies. In this regard, in the analytical chapters of this thesis comparisons are made between this general research and the primary research that has been conducted in the Northern Calchaquí Valley.

The Northern Calchaquí Valley and Inka Studies

This last section focuses on the archaeology and ethnohistory of the Inka period in the Northern Calchaquí Valley. To some extent this review, like those preceding it, provides examples of where and how prior research has flourished in understanding the question of Inka colonialism in the area. But it also provides a more detailed view of the geographical and cultural context of the research setting vis-à-vis descriptions of the

actual first stages of the fieldwork portion of this research. In other words, not only do I describe in this section how I looked at prior research, but also how I analyzed maps and air photos, performed opportunistic reconnaissance of the valley, and conducted informal field interviews to assemble an overall picture of the natural and archaeological resources of the valley

In studying the Northern Calchaquí Valley I began by looking at what has been written about networks of prehispanic and historical routes in and out of the valley. Apparently, flows of people and things came and went with ease by way of river valleys, quebradas, and mountains passes. The routes that had been described in historical accounts and in prior research were placed on a valley map, as were hypothetical routes that needed to be explored. These latter routes were estimated using satellite and air photos to locate quebradas and passes that connected the valley to neighboring areas. This valley map was constructed, first, by tracing NASA Landsat satellite images (scale 1:250000) acquired at the Instituto Geografico Militar de Argentina. Further topographical detail was gained from enlarging the Landsat traces and overlaying them on smaller-scale air photos of the Northern Calchaquí Valley. The air photos (scaled 1:50000), which were obtained by the Proyecto Arqueológico Calchaquí from Segemar Fotogrametria in Buenos Aires, offer more detail than the Landsat images.

This network map was then used on the ground as a guide to locate and evaluate possible ancient routes. With maps and photos in hand, three or more members of this project traveled to a likely opening of the route into the valley and divided into an interview team and an exploration team. The first team struck out to speak with as many people living in the immediate area as possible in order to find out (1) if there were any

trails leaving the valley in the vicinity, (2) where the trails went, and (3) whether there were any prehispanic remains along the way (petroglyphs, structures, artifact scatters, etc.). The second team of at least two people walked along the first 5 to 10km of the route heading out of the valley in order to evaluate the modern, historical, and prehispanic use of trail. This method of talking to people living near the opening of the routes and of walking the head of the trail proved fruitful. One possible route that led up the Piul Quebrada (at the east edge of the valley) was discovered to be a loop that doubled back to the valley down the next drainage to the south. Another route that we discovered that was not used for valley access was the trail following the Palermo river upstream through the Quebrada de Conchas. This drainage, which winds west towards the Sierra de Cachi, is extremely narrow, steep and rocky. To reach the open puna to the west beyond the mountains along this route, travelers would have had to climb through rugged passes between the two highest peaks of the Sierra, when two safer western routes lay just to the north and south of Palermo. It is more likely that this was a dead-end drainage that people used to gain access to the slopes and peaks of the mountains on this side of the Northern Calchaquí Valley before return back to the valley floor.

In total, there were eight main routes in and out of the Northern Calchaquí Valley by the Inka period (Figure 5). A few routes were obvious, for example the south route down the Calchaquí Valley into the Southern Calchaquí Valley and the Santa María Valley. Other routes had already been studied in detail, including the one mentioned earlier that exits the valley to the northeast towards Tastil. Of the eight known routes, modern automobile roads follow three and five can only be followed on foot.

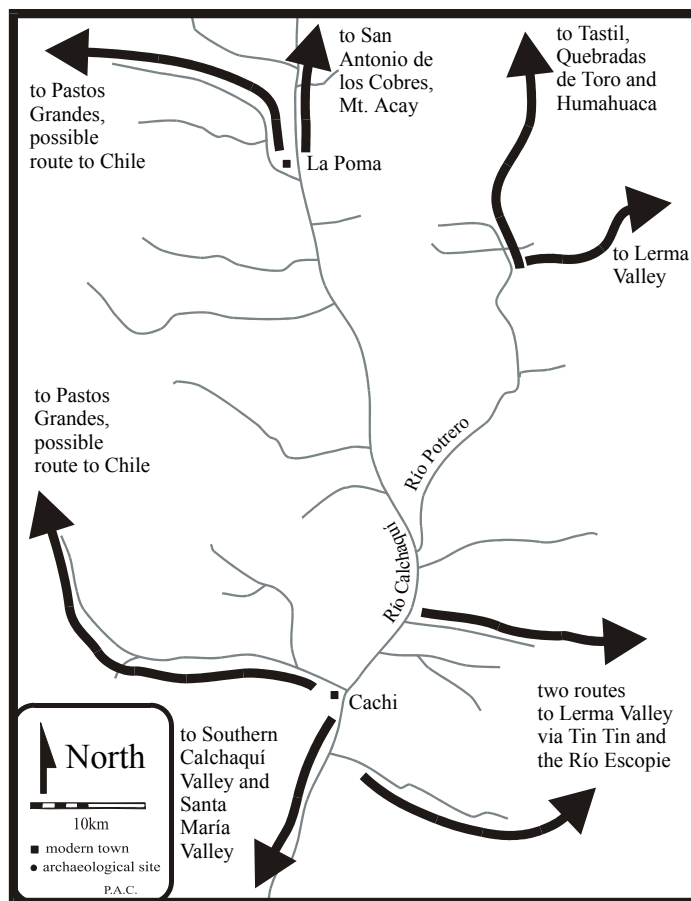


Figure 5: Route map of the Northern Calchaquí Valley

Because of the variable locations of the high mountains bordering the study area, there is a limited amount of passes in and out of the valley. The eight represented in this illustration have been confirmed by valley researchers and are described in different publications (e.g., Díaz 1983, 1992, Hyslop and Díaz 1983, Tarragó and Díaz 1972, 1977).

Understanding the network of routes in and out of the valley gives insight into how the different areas and sites within the valley were connected. This leads to the next task undertaken by this study, which was to synthesize what other writers have said about the late DR- and Inka-period cultural and physical landscapes of Northern Calchaquí Valley. A list of the people who have worked in the study area reads like the cognoscenti of Argentine archaeology and includes Juan Ambrosetti, Alberto Rex González, Romualdo Ardisson, Myriam Tarragó, Ana María Lorandi, Rodolfo Raffino, Mónica de

Lorenzi, Milena Calderari, Lidia Baldini, Horacio Difrieri, Verónica Williams and Félix Acuto. Foreigners who have worked in and written about the Northern Calchaquí Valley include Eric Boman, Wendell Bennett, Everett Bleiler, Frank Sommer, Gordon Pollard, Timothy Earle, Christine Hastorf, Terence D'Altroy, Elizabeth DeMarrais, and Kirsten Olson. These lists of names are not a boast about the place of the Calchaquí Valley in the history or Argentine archaeology; instead they simply show that a prodigious amount of published information and interpretation exists about the prehistory of the area.

The work of these investigators greatly facilitates understanding Inka colonialism in the area during the late prehispanic periods. In particular, a fully-formed archaeological and ethnohistorical outline of the cultural history and prehispanic landscape of the valley in the Late and Inka periods is already in place.(Footnote 1) For instance, not only do we have a comprehensive list of the archaeological sites in the area in the form of the Museo Arqueológico de Cachi site register, we also have the results from DeMarrais's systematic survey of the entire Northern Calchaquí Valley. Furthermore, we have studies of specific sites from all time periods in the valley as well as a number of synthetic statements about the valley's prehispanic past from the point of view of archaeology and ethnohistory. And finally, we have countless treatments that deal with specific lines of material culture like ceramics and bronze as well as a number of comparative overviews linking the Northern Calchaquí Valley material culture with other areas in northwest Argentina. In many instances, prior work pointed me in counterintuitive but productive directions as it forced me to move around the valley contemplating the landscape, studying sites, and learning about the valley's ancient material cultural.

Much of the prior research that exists about prehispanic life in the Northern Calchaquí Valley also contains information about the physical landscape of the valley. This material was examined in order to gain a finer understanding of the physical features and resources of the Northern Calchaquí Valley and to guide the project's explorations of the valley. During the months of fieldwork, investigations were made opportunistically on foot and by car into areas where there were gaps in our knowledge of the physical landscape.

Through these efforts, then, it was possible to document (1) the natural and cultural resources in an area, (2) the characteristics of the empty spaces between sites, and (3) the connectivity of sites in the valley. Natural resources are tactile elements of the physical environment that figure prominently in discussion about the economies and politics of past societies. They are generally materials that can be separated from the landscape for human use, and in northwest Argentina include countless plant and animal species, mineral ores, primary lithic material, water, soil, etc. A resource can also be something that is not physical or quantifiable, but instead is something that carries social meaning for its users. This was especially the case for people living in the prehistoric Andes, where life and behavior graphed onto natural features and resources in the landscape for social reasons as much as for economic reasons. These socialized natural resources might include immovable features in the landscape such as mountaintops, springs, bedrock outcrops, mountain passes, and river embouchures.

The most obvious feature that we were able to document and map in our study of the valley landscape was water, which is elemental to survival in the arid setting of the Northern Calchaquí Valley. While there has never been a formal hydrological study

performed in the area, some basic patterns have emerged. First, because of constant runoff from permanent snowcaps on the Sierra de Cachi, water flows twelve months a year in the Río Calchaquí and down most of the rivers and streams in the lateral valleys on the western side of the valley. Second, on the eastern side, the water flows out of the lower hills and mountains intermittently throughout the year. Third, on this drier east side of the valley, springs are relied on more heavily for water, which causes some problems for communities because springs in the valley are frequently fickle in their longevity and can lose and gain their flows without notice.

To investigate the naturally occurring plant life and the feasibility of agriculture in the Northern Calchaquí Valley prior reports were once again consulted at length and more information about Northern Calchaquí Valley flora is available in publications by Cabrera (1976:36-40) and Tarragó (1978:489-492). In terms of the flora, the overall Northern Calchaquí Valley environment is desert-like and is dominated by scrubs and cacti with occasional shrubby forest zones (or monte zones), especially on the valley floor to the south. Cardón cacti (Trichocereus pasacana) dominate the landscape and are mixed with a number of shrub-like and small tree species. It is possible for animals to pasture in the valley, but larger areas for grazing are available in the surrounding mountains and puna. The availability of wood, an important commodity for building and fuel, was documented across the valley. Larger stands of trees are more likely encountered on the riverbanks on valley bottoms, including algarrobo forests (Prosopis alba) and other less common arboreal species. Unfortunately, the original DR- and Inka-period distribution of wood resources in the valley is largely conjectural as most stands

have been destroyed and replanted over the centuries. Data on floral resources are emphasized in later chapters when they converge with other lines of research data.

Maintaining still a valley-wide perspective of the study area, efforts were also made to appreciate patterns in the overall agricultural potential of the valley. This approach to understanding the agricultural viability of the valley complements further studies that were conducted in and around specific study sites, which were designed to capture the history of agricultural use at a more human level, for instance through the presence of irrigation canals, reservoirs, and terracing. In general, rain-fed agriculture in the Northern Calchaquí Valley is impossible, because the rains, which average 30-35cm annually (de Aparicio and Difrieri 1963), fall during the summer months in torrential storms. Logically, agriculture directly follows the uneven distribution of water around the valley, following the forms of rivers, streams and springs. The main cash crops today are red pepper, maize, alfalfa, quinoa, and potatoes, and the most popular places to grow these crops is in the flood plains of the Río Calchaquí.

Agriculture also appears in a number of valley pockets that are microclimatically conducive to plant growth. Moving north to south down the valley, climate changes between the higher elevations, which are drier and colder, and the lower elevations, which are wetter and warmer. Productive microclimates appear especially in steep and small lateral drainages, especially the more humid ones to the west, because these are protected from the cold winds that blow through the valley. Because these side valleys are agriculturally more productive, there is a greater chance that people in the past built agricultural terraces on their slopes to take advantage of these favorable climates. Another microclimate that we noted lies in the 'pre-puna' zone (i.e., between the main valley and

the puna). It is possible to cultivate plants in this rugged landscape, which would have been popular for people with large herds of animals that wanted easier access to the puna for pasture at even higher elevations. In sum, our study of the flora and agricultural viability of the Northern Calchaquí Valley provides another aspect of the setting in which life unfolded for people living in the DR and Inka periods. Future research could contribute more rigorously to this picture by using techniques like GIS to study the satellite images, air photos, and topographical maps of the area.

The final resources with primarily economic value to consider are lithic material for stone tool manufacturing and exotic and mineral material for possible lapidary and metallurgical production. Again, formal geomorphological studies of the area would be more helpful in answering questions about the material possibilities of life in the Late and Inka periods. Provisional attempts were made by this project, however, to understand the spatial distribution of some of these resources. In terms of primary lithic material, prior publications, geology maps, and some eyewitness examinations were used to establish the available quantities of material for lithic production in the Northern Calchaquí Valley. Except for the more precious material of obsidian, we found that most of the material that was used in prehispanic stone tool production is metamorphic and would have been easily extracted from Proterozoic layer of stone that underlies the entire region and that has been lifted and exposed in the surrounding mountains. This basic metamorphic rock most resembles quartzite and varies along a number of dimension, including grain and color. A few anomalous igneous events also dot the Northern Calchaquí Valley landscape, including the Cretaceous and Tertiary intrusions associated with the Los Gemelos volcanoes near La Poma. There are also multiple deposits of coarse-grained

igneous granite along the eastern slopes of the Sierra de Cachi (i.e., along the western edge of the Northern Calchaquí Valley), for instance in the river valleys above Cachi, Palermo and La Poma, which are discussed below as potential sources of mica. As a result of these higher-elevation granite outcrops, these river valleys are littered with massive granite boulders that are perpetually sliding down-slope. Finally, sources of obsidian do not exist in the Northern Calchaquí Valley, which means that this material was gained from extra-valley sources.

The availability of metallurgical and lapidary resources in the Northern Calchaquí Valley was also studied in reference to prior publications, geology maps, and some in-person observations. The production of copper and bronze is the most well-documented prehispanic metallurgical industry in the area. Prior studies in the valley have noted evidence for copper production such as metal waste with copper drippings, copper stained crucibles and molds, and general copper and bronze remains (e.g., González 1979, Pollard 1981). At Inka-period sites tested in 1990 and 1992 by the Proyecto Arqueológico Calchaquí, no evidence was recovered for early stages of ore processing and smelting. Rodríguez Orrego (1979) suggests that these earlier stages in metal production were being conducted nearer the mines themselves, such as at the site of La Encrucijada, which lies north of our study area towards San Antonio de los Cobres. Gold mining in the area is rare. In the past, gold could have been extracted (if at all) from the quartz-rich granite stones that are especially abundant in the western slopes of the valley through a laborious process of crushing and sorting. Tin-bronze and silver, which are present in some burial and residential contexts, are more sophisticated alloys that apparently were not produced in the Northern Calchaquí Valley in the Inka period.

While the ubiquity of lapidary artifacts in excavations in the valley has always been low, the small industry that did exist includes evidence for production in shell, mica, and some rare stone, such as malachite. The very few artifacts made in these materials are typically ornamental and include strands of beads, pins, disks, and pendants. Unfortunately, mapping the availability of these primary materials involves some guesswork, as most of it is not local. The shell seems to come from terrestrial species that are available at lower elevations, for instance in the Lerma Valley to the east. Marine shell is present, but rare, and must have come from the Pacific coast hundreds kilometers away. Again, mica is more plentiful in the valley, especially in the granite deposits on the slopes of the Sierra de Cachi to the west. Diverse mineral resources are more abundant outside the valley to the west and north. In particular, borax, sulfur, lead, salt, and obsidian are more easily found in the Pastos Grandes area of the puna directly through the mountains to the west, and tin, gold, silver, lead, copper and zinc are more common directly north of valley near San Antonio de los Cobres. In summary, objects like gold and marine shell, in addition to some of the others that are discussed above, have turned up in rare contexts in excavations across the valley, most notably in 202 Inka-period tombs at Puerta de La Paya (Ambrosetti 1908, González 1979) and in limited access areas at the Inka-period center of Potrero de Payogasta (Earle 1994). These special contexts indicate that the use as well as the procurement and production of these materials would have had economic, social and political value.

Finally, there are non-extractable aspects of the valley landscape that would have held value as 'resources' to societies in the DR and Inka periods. Of course, it is more difficult to know the prehispanic value of a mountain peak, for example, than it is to

recognize the value of a gold diadem found in a tomb, although the former may have held greater meaning to more people than the single object of gold held for the community of the individual buried in the tomb. The final push, therefore, in studying the Northern Calchaquí Valley as a single unit was to attempt to do just that-- to document places and features that might have held particular significance for valley societies. Relying on prior publications, local interviews, topographic maps, and informal reconnaissance, we attempted to locate and study the distribution of places in the Northern Calchaquí Valley landscape that could have held some sort of greater meaning. Mountain peaks are the clearest examples of places in the Northern Calchaquí Valley area that hold more than economic value, as are any natural landmarks, such as springs, bedrock outcrops, mountain passes, or caves. While we did not climb the extremely high peaks surrounding the valley ourselves, a number of publications discuss the extensive networks of trails and structures that are spread over many of the highest peaks in the area (Ceruti 1999:144-148, Díaz 1983). Lower-elevation features are more accessible, and these were visited and studied, including a number of springs and outcrops. Some of these features are discussed in the following analytical chapters as they relate to particular areas and to analyses of some of the activities taking place during the Late and Inka periods.

This project also studied places that were located in strategic places, for instance points of access in and out of the valley, and protected high places, like mesas and isolated hillocks, which might have been used as sentry points or ceremonial retreats. In later chapters the Quebrada de Peñas Blancas is discussed as an example of a point of access, and the length of ridge running between the sites SL005 and RC78-83 is discussed as an example of an important high place. Another type of place that was

documented by this study were places with 'visibility' value. In relation to a fixed place in the landscape, gazes and lines-of-sight work in two directions: from the outside looking in and from the inside looking out. Because of their dual nature, efforts were made to anticipate and study locations in terms of dramatic visual associations. We searched for areas that might have been hidden or, alternatively, prominently displayed; and we also sought out places and settlements that may have had especially clear lines-of-sight and views towards other settlements or natural features in the landscape, such as mountains or mountain passes. Through these efforts to study places in the landscape in terms of social value and visibility this project was able to document that a number of settlements were placed in areas that, according to our contemporary sensibilities, had minimal economic value.

Chapter 3 -- Research Methods

What archaeologists expect to accomplish in theory through archaeological fieldwork necessarily diverges from what happens in practice. For instance, the study questions listed in the original proposals for this research were thought to be, in theory, answerable. I expected that evidence for the determination of indigenous societies in the Calchaquí would be archaeologically unmistakable, as would evidence for instances of negotiation and collaboration in the Inka period. It was further anticipated that there would be a noticeable difference in the material culture between an Early Inka period and a Late Inka period, between purely foreign versus purely indigenous styles, and between a wide assortment of distinct activities that were taking place in the Northern Calchaquí Valley. Before fieldwork had begun, then, I had these expectations in mind.

Then came the practice. The original, 1997 proposal for this research described a methodological fieldwork plan designed to answer a basic series of research questions. It described the preparation of site maps at scales between 1:400 and 1:5000; it described 5m² surface collections located according to a randomly stratified analysis of extant architecture; it described conducting 1 x 1m test-pit excavations at 15cm levels (except where natural levels were shallower); it described collecting an estimated 60000 artifacts total; and it described performing ceramic seriations of vessel form, design elements and surface treatment and the use of factor and multivariate analyses. During the first few weeks of fieldwork in 1998 I quickly determined that many of these details in the fieldwork plan would have to be adjusted. As is described in more detail in this chapter, for example, it was decided that extensive surface collections would be foregone because

of the deteriorated nature of many of the valley sites and their surfaces. In this near-desert environment the absence of significant surface vegetation acting to stabilize archaeological deposits means annual rains and subsequent flash floods ravage sites-- especially those on any sort of incline-- washing material across the surface of the ground and mixing it to a remarkable degree. With the time saved in reducing the number of surface collections to be carried out, it was possible to dedicate more time to studying the architecture and to performing more test-pit excavations. In hindsight, being able to redesign research methods quickly in the field became a study in time management.

Deciding to excavate more test pits proved to be prudent as another obstacle was encountered at the majority of sites that appeared in the Northern Calchaquí Valley in the Inka period. The new obstacle, which happens to confront most researchers studying Inka sites in the Andes, was that the depths of the deposits at Inka-period sites are shallower and their quantities of cultural material are lower relative to earlier periods. In the case of the Northern Calchaquí Valley, the average depth of the Inka-period cultural deposits is 40% shallower (or 21 cm less on average) than DR-period deposits in similar contexts. In terms of artifact densities, all excavated deposits associated with the DR period across all contexts contain on average 553 ceramic, bone, and lithic artifacts per m³ excavated. This is significantly more than counts from all excavated deposits associated with the Inka period, which average across all contexts only 45 ceramic, bone, and lithic artifacts per m³ excavated. We can begin to account for shallow and light Inka deposits in the Northern Calchaquí Valley by recalling that the Inka period, which is measured in decades, was shorter than previous periods that are typically measured in centuries.

Returning to the question of site deterioration by natural forces, this phenomenon was the source of significant disjunction between the original theoretical ideas underlining this project and the practical realities encountered in the field. Primarily because of the variability in their preservation, the majority of sites that were finally studied are different than the ones originally proposed. While switching data sets might typically threaten the success of a research project, in this case the switch is seen as positive. During the first few weeks of site-prospecting in 1998 the sites listed in the research proposal were visited. Also investigated were alternate sites, which could have been included in the study given extra time or which could have been used as substitutes if a site was dropped from the original list. To construct this original list of sites as it appeared in the research proposal I relied on site catalogues and descriptions prepared by earlier researchers (DeMarrais 1997, Díaz 1983, 1992, Raffino and Baldini 1983, Tarragó and Díaz 1972, 1977). For example, if there were indications that a settlement was established in the Inka period, or at least had a significant occupational component into the Inka period, it was given full consideration (see full list in Appendix 3).

Relying on prior research to select study sites provided, in theory, a solid start. In practice, however, site preservation became an equal factor in site selection, which is something that was not anticipated in the original research proposal. After visiting many sites for the first time in 1998, sites were reprioritized according to this combination of factors: (1) period of occupation based on prior studies, (2) erosion of site due to natural forces, (3) the amount of extant surface architecture, and (4) the density of surface vegetation acting to stabilize sub-surface deposits. The first list in Table 1 contains the sites presented in my research proposal and the second list contains the sites that were

ultimately studied (the study sites are described in Appendix 1). As the lists indicate, of the original nine sites only two were investigated.

Sites listed in resarch prososal:			Sites actually studied:	
Site	Location	Studied?	Site	Location
RC088	east of Los Graneros	no	RC021	south of Palermo
RC108	southeast of Rodeo	no	RC127	in Palermo
RC78-83	north of La Poma	YES	RC78-83	north of La Poma
RLP01	Cachi Adentro	no	RLP16	Cachi Adentro
RP005	upper Rio Potrero	YES	RP005	upper Rio Potrero
RP033	east of Cortaderas	no	RP200	upper Rio Potrero
RPA05	in Palermo	no	SC042	Potrero de Payogasta
SC063	north of Tin Tin	no	SC065	Cortaderas
SR010	Corral Blanco	no	SC066	Tin Tin
			SC152	Aqua de los Loros
			SL005	Esquina Azul
			SL033	Penas Blancas
			RP002	upper Rio Potrero

Table 1: Study sites-- originally proposed versus actually studied

Only two sites that appeared in the original research proposal were actually studied. The eleven new sites added to the study were previously identified by researchers to be possible Inka-period sites.

The rest of this chapter is divided into two sections: fieldwork and laboratory study. The first section details how each site was investigated internally and includes sub-sections on site mapping, the study of site architecture, and the excavation of test pits. The second section describes laboratory activities and includes sub-sections on artifact studies, flotation work, a discussion about radiocarbon dating, and the approach taken to statistical analysis.

Fieldwork Activities

During the months between October 1998 to April 1999 a number of activities were conducted to recover and study data from 13 settlements in the Northern Calchaquí Valley. At each site these activities included a full-scale reconnaissance of the area surrounding the site, the manufacture of a scaled site plan, the collection of data about the

visible architecture, and the excavation of a number of test pits across the site. In many instances, the information that was collected, coded, and analyzed is strictly quantitative: the width of walls were measured, the sizes of stones were recorded, and the color of excavated soil noted. In other instances, qualitative information in the form of detailed notes was collected: the degree to which a site was defensible was anticipated, the durability of building construction assessed, and the accessibility of plazas was estimated. Whether quantitative or qualitative, attention was paid to standardizing the information whenever possible to ensure comparability from site to site. This in itself proved to be a difficult task. As work progressed in the field we became more proficient at collecting information and artifacts. This means that in some cases the data from the sites that were studied earlier are potentially thinner than information from sites studied later.

Each activity performed in the field is detailed here. The full complement of activities was conducted at eleven archaeological sites, while partial work and analysis were conducted at SC042 and SC065 (see Appendix 1 for site-by-site description of which activity was conducted where). Fewer fieldwork activities were conducted at SC042 and SC065, because they have been investigated on and off since 1990 by other members of the Proyecto Arqueológico Calchaquí and data collection has been consistent between projects. For example, Proyecto Arqueológico Calchaquí researchers in 1990 and 1992 prepared maps, conducted surface collections and excavated at both of these Inka-period sites using excavation techniques and field forms on which the methods used in this research have been based. The data that were collected during these prior research campaigns are available to all members of the Proyecto Arqueológico Calchaquí and to

other area researchers in the area for comparative study and are included selectively for that purpose in this thesis.

In collaboration with university students from the Universidad Nacional de Salta and with employees from the Museo Arqueológico de Cachi, tasks were performed at each site in the following order: reconnaissance of the site area, preparation of a site plan, completion of standardized surface architecture forms, surface collections, and test-pit excavations. These are each described below. Roughly five months were needed to conduct these activities at the eleven principal study sites, which averages to two weeks of fieldwork per site. In order for students to gain as wide a range of experience as possible, everyone who participated on the project took turns performing the different tasks described below. The number of people available on any given day changed from week to week, as students came and went depending on their schedules and interests in participating on the project. In general, a quorum of six team members was needed for the fieldwork to run smoothly, otherwise extra time was needed to complete the work at each site.

Site Area Reconnaissance

The first day spent at each site was devoted to reconnaissance in teams of two. Before teams set out, a circle with 1.5km radius was inscribed on the air photo centered on the study site. Teams went in different directions and were assigned to inspect portions of the resulting 5km²-circle as well as specific features, such as quebradas, rivers and hilltops. Each team was in charge of documenting the natural and cultural features that it encountered, especially if these features appeared to be prehispanic in origin. Prominent features located within this area (as well as the site itself) were located in

space to within 15m of accuracy using a Magellan GPS Tracker. The natural features of interest included routes of access, arable land, springs, and sources of raw material, such as clay mines and lithic quarries. Cultural remains, including petroglyphs, cemeteries, canals, corrals, and terrace systems were also plotted since they provide clues about the activities that took place around the different settlements.

In the following days each team took on one of three tasks, which it stayed with for as long as it took to study the site. This consistency in teams and tasks by site meant that paperwork and field numbering systems were kept in order. Later, when we moved to a new study site, teams were mixed and tasks reassigned. Ideally, teams of two were assigned to (1) a mapping team, (2) an architectural analysis team, and (3) a surface collection/test-pit team. When we were short one individual, a museum employee was hired for the day to round out the teams. Because of their expertise in excavation, the museum employees worked exclusively on the test-pit team. When we were short one more person, the person studying architecture often worked alone.

Site Mapping

The mapping team's first task was to prepare a sketch map of the site. It was up to the mapping team to recover enough detail to produce a map at a scale of roughly 1:1500. Then, using the sketch as a guide for plotting points, a Leitz DT4 laser theodolite and Red-mini EDM were used to 'shoot in' points. The site plans captured a number of elements for each site, including the topography in and around the site, all the prehispanic cultural elements visible on the site surface, distinct natural features within the site, like springs and washes, and any contemporary feature within the site (e.g., modern roads, goat paths, corrals, etc.). Prehistoric cultural elements included freestanding structures,

earthen mounds and platforms, artificial surfaces prepared by leveling and terracing, and open spaces like patios and plazas. Shooting in points took time, and we quickly learned how to reduce the number of points that we needed to represent the site effectively in plan. Points were taken at the intersection of wall, for instance, and at least four points were shot in for each mound. During the evenings, the point data were entered into a spreadsheet program (Microsoft Excel 97), converted with formulas to X-Y-Z coordinates, and then imported into a surface mapping program (Golden Surfer 7.0). With this software we immediately created three- and two- dimensional plans of the site topography to verify that we had captured the natural relief of the site to our satisfaction. In cases when we did not record sufficient points to capture certain topographical features in the plan (slopes, gullies, flat plateaus, etc.), on the following day we could shoot as many points as were needed to complete the job. Next, using the Surfer software, we exported coordinates of all the non-topographical features into a drawing program (CorelDRAW 8.0) to begin the process of creating a plan of the structures, mounds, and rest of the features on the site. If we found that we did not have enough points to recreate a certain part of the map, again we shot more points the next day. With the help of the excavation team, we also shot in the units of excavation at each site and the location of the surface collections at the few sites where they were conducted.

These maps, which were originally produced in the field, serve as the basis for the plans and drawings that appear throughout this thesis. Furthermore, these maps provide the basis for much of the analyses that appear in the following chapters, and their significance can not be overemphasized. Countless questions are asked of these data regarding space, time, cultural affiliation, activities, and interaction. For instance, what

percentage of a site is covered by built structures versus open space? From what cardinal direction did people approach a site? Could people move around a site easily or were its walkways twisted and thin? Are there areas of a site that stand apart? Are some higher or lower? Impressionistically, does the site have an opened or a closed feel to it? Is there a particular order or shape in its layout? Does it have a discrete border? I return to many of these questions in Chapter 7.

Studying Surface Architecture

The mapping team worked closely with the architectural analysis team, which was in charge of collecting data on the site's architectural remains and recording these data on standardized forms. Originally, as it was spelled out in the research proposal, the mapping team was to collect these data as they moved across the sites preparing the site maps. However, once we began working in the field it became clear that the architectural analysis was a job unto itself, because of the complexity and deteriorated nature of many of the structures. The forms that the architecture team completed, called Surface Architecture Forms (see Appendix 4), are an elaboration of simpler field forms that were developed by the Proyecto Arqueológico Calchaquí in 1990 and 1992. While basing one field form on the other ensured compatibility of data within the greater project, it did give rise to one problem concerning the different ways that members of the Proyecto Arqueológico Calchaquí have assigned numbers to structures and groups of structures to facilitate analysis. Differences in the clerical numbering system might not merit too much attention, but in this case one aspect of the Proyecto Arqueológico Calchaquí numbering system seemed problematic in that it seems to influence the way that

researchers in the field interpret meaning from site organization. Some background is necessary to understand the genesis of this problem.

Over the years, efforts have been made by members of the Proyecto Arqueológico Calchaquí to identify conglomerations of structures at different sites. Such groupings are called Architectural Divisions (ADs) and appear in different quantities at different sites. The most common AD is a patio group, which might include an open space (the patio) surrounded by four or five smaller enclosures. An open plaza with its attendant structural features (such as platforms and annexes) qualifies as an AD, as do discrete compounds of structures. According to Proyecto Arqueológico Calchaquí conventions, the ADs at a given site are uniquely numbered (1, 2, 3, etc.) and in turn individual structures, called Architectural Sub-Divisions (ASDs), are identified and uniquely numbered within each AD. This means there may be two or more ASD-1s at a site, for example, but they are each distinguishable through their associations with unique ADs. This method of designating and numbering ADs and ASDs is a relic from the Upper Mantaro Archaeological Research Project (UMARP), which was active in Peru in the 1970s and 80s.

As fieldwork was begun for the immediate project at hand, we found ourselves struggling at the first study sites with the concept of an Architectural Division, and we felt we were arbitrarily outlining sectors as ADs based on little more than weak intuition. While there were some clear examples of clusters of structures, there were many instances where logic in the organization of sets of structures could not be seen. It soon became frustrating trying to infer how structures might have clustered in prehispanic times according to principles like ownership and use. In the Upper Mantaro Basin of

Peru, where structure groupings like patios were common and clear to see, this concept was useful. In the Northern Calchaquí Valley, however, designating ADs became a square peg/round hole endeavor. In fact, it seemed to encumber our chances of being even partially objective, because once we defined a handful of structures as an Architectural Division it began to take on a life of its own, becoming more real as we talked about it and studied it in further detail. As a record-keeping detail, it would not have been a problem that these AD entities had little to do with prehispanic reality. However, the AD entity was suppose to determine subsequent directions that we would take in the fieldwork process. For instance, in determining where to locate the test-pits excavations, it would have been ideal to distribute them across all the known ADs at a site, except in the Northern Calchaquí Valley we assessed that these are largely the result of conjecture. By using the AD concept in the Northern Calchaquí Valley we ran the risk of imposing our contemporary sense of organization on settlements that might have been structured in entirely different ways.

After coming to this realization about the inapplicability of the AD concept in the Northern Calchaquí Valley, we did continue to use AD numbers, but only to maintain clerical consistency with the rest of the Proyecto Arqueológico Calchaquí database. Specifically, at the first six sites that we studied before abandoning attempts to demarcate ADs, we assigned AD numbers to divisions in the sites, which are ignored in the analyses described in the next chapters. At the latter seven study sites we simply designated the whole site as one AD (AD-1), and gave each structure a unique ASD number (i.e., 1, 2, 3, etc). In other words, the AD numbers do not hold interpretive meaning in the analyses presented in this research; they merely serve as place holders in the provenience strings

assigned to each artifact (see Appendix 5). Since these AD numbers do not hold meaning per se, and since each structure (ASD) is uniquely identifiable in reference to its AD and ASD numbers, there is no harm in holding onto the AD numbering device.

An underlying assumption in this discussion about the problem of identifying an AD is that ASDs are somehow easier to isolate. Except in a few instances when we were unable to determine whether a collection of stones or a slight surface depression was a structure, this assumption largely held true. The responsibility of making judgments about the existence of structures fell to the members of the architecture team, but always in conjunction with the mapping team. This meant that a minimum of four people was involved in the designation of structures. The rest of the tasks that fell to the architecture team unfolded as follows. After structures were given unique ASD numbers, each structure was studied in detail and one Surface Architecture Form completed per structure. The front page of the form asks a number of interpretive questions about the structure, including what the fieldworker thought its predominant function was in the past (plaza, patio, corral, etc.). It also offers a space for field notes about the structure's relationship to topography and other architecture on the site, as well as notes about its sequence of construction in relation to structures around it. The front page also asks general questions about construction techniques, overall preservation, and the shape and size of the structure (see Appendix 4). In hindsight the greatest struggle for the architecture team was in trying to designate the 'function' of each structure. For the most part, decisions were based on both instinct and debate between the four workers involved in mapping and architectural analysis. We also made notes when there was some question and included categories of 'indeterminate' , 'non-domestic', 'possibly

administrative' and 'multiple functions' (for instance, many Inka kanchas served residential, administrative and ritual functions).

The back page of the form is for recording information about the structure walls and details about construction. The information that is recorded in the data table on this page provide one of the two most comprehensive and statistically rigorous databases associated with this study (the other is the ceramic database). Twenty-four measurements were taken at four places on each wall in each structure, producing a minimum of 96 variables per structure. In the case of a four-walled structure, these data were gathered once on each wall. If the structure had more walls, data from each additional wall were also collected. In the case of round or irregularly shaped structures, data were collected from the four points in the walls corresponding to the four cardinal directions. In sum, the architecture team was in charge of coding a great deal of data on the Surface Architecture Form about the dimensions and forms of structures, the construction materials and practices, building sequences, and any other details that might have been related to the structure and its use. These data about the architecture link back to the research questions concerning the chronology of the sites, the affiliations of their inhabitants, the activities that took place at these sites, and the way that indigenous-foreign relations may have unfolded in their settings.

Surface Collections

In the same way that the nature of settlement organization in the Northern Calchaquí Valley forced this project to abandoned attempts to designate Architectural Divisions, the unique local phenomenon of intense site deterioration forced this project to rethink and reduce the surface collection program. As it was spelled out in the original

research proposal, the plan to conduct surface collections was as follows: (1) based on the site plan and some of the initial architectural data, surface collections would be selected at each site by stratifying the architecture into 'use zones' (e.g., domestic compounds, public plazas, production areas); (2) within these zones, surface collections in 5m² quadrants would be placed randomly to reduce the possibility of bias.

Once work got underway in the field, two assumptions underlying these original plans for surface collecting were challenged, forcing us to abandon this part of the project. The first (erroneous) assumption was that it would be possible to define use-zones. Not only was it difficult to define use-zones, as the preceding discussion about Architectural Divisions shows, it was difficult to define discrete zones at all. The second poor assumption that was made was that the surface artifacts were still associated with their original use-locations and that this would allow us to recreate prehispanic artifact-structure relations. As is described in detail above, the absence of significant surface vegetation in the Northern Calchaquí Valley acting to stabilize archaeological deposits means annual rains and subsequent flash floods ravage sites and wash cultural material across the ground. Add to this the steep topography of the area and the natural transformation processes in the area can be particularly violent. Deterioration is also abetted by the contemporary use of the sites as grazing grounds for livestock, as sources of firewood, and as crossroads for significant foot traffic. After just a few site visits we learned that the best place to actually find surface artifacts for visual inspection is in the washes or gullies below sites, because the rains wash scores of surface artifacts into these low points. Sites on hilltops are in the worst shape with their highest points nearly eroded to bedrock (e.g., RC78-83, RP002, SL005, RC127). Hillside sites are in

somewhat better shape as uphill soils erode onto the site, covering some areas with rain-driven soil deposits (e.g., RLP16, SC066, RP005). Because of this overall movement of material within sites, the current relationships between artifacts and structures do not uniformly reflect original circumstances. These observations do not mean that surface collections are entirely useless in the Northern Calchaquí Valley. On the contrary, for establishing an overall understanding of a site, they are extremely useful (artifacts do not flow between sites). Problems only emerge when they are used for internal site analysis.

In light of these developments the challenge became deciding how to recover data linking artifacts and structure types in order to understand the use of these architectural features. The solution lay in performing more excavations than had been originally planned. By deciding not to pursue surface collections, more time was available that could be dedicated to performing extra test-pit excavations at each site.

Test-Pit Excavations

At each study site a team of two project members conducted test-pit excavations, which were designed to obtain sufficient material to facilitate statistical analyses. As the preceding discussion about surface collections makes clear, the excavations took on new importance in this research towards collecting a representative sample of material for these analyses. In the broadest terms, excavations were designed (1) to establish the chronological sequences of the study sites in reference to stratigraphic deposits, carbonized material for dating, ceramics, and obsidian, and (2) to examine the use-history and sequence of construction of different structures at each site.

In order to preserve a random element in the selection of locations for excavation, structures were randomly chosen by ASD number for excavation. This random element

in the selection process insures the comparability of excavated material between sites is insofar as any bias in privileging one type of structure for study is eliminated. To determine exactly where to place units of excavation within each structure, it was up to the excavators to study the ground surface to locate well-preserved deposits. Of the 38 test pits excavated, six were placed just outside the structures against the exterior faces of the walls. The remaining 32 excavations inside structures were placed most commonly against an interior wall, either in a corner or just inside a door. These locations generally hold the greatest accumulations of deposit and also provide a good chance of learning more about the founding levels of the structure walls. The test pits were typically conducted in 1m² units of excavations, unless the deposit seemed particularly thin, in which case the units were expanded to 1.5m². Every unit excavated per ASD was given a unique number, which appears in the provenience string after the AD and ASD numbers (see Appendix 5). In only two instances were two units excavated in the same structure, which happened because the first units were placed in shallow and disturbed locations. Because cultural deposits seldom exceeded 1m in depth, each test pit was completed in about four days. At each site the excavation team dug as many test pits as they could in the time that it took for the other teams to finish their tasks and, in the end, at least two (but no more than five) units were excavated per site (Appendix 1 details the number and location of the excavations site-by-site).

Excavations were carried out in 15cm levels, except where natural and cultural levels were shallower (levels are represented in the provenience string as the fourth number after the '=' sign, see Appendix 5). Three dimensional features were isolated and excavated apart (trash pits, hearths, work areas, etc.), whether they extended between

levels or whether they occupied only a portion of the excavation unit in plan view. These features are called 'loci' and are represented by the final number in the provenience string. Using this system requires that excavators stop excavations at the bottom of each level (arbitrary, natural, or cultural) and at the edges of each locus in order to take photographs and prepare a plan of the closing levels of each portion of the excavation (collection bags are also sealed and new ones opened as the excavations continue in a new level or locus). As a shorthand, a discrete portion of an excavation is called a 'Unit-Level-Locus', or ULL. Based on the field notes, sketches and photos, each ULL can be recreated in three dimensions and rejoined with their associated artifacts. The simplest ULL might be in the shape of a shoe box, all sides being true-to-square. More complex shapes that were isolated for excavation included lenses of ash, oddly shaped hearths, and small pit features. The excavation team filled out excavation forms for each ULL that they isolated and excavated (see Appendix 4). This form was designed originally by the Proyecto Arqueológico Calchaquí in 1990 and 1992, and was updated for use in this project. Obviously, there are no upper and lower limits to the number of ULLs that may be encountered in a unit of excavation. For instance, in the 38 test pits that were excavated on this project 133 ULLs were defined, which averages to be more than three ULLs per unit.

Among the many excavation details that are recorded on the excavation form (e.g., opening and closing depths, soil color, photograph numbers, categories of artifacts collected, etc.), the excavators are also asked to select and explain a 'Cultural Context Code' from a list of codes that was developed by UMARP and later adapted by the Proyecto Arqueológico Calchaquí (see full list in Appendix 6). In it, numbers are

assigned to archaeological contexts that excavators can expect to encounter in their excavations, for instance code 140 stands for an excavation of 'rock wall fall' and code 297 stands for 'midden with carbon'. Although there are close to 100 codes to select from, this list is not meant to be comprehensive and, therefore, does not restrict interpretations of what excavators think are the contexts that they are encountering. The excavation team was free to define new contexts and did so regularly. Using these codes serves two purposes: first, it requires the excavators to study and think about each context and describe in their excavation reports why a certain Cultural Context Code was chosen. The goal is to be able to clearly link each ULL (and its artifact contents) either to the original use of a structure or to the formation of the archaeological deposit after site abandonment. Second, these codes are used as a shorthand in the comparative statistical analyses of artifacts. For example, by keying to a certain Cultural Context Code, all artifacts found in middens can be isolated for study.

The excavated matrix was screened through 1cm² wire-mesh and artifacts separated into bags by type. Eight-liter soil samples from significant cultural contexts were set aside for flotation analysis, for example from occupation floors, ash deposits and middens. Special finds (e.g., complete ceramic vessels, metal artifacts, etc.) were plotted in three dimensions relative to a fixed datum and given their own catalogue number unique within its ULL (this number is added at the end of the provenience string after a '/', see Appendix 5). Bags of artifacts were labeled with the appropriate provenience strings and brought back to the Museo Arqueológico de Cachi for curation and analysis. As artifacts were brought in from the field they were washed and labeled before undergoing a rough sort by museum personnel according to material and provenience.

As Table 2 shows, the largest artifact categories by count are ceramics and bone, followed by lithics, carbon and all the rest. Based on prior experience in the Proyecto Arqueológico Calchaquí, the original plan was to generate about 50000 artifacts total between surface collections and excavations, which was seen as a useful number for statistical analysis. In the end, falling well short of this number, we recovered a total of 7167 artifacts. The significance of this shortfall is discussed below in the description of the statistical analysis part of this research.

Site	Artifacts/ecofacts:												
	Ceramic	Bone	Lithic	Carbon samples	14-C dates	Wood	Shell MNI	Ground stones	Adobe fragments	Metal	Mica	Ocre	Flotation samples
RC021	107	0	10	2	0	0	0	0	0	0	0	0	2
RC078	1021	2136	64	15	3	1	0	0	4	0	0	2	11
RC083	119	27	8	5	1	0	1	0	0	1	0	0	3
RC127	130	49	16	9	2	0	5	0	0	0	3	0	4
RLP16	717	574	12	12	2	0	6	5	3	0	1	1	5
RP002	36	7	8	0	0	0	0	1	0	0	0	0	0
RP005	922	653	82	5	2	0	3	1	0	0	0	0	3
RP200	6	89	1	1	0	1	0	0	1	0	0	0	2
SC042	1707	0	0	0	0	0	0	0	0	0	0	0	0
SC065	0	0	0	2	2	0	0	0	0	0	0	0	0
SC066	52	59	4	4	1	0	0	0	0	0	0	0	1
SL152	0	8	0	4	1	0	0	0	4	2	0	0	4
SL005	12	19	8	3	0	0	3	0	2	1	0	0	2
SL033	19	26	5	8	0	0	0	0	0	1	0	0	0
total:	4848	3647	218	70	14	2	18	7	14	5	4	3	37

Table 2: Total artifacts recovered by study site

The low cumulative totals in some artifact categories prohibit statistical analysis.

Laboratory Study

During the months of April 1999 and February and March 2000 the archaeological material recovered during fieldwork was studied and curated at the Museo Arqueológico de Cachi. Originally, five months of laboratory work were planned, but given the smaller total number of artifacts recovered the work was accomplished in less time. In sweeping terms, three activities were conducted: (1) each individual artifact was studied, coded for statistical analysis, labeled, curated for long-term storage, and if

appropriate, drawn and photographed; (2) the soil samples recovered for flotation were processed; and (3) carbon samples were selected for export to the United States for chronometric dating. As with fieldwork, these laboratory tasks were conducted with the help of university students from Salta and museum employees. They are described below in the sequence in which they were conducted in Cachi.

Artifact Study

Table 2 shows all categories of artifacts recovered and studied during this research. Because of the disparity in the quantities of artifacts recovered, artifacts were analyzed to varying degrees of intensity. Ceramic, lithic and bone artifacts were closely studied and coded for statistical analyses, while shell, metal, wood, etc. were examined more informally. In a laboratory space set aside in the Museo Arqueológico de Cachi, every artifact regardless of category was cleaned, examined without magnification, described in note form, and labeled and curated for long-term storage in the museum. Objects that were diagnostic and well-preserved were drawn to scale and photographed using color-slide film. Ceramic, lithic, and bone artifacts were studied further and coded for statistical analysis according to conventions shared between members of the Proyecto Arqueológico Calchaquí. In particular, attributes of artifacts were recorded that identify size, form, and stylistic variation in order to document the use and age of the artifact and in turn the occupational history of the study sites. The artifact data were then entered into a computer database and prepared for statistical analysis.

Ceramic Artifacts: The process of analyzing and coding ceramics included sorting all excavated ceramic fragments according to the variable categories that appear in Appendix 7. First, sherds were sorted by morphology (body fragment, rim fragment,

base, handle, etc.), form (jar, olla, bottle, puco, figurine, etc.) surface treatment (wiped, combed, polished, etc.), surface application (plain, wash, slip, etc.), surface color (white, black, red, etc.), style type, temper, and the presence of surface burning. Second, morphology details were recorded in the case of rims (everted, flared, etc.), necks (cylindrical, conical, etc.), handles (vertical strap, horizontal strap, button, etc.), and bases (flat, concave, convex, etc.). Third, the sorted pieces were counted and weighed and basic measurements of diagnostic pieces were taken, including thickness of rims and bases, lip details, diameters, etc. Each sorted collection of ceramics was entered as a unique line, or 'field' of data into the database and just under 1000 fields were generated representing 3141 actual ceramic pieces.

Given the number of variables that appear on the list of ceramic codes used in this research (see Appendix 7), there are thousands of possible combinations of characteristics, although certain combinations began to emerge through analysis that speak to the broader cultural patterns that are of interest to this research. For instance, the project's ceramic study has been designed to record chronological attributes, because ceramics offer one means of establishing chronologies of site usage. Various attributes of Inka-period ceramic assemblages have been shown to be excellent chronological markers, including the presence of imported ceramics from the altiplano (e.g., Pacajes and Yavi ware) and from Peru (e.g., Inka polychromes and plates). Following procedures developed by DeMarrais (1997:122-168) and Pollard (1983), ceramic analyses focus on design elements and surface treatments, which have been linked to ¹⁴C dates from stratified excavations in the valley and obsidian hydration results from surface collections.

Functional analyses were also carried out on ceramic remains, building on previous studies of ceramic form in the Calchaquí Valley (Calderari 1991, DeMarrais 1997, Pollard 1983). Vessels associated with feasting, such as decorated ceramics, open serving vessels, and plates are especially important. When this type of hospitality paraphernalia is discovered in conjunction with public spaces it can strengthen the argument that the Inkas possibly gained the support of indigenous leaders through negotiation, ceremonial activity, and gift giving. In terms of affiliation, Inka-period ceramics stand out from Santamariano ceramics, which are characterized by distinctive urns and bowls, decorated in a variety of red, white, and black geometric and naturalistic motifs. The large face-neck burial urn is perhaps the archetypal local vessel, with at least six known regional variants (Calderari and Williams 1991). The Inka-related materials from the Calchaquí Valley are also well-known and are best described by Calderari (1991). Inka-period ceramics are characterized by hybrid styles that blend varying degrees of Cuzco-styles with local motifs (variously Imperial Inka, Provincial Inka, Mixed Inka, and Inka Phase). By analyzing the percentages of Santamariano, Inka, and hybrid ceramic categories that appear in various behavioral contexts, an understanding emerges in later chapters concerning the degree to which local groups contributed to the formation of strategies of Inka expansion.

Lithic Artifacts: The process of analyzing and coding excavated lithic artifacts paralleled the ceramic study as all lithic pieces from each ULL were sorted according to the variable categories that appear in Appendix 7. First, pieces were sorted by material type (sedimentary, obsidian, igneous, etc.), form (flakes, tools, etc.), size, and the amount of cortex still present. Second, codes were assigned for evidence of usewear (dulled

edge, battering, etc.) and micro-retouch. Third, the sorted pieces were counted and weighed and basic measurements of diagnostic pieces were taken. Each sorted collection of lithics was entered as a unique field of data into the database and just under 167 entries were made representing 218 actual lithic pieces. Again, as with ceramics, given the number of variables that appear on the list of lithic data codes, thousands of possible combinations of characteristics exist. The questions asked of the lithic data are quite basic and relate to patterns in the distribution across the valley of material type (What populations at which sites had access to what primary material?) and lithic form (Were some areas more commonly involved in the production or the use of lithic artifacts?). The results of this analysis appear especially in Chapter 6 in regard to the interpretation of valley activities.

Bone Artifacts: The analysis and coding of bone artifacts followed the same logic used to study ceramic and lithic remains: every excavated fragment or whole specimen of bone was sorted according to the variable categories that appear in Appendix 7. First, bones were sorted by species (e.g., small mammal, camelid, human etc.), bone type (cranium, tooth, vertebra, femur, etc.), fragmentation (whole, distal, proximal, etc.), side, epiphyses, and evidence for use (burning, cutting, polish, etc.). Second, the sorted pieces were counted and weighed and basic measurements of diagnostic pieces were taken. Each sorted collection of bone was entered as a unique field of data into the database and 633 entries were made representing 3647 actual pieces of bone. The questions asked of the bone data are also basic and relate to questions of access to resources and the economies of subsistence at the study sites. To this end, the data are examined in later

chapters for patterns in the distribution by site and by context of species, body parts (in the case of camelids), and evidence for preparation and consumption.

Flotation Study

Excavated soil samples for flotation analysis were collected, processed at the Museo Arqueológico de Cachi, and curated for possible later study, meaning that ethnobotanical studies have not been conducted as part of the research described in this thesis. Processing the samples including performing the flotation in order to retrieve the light and heavy fractions from each sample. In total, 175 liters of soil were collected and processed representing 37 samples overall. Soil for flotation analysis was not collected from every level and locus in every unit of excavation. Instead, samples were opportunistically collected from potentially valuable prehispanic contexts. For instance, samples were gathered from all floors, hearths, and middens as well as from within every complete pottery vessel discovered. While flotation samples taken from pottery vessels were as small as one liter, a typical sample taken from an excavated matrix was 6.5 liters in size. An informal inspection of the heavy fractions revealed discernable amounts of microlithic artifacts, small bones, and flecks of carbon. Light fraction collections revealed more carbon, bone, and occasional macrobotanical remains. Further study would help clarify whether these might be contemporary or archaeological.

Radiocarbon Dating: Selection and Analysis

All carbonized remains visible to the naked eye were retrieved from all excavations. In total, 68 of the 133 discretely defined portions of excavation (ULLs) contained carbon. By weight 721gr of carbonized material was recovered, the majority of which is burnt wood ('charcoal' or 'carbon'). In collecting the samples from the field

and in handling them in the laboratory, care was taken not to contaminate the samples through human touch. Each sample was placed directly in metal foil and has been curated for long-term storage at the Museo Arqueológico de Cachi. The carbon material has not been analyzed for ethnobotanical information, however, further study of this nature would be certainly worthwhile. Of the 68 charcoal samples recovered in excavations, 14 samples were selected for export to the United States for radiocarbon dating. The following is a description of (1) the process by which the contexts for dating were selected, (2) the process by which material was extracted from each sample to be dated according to a morphological examination, and (3) the methods of calibration used to refine the radiocarbon age of each sample. The results and interpretation of the dates themselves are discussed in the next chapter.

Selection of Contexts for Dating: Selecting which of these 68 contexts to date was the first and most important step in processing the excavated carbon. The initial factor that was considered in selecting carbon was financial: How many samples could be processed and paid for?(Footnote 2) The next crucial factor to be consider was the nature of the contexts themselves-- where were the samples recovered from? Typically burnt material on structure floors (e.g., hearths, food remains) offer more information than material from secondary and tertiary contexts (e.g., middens and reinternments). Likewise, depending on the depth of the deposit, it is not as useful to date collections recovered from just below the ground surface. Identifying what event was actually being dated was also crucial. For instance, dating a fragment of a basket defines when the grass was cut and not when the basket was used or entered the archaeological deposit. Finally, in selecting carbon samples for dating, efforts were made to submit dates from as many

of the study sites as possible, from as wide a variety of structure types as possible, and from ULLs that contained notable quantities of other artifacts for cross-dating.

After evaluating the contextual factors as they affected the 68 samples, 14 were selected for dating, which represent eight of the 13 sites under study and nine out of the eleven structure types encountered overall. Table 3 lists these samples and describes their provenience and associations. Two of the final 14 samples submitted merit attention, namely the two samples from SC065 (Cortaderas Bajo), which is one of the clearest examples of an Inka installation in the Northern Calchaquí Valley. SC065 has been investigated for over a decade in various campaigns by the Proyecto Arqueológico Calchaquí; in 1990 a site plan was prepared and excavations and surface collections performed, in 1995 surface topography was measured, and in 1999 more excavations were performed by project member Acuto. The data generated by these campaigns are available for study by other members of the project, which is an example of the project's integration discussed above. Because of the availability of data from this site from other Proyecto Arqueológico Calchaquí studies, it was decided that no more excavations would be conducted by this project at SC065. Instead, the site was subjected to the architectural analysis described above and two carbon samples from Acuto's 1999 excavations were included for dating with the twelve samples already selected from the other study sites. By combining the architectural data from this site with its associated radiocarbon dates, it has been possible to establish for certain that occupation at the site dates to the Inka period. In turn, using the architectural data gathered at the site, a statistical baseline or profile of Inka architecture in the Northern Calchaquí Valley has been generated against which we can compare architectural data from other sites (see next chapter).

Index	Site	AD	ASD	Unit	Level	Locus	Slash	Grams	CM below surface	Sample material	Notes
1	RC078	1	1	1	2	1		36.4	30	dicotyledon, twig	Midden abutting circuit wall
2	RC078	1	1	1	4	3		6.5	70	dicotyledon, twig	Midden abutting circuit wall
3	RC078	1	14	1	5	3	1	47.6	20	dicotyledon, twig	Infant urn burial outside patio, inside urn
4	RC083	2	1	1	5	2	1	0.1	25	dicotyledon	Puco against wall inside structure, on possible floor
5	RC127	1	6	1	3	3	1	0.3	40	dicotyledon	Puco set in pit along wall, inside structure
6	RC127	1	33	1	5	1		5.2	130	dicotyledon	Cutlural fill, inside small round structure
7	RLP16	4	3	1	6	5		3.2	50	dicotyledon	Hearth feature on floor against wall, inside structure
8	RLP16	4	9	1	4	2		72.3	55	dicotyledon	Cultural fill below between two floor levels
9	RP005	1	1	1	4	2		6.0	35	dicotyledon	Cultural fill below between two floor levels
10	RP005	2	1	1	5	3		2.0	35	dicotyledon	Midden deposit
11	SC065	1	21	1	3	1		0.1	25	dicotyledon	Cultural deposit inside structure
12	SC065	3	22	1	4	2		0.1	20	dicotyledon	Cultural deposit inside structure
13	SC066	1	4	1	3	1		0.5	45	dicotyledon	Construction deposit against outside wall, domestic structure
14	SC152	1	2	1	5	3		41.8	54	dicotyledon	Ash deposit from lowest level inside of kiln

Table 3: Carbon samples selected for dating and their provenience

These 14 carbon samples were processed by the NSF-University of Arizona AMS Facility, which uses atomic accelerator mass spectrometry (AMS) to calculate sample dates. Results of the measurements are presented in Table 5.

Selection of Material for Dating: Because there are tens and hundreds of carbonized botanical or animal specimens in a typical sample, it was crucial to establish what material would actually be dated. First, differentiating between wood, bone and shell was important as was identifying the genera of plant or animal being dated. Short-lived materials (e.g., seeds, twigs) were preferable over long-lived materials, which might have been reused over many years. To select the small amounts of carbon needed for AMS calculations (ca. 5mg), the 14 samples were studied under magnification. (Footnote 3) Immediately a class of botanical material that was common to all 14 samples was

established, namely dicotyledon, and samples of this class were targeted for dating. Dicotyledons are a class of plants in the division of angiosperms (hardwoods, flowering plants), and are distinct from other classes of angiosperms, such as monocotyledons, and from all classes in the gymnosperm division. More specific identifications of the family, genus or species of the samples sent for dating were not identified. Although a few seeds were present in a number of samples, these were passed over in order to ensure that whatever possible old-wood error existed, it did so equally for all samples. Also, these seeds will be available for possible ethnobotanical study in the future.

Calibration: The AMS technique of dating carbonized material exploits the principle of radioactive decay, which is the transformation after death of unstable radioactive isotopes into stable elements. As background, all living things constantly take in two types of carbon: ordinary ^{12}C and radioactive ^{14}C . Up until death, the ratio of these carbons to each other remains constant; after death, ^{14}C starts to decay while ^{12}C remains the same, and thus their ratio starts to change. By measuring this ratio it is possible to determine how much time has passed since the death of an organism. A basic assumption in this logic is that the ratio of these carbons in life is a constant, but of course it is not. Instead, the levels of ^{14}C that are present in the atmosphere (and thus present in all living things) changes constantly depending on a number of variables, including the earth's magnetic field. To correct for these variations, researchers have plotted several calibration curves against radiocarbon dates that have been conducted on collections of wood that have been accurately dated through dendrochronology. In turn, using this curve, any radiocarbon age can be calibrated, or 'adjusted' to more accurately reflect its age. To simplify the calibration process, computer programs have been created

to aid researchers. In this research, the computer program CALIB v4.1 (Stuiver and Reimer 1993) was used to convert the radiocarbon ages of the dated samples to calibrated calendar years. Dates should always be reported both as radiocarbon ages with standard error and as calibrated calendar dates. Both conventions are followed here and a full treatment of the technical side of the calibration appears in Appendix 9.

Statistical Analyses

The field and laboratory activities described in this chapter generated a number of quantitative databases, which serve as the foundation for the analyses and discussions appearing in the following chapters. The four largest databases (architectural, ceramic, lithic, and bone) are crosscut by smaller databases containing information about excavations (volume excavated, soil color, etc.) and by the calibrated radiocarbon dates discussed above. Different key variables can link different sets of data, depending on the nature of analysis. For example, a particular structure type can be the key that links an analysis of ceramics, radiocarbon dates, and lithic tools. In many of the analyses that follow the study sites are the common key that link together different variables. This means that analyses of excavated material recovered from within a single site are not as common in this thesis as analyses of the same material found at many sites. The significance of this is central to the analyses that follow in Chapters 4-7, namely more is generally known about a few things at a lot of sites than is known about a lot of things at a few sites.

There are two other quantitative sets of data that are included for comparative purposes in the analyses that follow. These were not generated by this immediate project, but both come from within the Proyecto Arqueológico Calchaquí. As indicated above,

the first of these are the two excavated radiocarbon samples that have been contributed to this study by Acuto. These samples come from SC065 (an Inka installation in the northeastern corner of the Northern Calchaquí Valley) and their dates anchor in calendar time the architecture that was analyzed at the site. D'Altroy has generously shared the second set of data, which is the ceramic database from Potrero de Payogasta, an Inka-period site in the Potrero Valley. In 1990 D'Altroy and his colleagues conducted excavations and surface collections at this site and performed an analysis of some of the ceramics according to project conventions. These ceramic data and their coded variables are compatible, therefore, with the data recovered for this thesis. D'Altroy also obtained a number of radiocarbon dates from excavated contexts that produced some of these ceramic data, which further validates using these materials for comparison. Both external sets of data, then, were deliberately selected for inclusion in this study, because they help establish a baseline of data that represents what may be the best examples of Inka material culture in the valley (Inka architecture at Cortaderas Bajo and Inka ceramics at Potrero de Payogasta). This is not to say that these data are unequivocally Inka. In fact, they may not be. Instead, they serve as a point reference that may help evaluate other lines of information.

All of the data, whether originally generated by this project or borrowed from elsewhere, were entered into a spreadsheet computer program (Microsoft Excel) and analyzed using a number of statistical techniques. Keeping in mind the four research questions proposed by this study, the goals of these analyses were (1) to sequentially order the activities that occurred in the transition between the DR and Inka periods; (2) to distinguish trends in the affiliation of the people who produced and used these artifacts;

(3) to interpret the function of different installations and structures in order to understand the activities that occurred at these sites; and (4) to understand the nature of relations that potentially developed between foreign and indigenous groups in the Inka period. The statistical techniques pursued in the study of these data follow the Exploratory Data Analysis school of statistics as championed originally by Tukey (1977), and later brought into the social sciences by Marsh (1988). The EDA approach to statistics involves looking at patterns of numbers (the data) and making sense of them as they relate to a substantive problem. The exploration itself is designed to focus the attention of the analyst on graphic displays of the data, which, ideally, help to summarize, formalize, or generalize some aspect of the world. It is median based rather than mean based and, as such, is somewhat counterintuitive to most statistical approaches in archaeology, which at times can seem like rote applications of recipes of statistical techniques (Marsh 1988:xviii).

To begin most any EDA exploration single variables are measured and examined diagrammatically. This typically involves studying and comparing frequency distributions and analyzing central tendencies and spreads. Trends and discontinuities in the data then can be subjected to bivariate and multivariate techniques. For instance, data might be standardized, entered into a contingency table (i.e., 'cross-tabulation'), or subjected to basic causal analyses. Contingency tables can be studied visually and analyzed more rigorously by calculating a chi-squared statistic. Scatterplots are also helpful for visually exploring data and these, too, can be subjected to further analyses, such as regression and the study of residuals. These tools, which are clearly described by

Drennan (1996) for use in archaeological research, are used throughout Chapters 4-7 where they are applicable.

Chapter 4 -- Chronology in the Northern Calchaquí Valley

This chapter presents a study of the chronology of the Northern Calchaquí Valley and focuses in particular on the transitional moments between the Regional Developments (DR) and Inka periods. The initial emphasis in this discussion is on the 14 radiocarbon dates recovered from excavated contexts at a number of the study sites. Using these dates as benchmarks, findings are then presented that link trends in material culture patterning to a chronology of archaeological periods. More specifically, ceramic, site planning, and architectural data from radiocarbon-dated contexts are explored statistically according to some of the basic EDA concepts described in the previous chapter. The goal here, then, is to develop a chronological framework for the study region based primarily on chronometric dates and secondarily on information from a number of other types of material culture. This chronological framework is subsequently extended to those sites, structures, and excavated contexts that lack actual radiocarbon dates. This chapter begins with a general observation about the challenges of chronological studies before turning to a study of the specific archaeological chronology of the Northern Calchaquí Valley.

To begin, this chapter recognizes that nested processes in human life operate at different time scales simultaneously. This approach draws from Braudel (1972, 1981), who describes time on three levels: at a familiar level there are short-term processes that take place day-to-day (courte durée); on a middling scale are decade-long events that may occur over generations (l'histoire événementielle); and over the long term are relatively stable structures underlying human life that change imperceptibly (longue durée). Forces

at each scale are constantly at play in shaping human history, which means that no single process should take precedence in interpretations of the past. For example, while the great majority of short-term events are lost in the past, for example the chance encounter between adversaries along a road or the rapid slaughter of a llama by a hunting party on a hilltop, some idea of day-to-day life can be recovered archaeologically through the analysis of the quotidian activities that leave traces in the archaeological record.

Medium-term forces are more perceptible archaeologically and include such recognizable events as the founding of a settlement, the accumulation of a trash heap, and the creation of a new style of ceramics. Archaeologists are especially adept at tracing changes in long-term structures, for instance when the ecological character of a region shifts or the demographic profile of a society changes.

While the chronological analyses in this chapter mostly seek to recognize temporal changes in the medium-term, that is in the century or so of time surrounding Inka contact in the Calchaquí, it also recognizes that shifts at the upper and lower temporal scales were forces that shaped medium-term events. This 'Time Perspectivism', which sees cause-and-effect relations across time, has been developed especially by Bailey (1983, 1987). One example of how this can work comes from the valley and concerns the short-lived trend seen in the Inka period of building structure walls without core-fill. Although the penchant for this masonry technique was promoted heavily by the Inkas at sites like SC065 in the short term, when compared to the non-Inka majority of construction from the Inka period this Inka-preferred technology was overshadowed in the long term by the masonry habit of using core-fill to hold structure walls together. This point is explored at length later in this chapter.

In light of this type of evidence, I argue in this chapter that it is likely that the Inka-related events in the valley were a scant interlude in the persistent and durable history of life in the valley. As it turns out, in Calchaquí archaeology it is a struggle to identify purely Inka attributes in the material record of the past. Instead, pre-Inka history in the valley is replete with Inka-like social phenomenon; for instance there are patterns of interregionalism, human migrations, and deliberate relations of reciprocity long before the Inka period. The precocity of these cultural and social phenomena in pre-Inka societies also portends their persistence into the Inka period. In other words, not only is it possible to see Inka-like traits extend back in time, there are also a number of indelible, DR-period traits that extend forward into the Inka period. The significance here is not minor; although indigenous societies may have been constrained subtly by the Inkas, they surely had the power to shape their own worlds up to and beyond contact with the Inka state.

Archaeological Chronologies in the Northern Calchaquí Valley

As I turn to the archaeology of the Northern Calchaquí Valley, there is a question about what is meant materially by the term 'Inka'. As a label it can have chronological implications (this structure is Inka, therefore it was erected and used in the 15th-century AD); and it can also signify affiliation (this structure is Inka, therefore it was made and used by agents of the Inka state). Although this chapter uses the labels 'DR' and 'Inka' according to the first sense (i.e., chronologically), there are limits to their utility. Most significantly, the production and use of many DR-period styles of material culture extended into and through the Inka period, which means that some of what are thought of as pre-Inka activities may actually date to the Inka period. Similarly, under close scrutiny

there are attributes of Inka-period material culture that seem to appear in the earlier time periods.

Site	Earlier periods (pre-AD 1000)	DR period (AD 1000-1470)	Inka period (AD 1471-1543)	Colonial period (post-AD 1543)
RP005	C14; excavated architecture; excavated ceramics	C14	some surface architecture	
RC78-83		C14; architecture; excavated ceramics		
SC066		C14; architecture; excavated ceramics		
RC127		C14; architecture; excavated ceramics	possible squatters, herders, travelers	
RLP16		C14; architecture; excavated ceramics	possible reuse and repair; possible new patios	
RP002		architecture; site plan; excavated ceramics	architecture (platforms); excavated ceramics	
SC042		C14; excavated ceramics	C14; excavated ceramics	
RC021			architecture; site plan; excavated ceramics	
SL005			architecture; site plan	
RP200			architecture; site plan	
SL033			architecture; excavated ceramics	some architecture; historical artifacts
SC065			C14; site plan architecture	possible squatters, herders, travelers
SC152				C14; artifacts; architecture

Table 4: Chronological information from artifact categories by site and time period

This table presents a summary of material culture categories that are discussed in this chapter as they relate to each site and to their place in the valley chronology. For instance, the carbon samples from RC78-83 date to the DR period, the ceramics from the excavated cultural deposit at RC127 date to the DR period, and the architecture at SC065 date to the Inka period.

To avoid confusion in trying to understand the spread of material styles across time periods it is important to select material attributes that clearly change with the passing of time. Attempts to isolate these types of material clues in this research, in particular ones that are representative of the Inka period, are complicated by the shortness of the Inka period itself in the study area. Because of the complexities in designating material culture at the cusp of imperial contact, this chapter questions our ability to

uniformly distinguish Inka-period versus DR-period material culture in the Northern Calchaquí Valley. This point underlies much of the following discussions about the chronological analysis of material culture gathered in this research, which is first introduced in Table 4.

Index	Site	Provenience	Lab no.	C14 Age BP	Calibrated dates AD*	Period	Median probability
10	RP005	RP5=2-1-1-5-3	AA37300	1771 +/- 41	183-340	Format.	AD 268
9	RP005	RP5=1-1-1-4-2	AA37301	932 +/- 43	1036-1158	DR	AD 1102
8	RLP16	RLP16=4-9-1-4-2	AA37299	906 +/- 37	1041-1186	DR	AD 1117
4	RC083	RC83=2-1-1-5-2/1	AA35246	906 +/- 40	1040-1186	DR	AD 1118
3	RC078	RC78=1-14-1-5-3/1	AA35244	881 +/- 40	1045-1216	DR	AD 1153
7	RLP16	RLP16=4-3-1-6-5	AA35249	846 +/- 45	1160-1258	DR	AD 1194
5	RC127	RC127=1-6-1-3-3/1	AA35247	826 +/- 55	1163-1269	DR	AD 1208
13	SC066	SC066=1-4-1-3-1	AA37296	795 +/- 39	1220-1273	DR	AD 1241
1	RC078	RC78=1-1-1-2-1	AA35245	761 +/- 40	1224-1285	DR	AD 1260
2	RC078	RC78=1-1-1-4-3	AA35243	736 +/- 40	1256-1297	DR	AD 1274
6	RC127	RC127=1-33-1-5-1	AA35248	686 +/- 45	1278-1387	DR	AD 1312
12	SC065	SC065=3-22-1-4-2	AA37297	515 +/- 38	1403-1437	DR	AD 1416
11	SC065	SC065=1-21-1-3-1	AA37298	291 +/- 37	1521-1653	Inka	AD 1569
14	SC152	SC152=1-2-1-5-3	AA37302	139 +/- 37	1676-1949	Span.	AD 1810

* One-sigma (68%) calibrated date AD

Table 5: Radiocarbon samples, dates and calibrations

Index numbers correspond to provenience information found in Table 3. Isotopic measurements were taken by the NSF-University of Arizona AMS Facility, which uses atomic accelerator mass spectrometry (AMS) to calculate sample dates. To produce results with AMS, this laboratory requires 5mg (0.005gr) of material. The samples are sorted chronologically according to their median probability dates as calculated using CALIB v.4.1 (Stuiver and Reimer 1993).

Results of Radiocarbon Assays

This section reviews the radiocarbon assays performed at the NSF-University of Arizona AMS Facility on behalf of this project. Table 5 and Chart 1 present the results in tabular and graphic form (see Appendix 9 for technical information about each sample). In the following discussion each sample is described in rough chronological order from oldest to youngest. The logic of why each sample was selected for dating is considered and the contexts of recovery are reviewed in order to establish what is precisely being

dated. Key artifacts found in association with the carbon sample are mentioned briefly here and analyzed more rigorously in later sections that deal with specific artifact categories (ceramics, architecture, etc.). When site formation processes are relevant in regard to the integrity of the contexts, these are discussed as well.

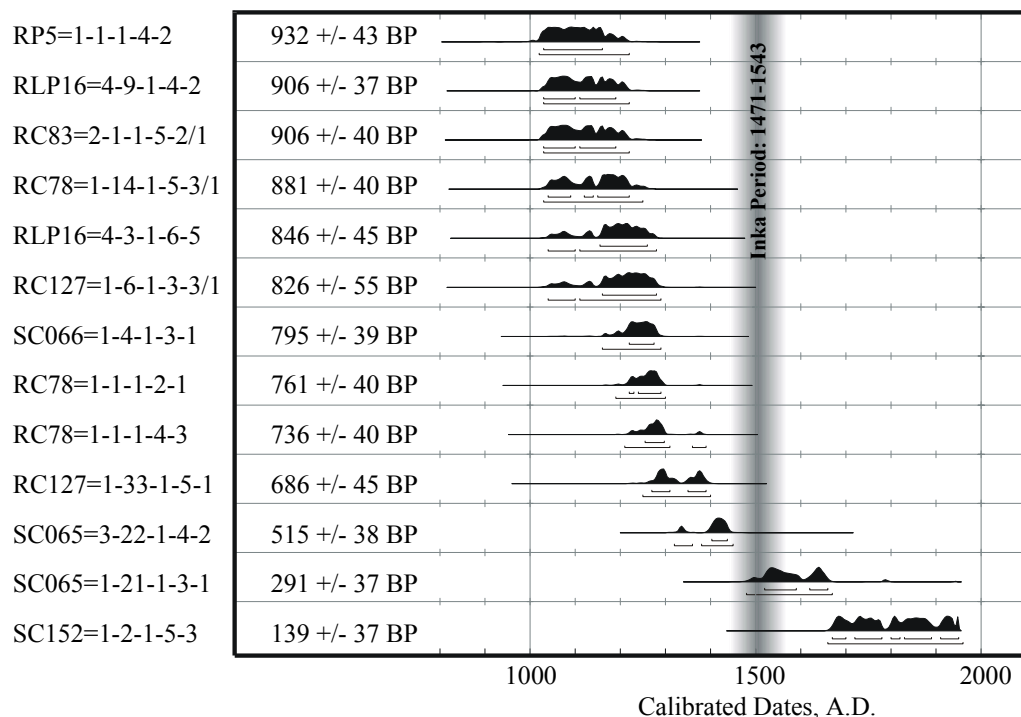


Chart 1: Chronological plot of calibrated radiocarbon dates

Calibrated radiocarbon dates graphed according to OxCal v. 3.5 (Bronk Ramsey 1995). For each sample, the histograms show probability distributions; the upper horizontal brackets illustrate 1 sigma errors, and the lower horizontal brackets illustrate 2 sigma errors. The Formative date of AD 183-340 from sample RP5=2-1-1-5-3 is not included. See Appendix 9 for complete technical information and larger-scale probability histograms for each sample.

Throughout this thesis the median probability date of each sample as it appears in Table 5 is used simply as a shorthand to locate the sample, its context, and its associated material in time (no analyses are performed, for instance correlations, that rank artifact data against these single intercept dates). Using the median probability dates in this way would be problematic if their age-range distributions clustered closely together in time.

However, as is made clear below, most of the radiocarbon results discussed here pre-date the Inka period by hundreds of years. For reasons of expediency, then, concise discussions involving error terms and one- and two-sigma probability ranges are left out (but see Appendix 9), because in only one instance does the one-sigma range of 68% probability actually overlap with the Inka period, and in no instance does the median probability actual fall within the Inka period. In the one overlapping instance (SC065), a full discussion is presented about the likelihood that the date reflects Inka-period activities.

Site RP005

A number of researchers working in Argentina (Callegari B. and Ravina M. 1986, DeMarrais 1997:200) have proposed that the Inkas reoccupied abandoned Formative period sites in northwest Argentina. RP005 was originally identified by DeMarrais (1997:154) as a possible example of this phenomenon. Based on an inspection conducted during a preliminary site visit, the earthen mounds that dominate RP005 suggested an occupation in the DR period or earlier. This was corroborated by the site's high degree of erosion, which has left most of the architecture in a poor state of preservation. Amongst the early mounds lie three thin-walled rectified structures that were apparently built at a later date given their better preservation. The largest of these structures (AD1-ASD1) is rectangular and lies near the center of the site. The shape, construction, and placement of this structure among the mounds and deteriorated architecture mimics a similar structure at the site of Cortaderas Derecho 10km to the south, which has been dated to the Inka period (Acuto 2002). These structures (both located in the middle of their sites) are nearly identical in shape, size and construction technique. Assuming that this structure

and the other similar surface structures were related to the Inkas, the specific goal in selecting radiocarbon samples from excavations at RP005 was to determine whether this settlement was occupied or abandoned when the Inkas entered the valley. In short, the two radiocarbon dates from RP005 show conclusively that there was a lengthy hiatus between the initial (Formative period) and later (Inka period) occupations.

Sample RP5=1-1-1-4-2 (14-c age 932 +/- 43: cal AD 1036 {1102} 1158): This first sample of carbonized dicotyledon wood was recovered from a depth of 35cm below the actual ground surface where it was pulled from an accumulation of cultural fill between two floors (excavated level 4). The upper floor belongs to the large rectangular structure described above and the lower floor belongs to a small, round structure buried beneath the upper structure. The floor of the lower structure was semi-subterranean, meaning it was sunk below the level of the ground that once surrounded the structure. This style of construction is typical of the Formative period. The cultural deposit lying on the floor of this structure (excavated level 5) contained a broken ceramic vessel and loose ceramic fragments also identified as Formative. The level 4 deposit (from which the dated carbon sample was taken) overlay this lower Formative deposit and underlay the footing trench of the surface architecture. (The test pit was placed against the interior face of the north wall of the surface structure in order to expose the base of the wall below ground). The dated deposit was therefore shallower than the lower Formative structure and deeper than the possible Inka construction activity associated with the upper structure. This radiocarbon date does not, therefore, directly date the use of either floor; instead, it generally identifies when the site was abandoned between the two periods of use.

This period of abandonment is confirmed by the matrix of the deposit itself, which was compositionally even and consisted of a fine-grained soil, some cultural artifacts, and flecks of carbonized wood. This stratum between these structures is interpreted as an accumulation of rain- and wind-driven erosion that naturally deposited soil and light cultural material from up-slope over the settlement. This took place after the structure associated with lower floor was abandonment and before the construction of the upper rectangular structure. Considering the value of the calibrated date itself, all of this would have occurred some 400 years before the Inkas moved into the valley, meaning that initial occupation at RP005 was even earlier. In other words, the site was empty when the Inka-related structures appeared. The second radiocarbon sample from this site bears this out.

Sample RP5=2-1-1-5-3 (14-c age 1771 +/- 41: cal AD 183 {268} 340): The sample of carbonized dicotyledon wood used in this assay was recovered from a sealed deposit in a low density midden located at the east end of the site. The midden consists of two cultural levels differentiated by a change in artifact density and soil color. The upper stratum, which was excavated in two 15cm levels, was partially disturbed from the surface by animal burrowing and a looter's pit. The deeper stratum, which was undisturbed, was excavated in four 10cm levels. The dated carbon sample was recovered from the second excavated level in the lower stratum at a depth of 35cm below ground surface, which means the date does not reflect the earliest use of the midden, nor the latest. The early age of this sample (AD 268) suggests that this midden may have been founded when the semi-subterranean structure described above was in use during the

Formative period. The quantity of Formative-period ceramics recovered in this midden corroborates this idea.

Based on an analysis of the architectural data from the site (see below), I argue that RP005 was reoccupied in the Inka period. Apparently, RP005 was vacant when Inka-period groups arrived in the area, since the site was abandoned at the end of the Formative period when a cap of soil was naturally deposited across the site. In order to gain control of RP005, therefore, the Inkas did not have to displace, overtake, or conflict with the valley societies that were living in the immediate area. Instead, they settled in what appears to have been an empty and desolate place.

Site RC78-83 (SSalLap 7)

RC078 and RC083 are separate sectors of the same settlement which, according to the radiocarbon assays, were occupied contemporaneously. RC083 consists of 21 structures spread across two ledges perched on a steep cliff. RC078 lies at the foot of this cliff 70m below RC083. Both sectors show a concern for settlement defense: RC083 because of its isolated position on a cliff ledge and its difficult access; RC078 because of its well-made defensive wall. This site is located on the edge of an area known today as Trigal (Figure 6), which consists of a massive alluvial deposit that was and still is densely occupied (Trigal lies in La Poma at the northern end of the Northern Calchaquí Valley).

Trigal is remarkable for a number of reasons. First, the area is surrounded by towering mountains on three sides: to the west across the river rises the principal mountains of the Andean Cordillera, to the north rise the mountains of the headwaters of the Río Calchaquí, and to the east rises Mt. Miguel, which dominates the mountain range (known as the Cerro de Lampasillos) on this side of the valley. Second, Trigal stands at

the northern-most point of the Northern Calchaquí Valley, making it an ideal place for monitoring traffic into and out of the valley. Third, it is one of the few areas in the Northern Calchaquí Valley lying on the eastern side of the river with permanent water (Trigal is fed by two permanent streams originating from the east). Trigal, therefore, is the northernmost and highest location in the Northern Calchaquí Valley where large-scale agriculture is possible. With its dependable farm land located so close to the higher altitudes, Trigal would have been a attractive place to live in the past. Site prospecting in the mountains surrounding Trigal revealed scores of ancient and recent camelid corrals, including study site SL033, which suggest that the inhabitants of Trigal in the past took advantage of both agricultural and pastoral resources immediately available in the area.

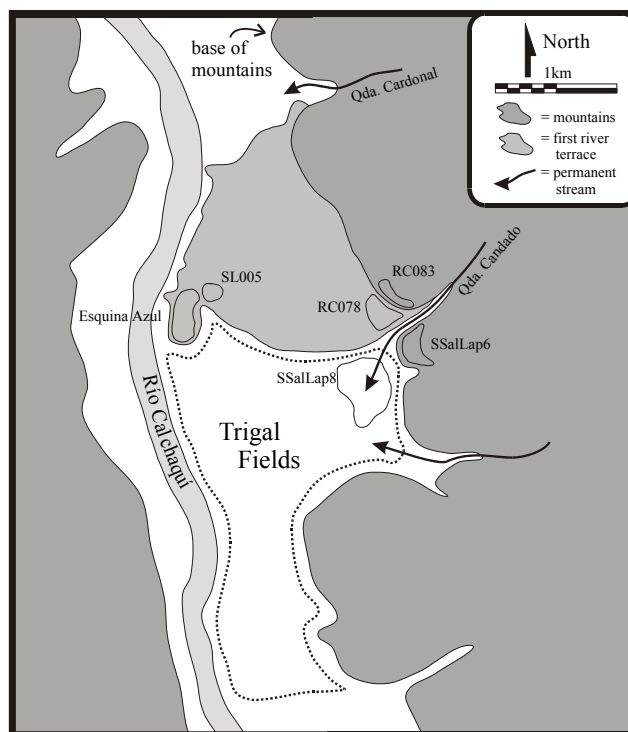


Figure 6: Trigal, La Poma

The area of Trigal lies at the northern end of the Northern Calchaquí Valley in the area of La Poma. Study sites SL005 and RC78-83 are located along the northern edge of the agricultural fields.

In fact, there is evidence that people have been tilling the fields of Trigal for centuries and there is still widespread use of the area today for cultivation. Spread across the alluvial fan itself are the remains of ancient earthworks and structures made from stones and boulders cleared for agricultural fields (e.g., SSaLap 8). Lining the edges of the great alluvial fan is a series of sites, including RC78-83 and the two large Santamariano settlements of El Candado (SSaLap 6) and Esquina Azul (SSaLap 5). A sector of Esquina Azul that lies outside the circuit wall of the main Santamariano settlement is included in this study (SL005). Later in this chapter, the possibility that SL005 was constructed in the Inka period is discussed. According to prior studies in and around La Poma (Tarragó 1978:501-505), the majority of Trigal sites have been identified as Santamariano, with smaller Inka or Inka-related sites interspersed (DeMarrais 1997:187-193). The strategy, therefore, in selecting carbon dating samples at RC78-83 was to establish the time frame of occupation in order to possibly locate activity during the transition to the Inka period. To repeat a point made in prior chapters, the goal was not only to locate and study Inka sites, but also to study sites (and their artifacts, activities, and interactions) that were occupied by indigenous communities up to and through the Inka period. To this end, four carbon samples from RC78-83 were collected.

Sample RC83=2-1-1-5-2/1 (14-c age 906 +/- 40: cal AD 1040 {1118} 1186): This sample of carbonized dicotyledon wood comes from a test-pit excavation in a complex of structures centered on the upper ledge at RC083. These structures command a tremendous view out over RC78-83, the Trigal fields, and the valley. The excavation unit was placed against the inner face of the west wall of a small structure (AD2-ASD1) measuring 4 x 2m. It was anticipated that this structure could have had a domestic or

storage function based on its size and position off an open patio. The carbon was collected from 25cm below the surface within the remains of a burnt, burnished red-slipped puco (an open ceramic bowl with slightly in-curving sides). Also found in this deposit was a copper clothes pin (alfiler), which is similar to pins on display in the Museo Arqueológico de Cachi recovered from DR-period tombs. While the burning of the puco and the pin might suggest a residence, we could not clearly define the context of recovery as domestic since we did not find an occupation surface or hearth. Instead, the deposit containing the puco was mix of cultural fill, eroded sand, and dark soil filled with ash and carbon. This deposit is being interpreted as the result of post-abandonment processes that affected the site, because the extremely steep grade of the cliff above and below RC083 subject the site to extreme erosion during annual rains. The down-slope walls of the structures lying along the lip of the ledge have served to catch much of this erosion. This is the case with the wall that defined the west edge of this excavation: it acted as a retaining wall that caught the puco and pin as they moved down the hill. All in all, the radiocarbon date from this context (AD 1118) is being interpreted as a terminus ante quem for the occupation of the site, which means that the red puco and the pin were probably used some 350 years prior to the Inka period.

Sample RC78=1-14-1-5-3/1 (14-c age 881 +/- 40: cal AD 1045 {1153} 1216):

The median age value of this sample of carbonized dicotyledon wood falls 40 years after the preceding date, suggesting the possibility of overlap in the occupations of these sectors of the settlement. This sample comes from a burial in a small rise in the hill slope just outside patio structure AD1-ASD14. The burial and the patio lie within the fortification walls of the settlement at its southern edge on the precipice of a cliff

overlooking the Trigal field systems. The burial contained (1) a partially sealed, unbroken olla ceramic vessel with at least two interred infants, (2) a badly fractured urn that once held as many as two infants, and (3) a few pieces of a third, large ceramic vessel that may also have held infant burials. The olla was capped with a burnished bowl (pucó) with a bright red slip that had lost its dried-mud seal. This type of infant urn burial is a distinctive cultural practice of Santamariano societies in the DR period. Along with the skeletal remains of the infants in the olla itself were 29 ceramic fragments, including three fragments of a burnished red pottery possibly suggestive of an Inka influence. The carbon sample was collected from within the complete olla in order to see whether this burial and the associated patio dated to the onset of the Inka period. Given the radiocarbon age and calibration this sample provides a terminus post quem of AD 1153 for the burial, which obviously predates Inka contact. The next two dates from RC78-83, which offer some idea about when this site was abandoned, do not conflict with these findings.

Sample RC78=1-1-1-2-1 (14-c age 761 +/- 40: cal AD 1224 {1260} 1285) and sample RC78=1-1-1-4-3 (14-c age 736 +/- 40: cal AD 1256 {1274} 1297): These two samples of carbonized dicotyledon wood were recovered from a low density midden rich in ash and animal bone, which also contained a handful of the burnished red pottery identified above. Also present were large pieces of adobe with impression marks of sticks and straw, which are thought to be pieces of the superstructures of buildings made of wattle and daub. Curiously, the midden itself is placed across the only large opening (or, 'gate') in the circuit that defends the settlement against attack from the north and west (the site is protected naturally on the east and south by cliffs). This wall, which also has

four well-defined semi-circular turrets projecting off the exterior, figures into a number of later discussions.

It is unclear why the midden was placed across the opening in the gate. Was it inserted in the gate to seal the settlement? Is it trash that was cleared from the site and jettisoned out the gate after the settlement was abandoned? To answer these questions, the carbon samples were collected from the midden in order to date the formation and duration of use of the midden. Both samples came from contexts that were undisturbed by surface activity, such as animal burrowing, looting, and farming. The samples were recovered from 30 and 70cm below ground surface and date to roughly 100 years after the urn burial. The dates are nearly identical (within 14 years), but the slightly older date was recovered stratigraphically above the younger date in the midden. The closeness in the dates suggest that the midden was accumulated rapidly while the reverse stratigraphy may suggest that the midden was deposited secondarily.

Interpreting the midden as the rapid collection of secondarily deposited trash begs the question, trash of what? In light of the ash and pieces of construction adobe, it is possible that the midden includes the remains of the settlement itself. Based on the two radiocarbon dates, the settlement would have been abandoned or destroyed shortly after the mid-1200's. These dates suggest that the pillagers that were jettisoning the trash through the gate were not Inkas, but were another group from or moving into the Trigal area. One possibility is that the inhabitants of one of the other Trigal sites (El Candado, Esquina Azul, etc.) pillaged this site. While this pre-Inka date generates some ideas about life in the DR period, it also suggests that a number of traditional hallmarks of the Inka period actually pre-dated the Inkas in the area. For instance, the complicated

defensive wall and at least some of the high-finish red ceramic wares can be securely dated to the DR period in the Northern Calchaquí Valley. The use of these ceramics to cross-date other material culture is discussed later in this chapter.

Site SC066 (Tin-Tin)

SC066 lies on the edge of the plain of Tin-Tin, which is on the other side of the range of low mountains bordering the valley on the east. The site lies at the top of Quebrada del Río Mollar, a thin drainage that connects the plain of Tin-Tin to the main valley (study site SC152 lies at the mouth of this drainage on the edge of the valley floor). Today a provincial highway passes through this drainage within 500m of SC066 before crossing Tin-Tin on its way east towards the provincial capital of Salta in the Lerma Valley. Díaz (1983:102) believes that this modern road overlays a prehispanic route. A number of studies have identified the site as an Inka tampu, or way-station (de Lorenzi and Díaz 1977:48, Díaz 1983:100), and so it was included in this study. Regardless of whether it was settled in the DR or Inka period, because of its location SC066 would have been well suited as a staging ground for travel across Tin-Tin.

The site contains two large open spaces (patios or corrals) and one small enclosure that was likely used for shelter and domestic purposes. For her study of the site de Lorenzi excavated 100% of the interior deposit of this small structure. According to her summary of the excavations (de Lorenzi and Díaz 1977:48-49), as much as 90% of the fragments recovered were Santamariano, 7% were a black-on-red ceramics, and 4% were a polished red variety. These materials have been misplaced in the Museo Arqueológico de Cachi, so it is not currently possible to confirm these percentages. As described by Lorenzi and Díaz, the ceramics found at SC066 are not necessarily Inka-

related. The radiocarbon evidence presented here further suggests that the site was not founded in the Inka period, but was occupied in earlier times.

Sample SC066=1-4-1-3-1 (14-c age 795 +/- 39: cal AD 1220 {1241} 1273): The sample of carbonized dicotyledon wood for dating was selected in order to determine the founding date of the site. A test pit was placed against the outside face of the southwest wall of structure ASD4 in order to reveal the founding levels of the enclosure, which according to de Lorenzi demonstrated Inka activity. Excavations were conducted down to sterile soil, which lay 49cm below the footing trench of the wall. The carbon sample for dating was collected from this footing trench at the base of wall. In short, while the site may have seen some activity in the Inka period, for instance from passing travelers, it was constructed 200 years before the Inkas entered the valley. This assay, therefore, conflicts with the idea that the site was founded as an Inka tampu. However, it does speak to a certain amount of interregionalism in the preceding period, which must have seen the movement of people and things over great distance through places like SC066. This is one of the central themes introduced in Chapter 1 that appears and reappears in this research.

Site RC127 (Alto de Palermo)

RC127 is a DR-period site located in the central part of the Northern Calchaquí Valley. Like RC78-83, this site commands open views up and down the valley from its perch on top of a small hill at the western edge of the valley. This site is surrounded by a massive circuit wall on all sides. Both aspects (the hilltop location and circuit wall) suggest a concern for protection and defensive. Spread out below RC127 are the fertile agricultural fields of Palermo, which utilize the ancient alluvial fan of the Palermo river

and the permanent flow of water that washes off of the Sierra de Cachi from the west. Because of a few Inka-period ceramic fragments found on the surface during a preliminary site visit, it was thought that RC127 might have been occupied by its Santamariano inhabitants into the Inka period. There are also a number of rectified structures that may have been inspired by Inka builders. Therefore, carbon samples were selected from excavations from this site for dating in order to determine if the site was occupied up to the Inka period by a Santamariano community or, instead, whether there was a hiatus between occupations. Once again, like the sites described above, while activity at the site pre-dated Inka contact, evidence from the site does provide insight into the nature of life in the valley before contact with the Inkas.

Sample RC127=1-6-1-3-3/1 (14-c age 826 +/- 55: cal AD 1163 {1208} 1269):

The first sample of carbonized dicotyledon wood was taken from an excavation placed in the southeast corner of a rectified structure at the east end of the site (AD1-ASD6). The depths-of-deposits at this site are shallow over all, because erosion has washed much of the cultural deposit off the hilltop. Specifically, the carbon sample was removed from the soil found within a complete puco vessel, which was set in a small pit dug into the floor of the structure. Because the median date of AD 1208 falls some 250 years before contact with the Inkas, it underlines the point that the traits researchers typically identify as 'Inka' in the valley (in this case, rectified structures) were part of the cultural vocabulary of indigenous societies long before the Inka period.

Sample RC127=1-33-1-5-1 (14-c age 686 +/- 45: cal AD 1278 {1312} 1387):

This sample of carbonized dicotyledon wood comes from 80cm below the surface in a 2 x 2m enclosure that was either a water cistern or a deep storage feature (AD1-ASD33). It

sits in the only slight depression on the hilltop, and thus serves as a natural low point in the settlement. It is unclear if the 120cm of cultural deposit in this small structure accumulated during the occupation of the site or after it was abandoned. The latter scenario seems more likely, as the excavation failed to reveal any cultural stratigraphy whatsoever. Instead, the matrix consisted primarily of sand and a mix of some cultural material that may have been the result of water erosion acting to wash building material, forsaken hearths, and artifacts down into this low point on the site.

Based on the two radiocarbon assays from this site the height of human occupation and activity at RC127 dates squarely to the DR period. It is possible that the site was occupied into the Inka period, but this is still unclear pending the analysis of other types of material culture. If the site was largely empty at the onset of the Inka period, there may have been some ephemeral post-abandonment use of the site, perhaps by animal herders or travelers, which would explain the scant Inka-period ceramics encountered on the surface but not in the excavations.

Site RLP16

Based on ceramic seriation from surface collections, DeMarrais (1997:161) suggests that RLP16 in the western lateral valley of Cachi Adentro was occupied from the DR into the Inka period. The site is located 13km up the Cachi Adentro valley and only 2km downstream from the DR-period site of Las Pailas, which contains one of the largest systems of terraced agricultural fields in the region (Tarragó 1977). A number of small enclosures at RLP16 are interspersed among 17 large patios that dominate the settlement. The site is also surrounded by a 2m thick circuit wall. Based on visual inspection during preliminary site visits two contradictory aspects of the construction of

the visible architecture were noted: first, the use of mortar in the masonry of the stone walls is evident across the site, which is typically (but not exclusively) indicative of the Inka period; second, the majority of the walls at RLP16 are core-filled, which is a construction technique mostly absent from Inka structures in the valley (these points about dating architecture are explained at length below). This apparent mix of building traditions helped determine that RLP16 should be included in the study.

Based on DeMarrais study and these observations of surface architecture, the in-field hypothesis was that a DR-period occupation at the site was possibly succeeded in the Inka period by a group unrelated to the Inkas, who in turn repaired a number of the extant patio structures or built new ones. It was further speculated that these patios may have contained the wood and thatch dwellings of agriculturists who settled in this valley in the Inka period to take advantage of the fertile landscape. Migrant labor groups working for the Inkas were common in the Andes and have been identified archaeologically in northwest Argentina (Williams and Lorandi 1986). The specific goal, therefore, in the selection of radiocarbon samples from excavations at RLP16 was to determine whether the site was occupied up to the Inka period by an indigenous community and to see what might have occurred in this settlement during the Inka period. The samples were also selected in order to determine whether there was a hiatus in occupation between these periods. Excavations were located in order to increase the possibility of identifying foreign material culture remains and to sample the cultural deposits for agricultural detritus (e.g., hoes, grinding stones, etc.). The results of these excavations as they pertain to the affiliation and activities of the inhabitants of the site are discussed in later chapters. In regard to the radiocarbon assays, the results show

conclusively that RLP16 was originally a DR-period site occupied as early as the 12th-century AD. Because the ¹⁴C-dated deposits fall short of the Inka period by more than 250 years, other data have to be used to determine if the site was still occupied in the Inka period.

Sample RLP16=4-9-1-4-2 (14-c age 906 +/- 37: cal AD 1041 {1117} 1186): The sample of carbonized dicotyledon wood used in this assay was recovered from the bottom of an accumulation of cultural fill lying between two floors. The upper floor belonged to the open-air patio seen today on the surface (AD4-ASD9). The lower surface was a compact floor belonging to an earlier occupation of the site. The carbon was recovered from a depth of 60cm below the current ground surface that was below the lowest point of the footing trench of the surface architecture (Figure 7). The dated cultural deposit therefore was deeper than (i.e., pre-dated) the construction activity associated with the surface architecture. In fact, both the sampled deposit and the compact lower floor extended under the wall of the patio structure on the surface. The matrix from which the sample was taken was comprised of a medium density deposit of artifacts that included Santamariano ceramics, shell, and clumps of adobe with straw impressions that were lying directly on floor. These adobe pieces are the likely remains of a wattle and daub superstructure that were associated with the lower structure. While the excavations did not reveal the wall foundations of this lower structure (the excavations came down in the middle of the structure), the floor itself was incredibly well-preserved. All in all, the radiocarbon date from this sample likely represents the latest use or abandonment of the earlier occupation of the site and offers a terminus post quem of the upper patio

construction of AD 1117. The next dated sample provides some understanding of this earlier occupation.

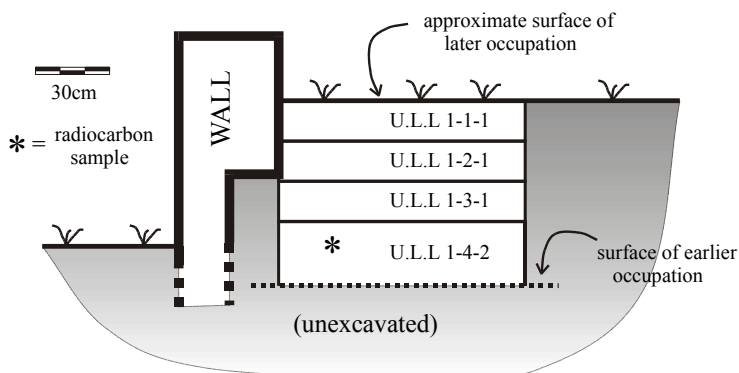


Figure 7: Profile of excavation unit RLP16=4-9-1

This figure shows the provenience of radiocarbon sample RLP16=4-9-1-4-2 in relation to the early occupation surface uncovered at the bottom of the excavations and the surface architecture of the later patio structures. The view through the unit of excavation is towards the northwest (southwest to the left and northeast to the right).

Sample RLP16=4-3-1-6-5 (14-c age 846 +/- 45: cal AD 1160 {1194} 1258): The second sample of carbonized dicotyledon wood collected at RLP16 was recovered from a hearth at a depth of 85cm below the ground surface. The hearth, which was full of ash and pieces of carbonized wood, measured 90 x 40cm and ran lengthwise against the interior face of the northwest wall of a small, round enclosure measuring 2 x 2m. This structure was initially thought to be a large tomb or storage room. Excavations quickly revealed the structure's domestic function evidenced by the hearth itself, a scattering of utilitarian ceramic wares, and a door opening into the structure. Also recovered in the excavations was a worked stone artifact in the shape of five-pronged comb. This object, which matches similar ones found in Santamariano domestic contexts elsewhere in the Northern Calchaquí Valley, is thought to have been used to remove the meat from animal

bones (Tarragó 1978:498). Based on this information, the enclosure is interpreted as a domestic space used especially for food processing and cooking.

Before considering the radiocarbon date itself, the 80cm of cultural fill that lie on top of the structure's floor suggests that this structure may be older than most of the extant patios seen on the ground surface, which have little or no cultural accumulation within their walls. Consequently, the use of this enclosure relates more closely to the earlier occupation of the site as identified above, which itself was covered by the later patios. This point is supported by the date of the radiocarbon assay from the hearth (AD 1194). While these dates link their excavated deposits to the DR period, the architecture of the patio spaces represented on the plan of RLP16 is not securely dated. Based on the use of mortar in the construction of the patio walls, it is possible to suggest that these patios were built in the Inka period by either groups working for the Inka state or by Santamariano groups working independently.

Site SC065 (Cortaderas Bajo)

As is detailed in the previous chapter, two radiocarbon dates included in this study are from the Inka-period site SC065 (Cortaderas Bajo). To review, the two samples described here were recovered in excavations by Acuto from the Proyecto Arqueológico Calchaquí. The carbon samples were recovered from contexts directly associated with clear examples of Inka architecture. The late-period dates of the samples confirm this assessment. Furthermore, because of these Inka-period dates, the architectural data presented in this thesis that were collected at SC065 provide a comparative baseline against which architectural data collected at other sites can be assessed. These points about the Cortaderas Bajo architectural data reflecting Inka activities and providing a

profile are explored later in this chapter in the section on architectural chronologies. The current discussion considers the radiocarbon samples themselves and their contexts of discoveries. Given the short duration of the Inka period and given the error range provided by calibration, these are the only samples that are presented with a discussion of their error terms and probability ranges.

Sample SC065=1-21-1-3-1, ASD22 (14-c age 291 +/- 37: cal AD 1521 {1569} 1653): The first sample of carbonized dicotyledon wood was recovered from one of eight connected enclosures fronting directly onto the Inka road that dissects Cortaderas Bajo (this site is described at length in Chapter 7, see Figure 14). This line of eight rooms backs onto a guarded patio complex with ten freestanding rectangular structures. Across the road from this complex lies an installation consisting of various rectangular enclosures built around three large patios. Half of ASD22 was excavated by Acuto in 1999 and very little material was recovered. From a handful of sherds Acuto calculates a minimum number of ceramic vessels of four in Santamariano style, four in Inka style, and one in a foreign style from Santiago del Estero (Famabalasto negro sobre rojo). The presence at Inka-period sites in northwest Argentina of this last ceramic type has been interpreted as evidence for the settlement of foreign, Inka-controlled colonists, or mitmaqkuna (Williams and Lorandi 1986). Also present in Acuto's excavations were a few animal bones and a small quantity of lithic material. A floor surface was not located. Instead, the carbon that was dated was found mixed among these few artifacts in a cultural deposit that may have washed in from the road after the structure fell into disuse. The artifacts do not speak of a clear domestic or manufacturing use for the structure, which was most likely used as a multi-purpose room where travelers stayed or material or

food was stored. This question concerning the activities conducted at Cortaderas Bajo is picked up again in Chapters 6 and 7.

Turning to the assay itself the one sigma range of probability for this date is actually two unconnected ranges of AD 1521-1567 and 1627-1651, meaning there is a 68% chance that these ranges contain the actual age of the sample. By taking out the intervening years (AD 1567-1627), it can be said with some confidence that the wood that has been dated was cut or died late in the Inka period itself or perhaps one hundred years later. By association, this structure and the structures contiguous to it most likely fell into disuse sometime after AD 1521, which corresponds roughly to when Inka power collapsed in area (AD 1543). While this radiocarbon date offers some idea about the end of occupation at SC065, the next date offers some understanding of the possible beginning of occupation.

Sample SC065=3-22-1-4-2, ASD49 (14-c age 515 +/- 38: cal AD 1403 {1416} 1437): This sample of carbonized dicotyledon wood came from excavations in the northern sector of Cortaderas Bajo. This corner of the site is architecturally distinct from the two installations described above. The structures in the two patio groups in the north are small and irregularly shaped (not large and rectangular), suggesting possible residential activity. Both patio groups are clearly delineated by long, thin walls. The sample comes from excavations in a small structure (ASD49) measuring 4 x 3m that is divided by a crossing wall. Because of the location of the door and the placement of the crossing wall, there is an outer room lying at the south end of the structure and an inner room lying at the north end. Acuto excavated the entirety of the inner room and recovered various deposits of ash, a possible hearth, a handful of lithic material, small

shell beads, and a small quantity of ceramic fragments. The last of these represent a minimum number of two Santamariano vessels and two Inka vessels.

In regard to the statistics of this radiocarbon date and its calibration, the one-sigma range of probability is a short 34 years (AD 1403-1437). The two-sigma range is really two ranges (AD 1328-1345 and 1394-1444), meaning there is a 95% chance the wood that has been dated was cut or died before 1444, which would be some 30 years before the Inkas are thought to have moved in the Northern Calchaquí Valley. This date could be used to argue (1) that the Inkas were in the valley earlier than previously believed, (2) that the sample was used by the Inkas but came from old wood, or (3) that the sample was produced by a group of Calchaquíes living at Cortaderas Bajo shortly before the Inka period. These positions will be supported or refuted according to precise analyses of the excavated material, including a careful consideration of material thought to be Inka, which are forthcoming from Acuto. For the moment, the two dates described here roughly bracket the traditional dates of the Inka period, which means that the architectural data gathered from the structures at Cortaderas Bajo can provide a decent Inka baseline for assessing statistically the other architecture recorded in the valley. SCO65 is also important, because we can now say with certainty that it was the scene of Inka-period activities and possible interactions between indigenous and Inka groups.

Site SC152

SC152 lies at the mouth of the Quebrada del Río Mollar where it opens onto the main valley from the west. This quebrada is the same one described above that connects the Northern Calchaquí Valley to the edge of the plain of Tin-Tin (SC066 sits at the top of this drainage). Because of the presence of a permanent spring in the site and because

of the shelter afforded by the steep incline of the quebrada, this site would have offered a decent respite for travelers moving in and out of the valley. The small site contains three rectangular structures and one round kiln. While historical artifacts recovered from excavations (i.e., peach pits, an iron spoon) revealed more recent use of the site, the presence of roughly-hewn, large sandstone blocks in the walls suggested a possible earlier origin of the site. In general, rural colonial and historic architecture in the valley utilizes mud-brick materials. Kilns are also rare in the valley and the one at SC152 was deemed appropriate for study. This domed kiln is both well-built and well-preserved, including two ground-level ventilation openings oriented towards the prevailing north-south winds.

Sample SC152=1-2-1-5-3 (14-c age 139 +/- 37: cal AD 1676 {1810} 1949): The roof blocks of the kiln, which have fallen into the structure, provide a cap over a thick deposit of ash lying the bottom of the kiln. Carbonized dicotyledon wood for dating was collected from the very bottom of this ash deposit in order to provide a possible founding date or date-of-use for the kiln, and to see if the kiln was possibly used in the Inka period. Based on the very late dates of the one-sigma range (AD 1676-1949), it is confirmed that this site does not date at all to the Inka period.

Site SC042 (Potrero de Payogasta)

The preceding chapter on research methods makes reference to seven radiocarbon dates and a set of ceramic data that were collected from the Inka-period site of SC042 (Potrero de Payogasta) by other members of the Proyecto Arqueológico Calchaquí in 1990 and 1992 (D'Altroy *et al.* 2000, Williams *et al.* i.p.). These ceramic data, which have been dated by way of association with the radiocarbon samples, are used in the

analyses that appear later in this thesis in much the same way that the dated architectural data from Cortaderas Bajo are used. Specifically, the ceramic data collected from dated contexts at SC042 serve as a comparative baseline against which ceramic data that were collected at other sites in the valley can be compared.

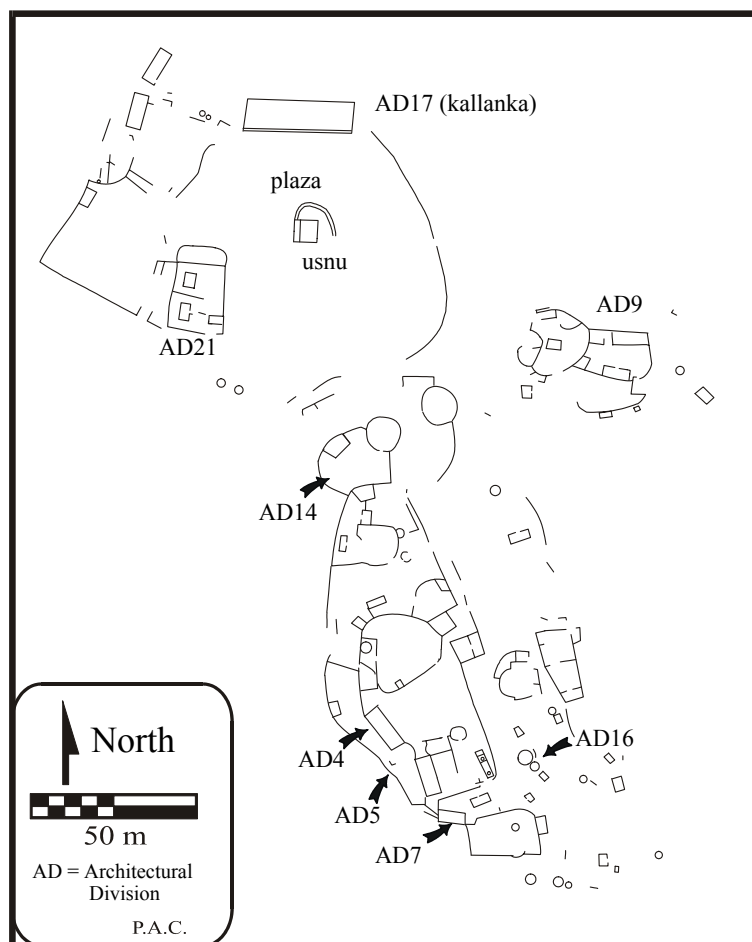


Figure 8: Plan of SC042 (Potrero de Payogasta), Northern Calchaquí Valley
 Seven radiocarbon samples and ceramic data were collected by the Proyecto Arqueológico Calchaquí from this site in 1990 and 1992 (D'Altroy *et al.* 2000:8). These data are used comparatively in the analyses in this thesis.

Analysis of the architecture at Potrero de Payogasta was not conducted according to the procedures developed for this study, otherwise these would also be included. In general, however, Potrero de Payogasta contains a mix of Inka and Santamariano

architecture. In the northern half of the site, for example, lies an Inka kallanka and usnu platform (see Figure 8). In the south lie agglutinated structures more consistent with Santamariano building traditions, which may have been built by indigenous workers during the Inka period or, alternatively, may represent a pre-Inka settlement in the area. Evidence encountered in 1990 in excavations of subsurface structures built over by Inka architecture supports the idea that this site may have been previously occupied, a point seemingly confirmed by the radiocarbon information recovered during excavation.

The seven dates from SC042 are presented in Table 6. The first two dates that appear in the table are clearly pre-Inka by as much as 200 years (median probability calendar dates of AD 1283 and 1287). The last two dates that appear in the table (AD 1486 and 1537) fall squarely in the Inka period as proposed in this thesis (AD 1471-1543), and provide an excellent chance to examine ceramics that link directly to the Inka period. This leaves the middle three dates (AD 1426, 1445, and 1459), whose median probabilities fall before the traditional onset of the Inka period in the valley. Only one of these three dates (AD 1459) has a one-sigma range that actually overlaps into the Inka period. The immediate relevancy of these seven dates is clear: in contexts at Potrero de Payogasta that were selected in particular for their Inka-ness, there are some samples that predate the traditional Inka period. D'Altroy and his colleagues (2000:15) suggest that these pre-Inka dates appearing at a possible Inka site can be attributed to reuse of old wood in the Inka period, to fieldwork or laboratory error, or to an earlier-than-expected Inka occupation of the valley. I would add the following parsimonious explanation: that these contexts simply represent pre-Inka occupation of the area. This would imply that the associated ceramic remains found in these dated contexts, which were thought

originally to be Inka, may possibly predate the Inkas. As I argue in the following section concerning ceramics, because a myriad of intervening cultural traditions makes identifying Inka traits extremely difficult at such great distances from the Inka heartland, it would not be exceptional that archaeologists misidentify traits as Inka in DR-period deposits.

Index	Site	Provenience	Lab no.	C14 Age BP	Calibrated dates AD*	Period	Median probability
1	SC042	42=4-20-8-12-2/2	QL-4706	785 +/- 35	1279-1291	DR	AD 1283
2	SC042	42=14-1-1-5-1	QL-4707	767 +/- 25	1280-1293	DR	AD 1287
3	SC042	42=7-20-5-3-1/3	QL-4708	550 +/- 30	1409-1436	Inka (DR?)	AD 1426
4	SC042	42=16-50-1-4-1	QL-4714	486 +/- 30	1436-1458	Inka (DR?)	AD 1445
5	SC042	42=15-90-1-4-3/1	QL-4709	453 +/- 20	1447-1478	Inka	AD 1459
6	SC042	42=21-20-1-2-1/3	QL-4704	413 +/- 22	1473-1621	Inka	AD 1486
7	SC042	42=4-20-5-3-1/2	QL-4705	360 +/- 80	1472-1660	Inka	AD 1537

* One-sigma (68%) calibrated date AD

Table 6: Radiocarbon samples, dates and calibrations from SC042

These radiocarbon data were originally published by D'Altroy and colleagues (2000). While they report that samples 3 and 4 are strictly indicative of Inka activity, I suggest in this thesis that they may be an extension of the pre-Inka occupation of SC042 or at least a mixture of Santamariano and Inka activities. The samples are sorted chronologically according to their median probability dates as calculated using CALIB v.4.1 (Stuiver and Reimer 1993).

Conclusion: The Radiocarbon Evidence

Sites that were selected for study because they demonstrated Inka characteristics are seen for the most part to date to the DR period (RC78-83, SC066, RC127, RLP16), implying that the imprint of pre-Inka life in the Northern Calchaquí Valley is remarkably indelible. The Inka-related activities that did occur in the late period at the sites discussed here were negligible to the point of leaving only ephemeral remains, meaning that Inka-period artifacts are generally found on the surface and not in stratified archaeological deposits. While a few Inka sites have more substantial remains (SC042,

SC065), even their cultural deposits are very thin and typically contain scant material remains.

These observations about the transience of Inka material culture lie at the heart of a mistake commonly made in archaeological studies of colonialism that is discussed in Chapter 2. In their attempts to understand the nature of ancient colonial encounters, archaeologists often concentrate on the sites and artifacts of the imperial society in the peripheries at the expense of understanding what was taking place among purely indigenous communities living outside the imperial network. This problem of tunnel vision comes from failing to recognize that imperialism, especially in a distant place like the Northern Calchaquí Valley, is not a quotidian force for all people in all contexts. Even in heavily colonized societies daily life often proceeds uninterrupted. For example, in the Northern Calchaquí Valley instead of asking, why are Inka activities poorly represented in the archaeological record, it seems more instructive to ask, why is Santamariano material culture from the DR period so persistent? In this corner of the empire, then, what I am proposing is that Inka colonialism was felt almost imperceptibly in some places, a bit more in others, and to a great degree in only a few locations. This notion would correspond nicely with the observation that highly dynamic regional and interregional politics were at play in the valley for centuries before the Inka period as is seen, for example, in the defensive posture of many of the Santamariano settlements described above (RC78-83, RC127, RLP16, SL005). The following section pursues a number of these points as it looks for chronological evidence of Inka-period activities in other categories of material culture.

Quantitative Analyses of the Material Culture Data

This section discusses the quantitative analyses employed to further clarify the chronological sequences of occupation and activity at the research sites in the Northern Calchaquí Valley. The 21 radiocarbon dates described above provide an excellent starting point from which to analyze the excavated material culture that was found in these dated contexts as well as the associated data on site planning and architecture. The temporal patterns that are observed in the data from these radiocarbon contexts are extended to contexts and material remains that lack the certainty of radiometric dates in order to assess their likely place in the Calchaquí chronology.

Ceramics

The first analyses presented here explore data from ceramics that were recovered in the radiocarbon-dated contexts described above. Each analysis begins with a consideration of the percentage distribution over time of certain ceramic traits that are clearly variable, including type, temper, and surface finish (including treatment and color). In some cases changes in these categories are correlated against time statistically.

Ceramics from ¹⁴C-dated Contexts

In order to be certain about the temporal sensitivity of particular ceramic traits (e.g., type, temper), the following analyses of the occurrence of different ceramic remains consider the material found in excavated contexts that have been radiocarbon dated directly. Of the 13 study sites, only one site (SC042) produced ceramics from contexts that date to the Inka period. Because the data from SC042 were coded by members of the Proyecto Arqueológico Calchaquí according to project-wide conventions, they are statistically comparable with data gathered at the other study sites. The first category considered is type.

Temporal Variation of Ceramic Type

Ceramic type is a variable that was recorded for every ceramic fragment recovered by this project. The universe of types is theoretically infinite, but in practice 30 types have been designated by the Proyecto Arqueológico Calchaquí for the study area. The terms used to describe these types reflect the period of origin of the piece (Formative, Fase Inka), the cultural group that produced the piece (Santamariano, Inka, Pacajes, Yavi), the location and distinguishing feature of the piece (Famabalasto negro sobre rojo, Tilcara negro sobre rojo), or some combination of the three. This way of defining ceramic types by mixing references to place, culture and appearance can be problematic, because it is atypical that any two analysts uniformly agree on the criteria for identifying each and every type. If they do, then the designation is useful. However, when there is uncertainty from analyst to analyst as to the precise criteria for the different types, then problems arise. This difficulty of identifying ceramic types in the Northern Calchaquí Valley is reflected in the fact that 54% of the fragments being studied are of unknown type. In such cases of confusion about what specific traits determine different types, archaeologists loom to code for as many traits as possible in their analysis of ceramics (e.g., form, color, temper, lip thickness), so that variation in these traits can be studied in relation to other sets of data.

In order to determine if any types appear with regularity in relation to time in this database, an analysis was performed to explore the possibility of association between changes in ceramic types and the passing of calendar time. For this analysis ceramics from dated levels have been isolated, then tabulated according to type by time period, and then converted to percentages of total ceramics recovered in each dated context. As

Table 7 shows, the chi-squared test of the counts of these data (not the percentages) was not significant (see table caption for explanation). Initially this is disconcerting for the simple reason that, intuitively, we know that ceramic types change over time and that there should be no obstacle to seeing them do so. However, changes in ceramic traditions can occur over greater lengths of time than is of interest here (namely the transition from the late DR into the Inka period), which might explain why these types do not appear to vary through time.

Ceramic type	DR period:		Inka period:		Total:	
	%	n	%	n	%	n
Inka-related:						
Inka provincial	12%	38	25%	59	18%	97
Inka imperial	0%	0	0%	0	0%	0
Inka mixto	3%	9	4%	10	4%	19
Santamariano-related:						
Santamariana decorado	27%	83	22%	51	25%	134
Santamariana sin decorado	9%	29	20%	47	14%	76
bicolor	15%	46	9%	21	12%	67
tricolor	15%	47	3%	8	10%	55
bicolor with red interior	1%	2	0%	0	0%	2
negro sobre rojo	2%	5	1%	2	1%	7
negro sobre pasta	0%	0	1%	2	0%	2
rojo y negro sobre pasta	0%	0	0%	1	0%	1
Fine surface finishes:						
negro pulido	3%	9	4%	9	3%	18
gris pulido	0%	1	1%	3	1%	4
negro pulido tarde	1%	3	0%	0	1%	3
rojo pulido, problematic	4%	13	0%	0	2%	13
fase Inka (cuerpo brunido)	6%	18	8%	19	7%	37
Other:						
Humahuaca influenced	1%	4	0%	0	1%	4
other	0%	0	1%	2	0%	2
total (all types):	57%	307	43%	234	100%	541

Table 7: Percentages and counts of ceramic types by time period

For this analysis identifiable ceramic from dated levels were isolated, tabulated by type, and then combined according to the period designations that appear in Tables 5 and 6. These tallies have been converted to percentages of total ceramics recovered in each period. Ceramics from Formative period contexts are excluded. The chi-squared test of the counts of ceramic types (i.e., of the n values) by time period is not significant ($\chi^2 = 1.874$, $df = 17$, $.00 > p > .50$).

Alternatively these results can be read to suggest that Inka-related ceramics simply do not stand out in the archaeological record of the Northern Calchaquí Valley, except in rare cases like in the Inka-period tombs at Puerta de La Paya (Ambrosetti 1908). In other words, it may well be the case that indigenous ceramic traditions (and by extension indigenous forms of life and autonomy) persisted into the Inka period with great intensity, thus overwhelming the Inka material. The phenomenon of persistence is common in many colonial situations and its appearance here should be of little surprise. Later, in Chapter 7, evidence is presented that the Santamariano societies in the valley may have resisted Inka advances vis-à-vis the persistence of a whole set of other cultural practices. In particular, it is possible that indigenous ceremonial activities were being conducted by indigenous groups well into the Inka period as if the sociopolitical systems and relations that defined who these groups were and how they related continued more or less uninterrupted in the face of Inka colonialism.

There are a number of other observations that can be made about Table 7. First, there are no Inka Imperial ceramics in any dated context, which is troubling given the fact that the Inka deposits excavated by the Proyecto Arqueológico Calchaquí are the only deposits in the Northern Calchaquí Valley that have been dated to the Inka period using radiocarbon techniques. Second, there are offsetting changes in the decorated and undecorated Santamariano styles from DR and Inka-period contexts; that is, as the occurrence of decorated ceramics falls off in the Inka period the occurrence of undecorated wares increases. Third, 12% of the identifiable material in DR-period contexts is Inka Provincial ceramics, which are ceramics that were produced for and under the direction of the Inkas during the Inka period in the provinces. Before looking

closely at the temporal distribution of this Inka-period ceramic type a number of explanations might be proposed to account for the presence of an Inka type in DR-period contexts: first, this may simply be analyst error; second, the Inkas may in fact have been in the Northern Calchaquí Valley earlier than the traditional chronology suggests; or third, traits thought to be Inka were part of the ceramic vocabulary of Santamariano societies before the Inkas expanded into the area.

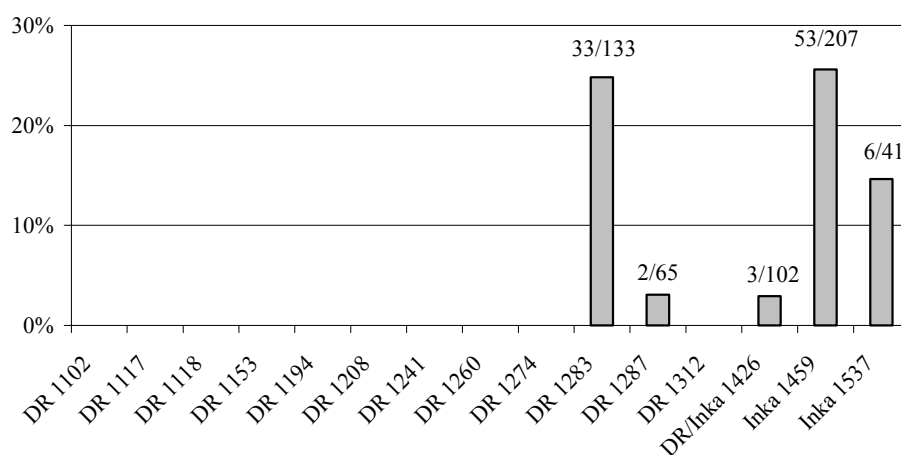


Chart 2: Inka Provincial ceramics per ¹⁴C-dated deposit

Graph shows occurrence of Inka Provincial ceramics per ¹⁴C-dated context. The raw counts are presented as ratios above each bar (numerator is actual count of Inka Provincial pieces, denominator is total number of pieces identified by type in that dated deposit). While this ceramic type clusters towards the later periods, it also appears in clear DR-period contexts.

In order to assess which of these is the best explanation it is possible to look more closely at which site and specific radiocarbon assays contain Inka Provincial ceramics. Inka Provincial ceramics from dated contexts come exclusively from SC042. While they do bunch towards the latter years of the DR period (i.e., towards the Inka period), they appear in some dated contexts that fall squarely in the DR period (Chart 2). Inka Provincial ceramics account for 25% of the identifiable ceramics in the excavated deposit

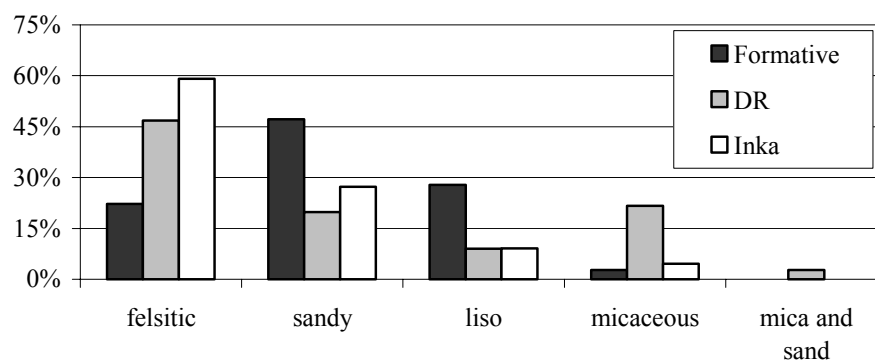
dating to AD 1283, and this date has a very short one-sigma calibrated range of only twelve years (see Table 6). There is a drop off in the percentage of Inka Provincial in the deposits dated to 1287 (3%), 1312 (0%), and 1426 (3%), before the percentages increase again in deposits more closely dated to the Inka period (AD 1459 at 26% and AD 1537 at 15%). These data seem to support the third explanation offered above as to why this Inka-period ceramic type appears in DR-period contexts-- namely, given the fact that the Inkas had not yet expanded into the Southern Andes by AD 1283, it is conceivable that Inka-like ceramic traits were in circulation in northwest Argentina during the DR period.

Returning to the question of human error, what is it that makes an analyst, for instance, identify a piece of ceramics as 'Inka Provincial' versus 'Santamariano bicolor'? Type designation is largely a subjective endeavor and involves sorting through visual clues coming from any number of specific traits. For example, while a fragment decorated with a tearful eye in three colors is typical of the DR period, the urns that such fragments come from were also made into the Inka period. Conversely, as these data now suggest, some Inka traits, for example red-slipped ceramics polished to a high gloss, may have been produced in early years.

Temporal Variation of Ceramic Temper

This section considers variation in ceramic temper in relation to time. Non-plastic inclusions in the paste of all ceramic fragments recovered were coded by manual inspection according to the categories of mica, sand, felsite, liso (smooth, or the absence of a grainy temper), or any combination of the four. Pollard (1983:27-31) analyzed ceramic wares in the valley according to these tempers and offers an overview of their petrographic signatures. Pollard argues that the use of these pastes in the Northern

Calchaquí Valley varies both temporally and geographically. For instance, according to Pollard, felsite wares have early chronological associations versus sandy and mica wares, which are associated with later periods. These observations are partly contradicted by the analyses presented here in Chart 3, which shows the occurrence by percentage of each temper relative to the Formative, DR, and Inka periods. The notable point to make about this chart concerns the increase in felsite tempers through time, which contradicts Pollard's observation about its prevalence in earlier periods. Otherwise there are no trends across time in the use of mica, sand and liso tempers.



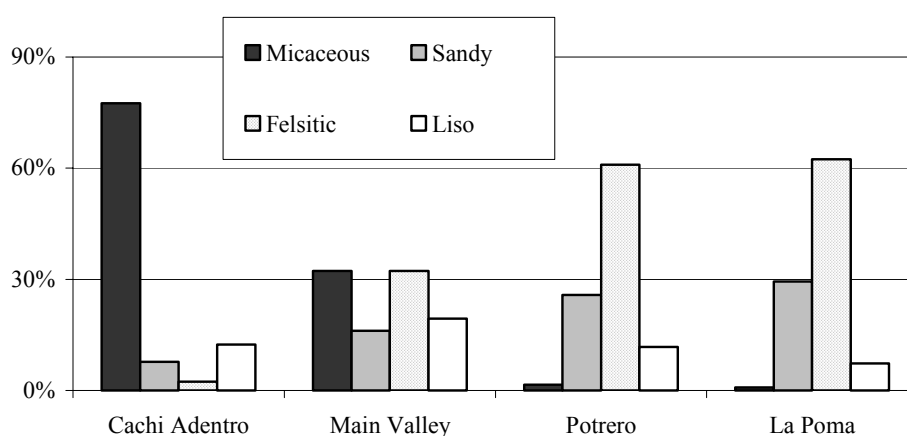
Formative	8	17	10	1	0	36
DR	292	124	56	135	17	624
Inka	13	6	2	1	0	22
						(total)

Chart 3: Changes in the occurrence of ceramic temper over time

Percentages are based on the raw counts that appear in the table with their percentage values. Only ceramic material from excavated levels that were radiocarbon dated are represented in this chart.

For the moment the discrepancy between the findings presented here and Pollard's interpretation of the use of ceramic temper render this category unfit as a barometer of chronological change. However, there are other valuable uses of this data category. Pollard (1983:27-31) suggests that temper varies geographically within the valley. For instance, felsite dominated production in the northern valley while granite and mica were

popular in Cachi Adentro and the main valley (in project analyses, granite is combined into the mica category). It should be noted that our knowledge of regional clay and temper sources is limited, which means that analyses of temper assume for the most part that indigenous potters were using locally available tempers or local clays that naturally contained these non-plastic inclusions. Otherwise Pollard's observations are largely confirmed by the data at hand, because when temper is looked at according to regions it does vary significantly (Chart 4). Sites in Cachi Adentro account for over 70% of the micaceous ceramics recorded in this study but less than 5% of the felsitic wares, which are more typical in other pockets of the valley, especially the northern reaches of Potrero and La Poma. All regions contain a similarly small percentage of liso wares.



Micaceous	131	10	2	3
Sandy	13	5	33	104
Felsitic	4	10	78	221
Liso	21	6	15	26
total:	169	31	128	354

Chart 4: Change in the occurrence of ceramic tempers by valley sector

Percentages are based on the raw counts that appear in the table. Only ceramic material from excavated levels that were radiocarbon dated are represented in this chart.

Another way to evaluate the regionalism in the use of ceramic tempers is to anticipate changes in the data according to the basic geology of the valley. It is proposed

that the temper of a majority of the ceramic fragments will reflect the soils that were available in the areas where the fragments were found; the minority portion will reflect foreign temper, which appeared as the result of the mixing and movement of ceramics in the past. For instance, while volcanic soils are common in the La Poma and Potrero areas, sand and micaceous soils dominate the main valley and Cachi Adentro. These petrographic profiles emerge nicely from the data (Chart 5), with sand and mica values consistently lower at sites in La Poma and Potrero and higher at sites in the main and lateral valleys.

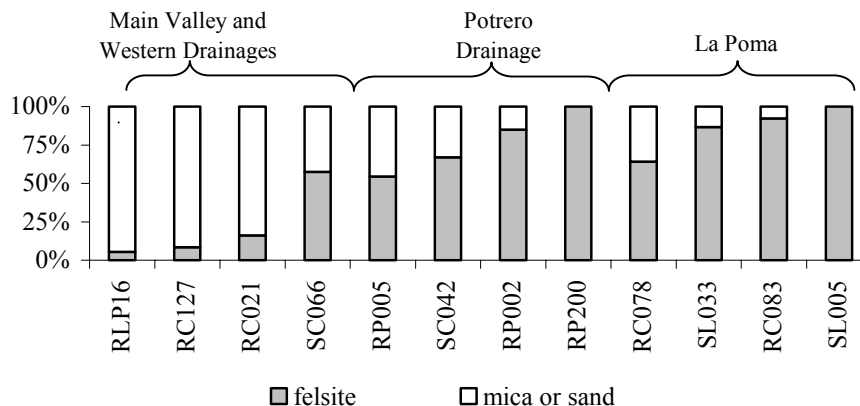


Chart 5: Change in felsite vs. mica and sand tempers by valley site and sector

This chart shows the percentage distribution of the ceramic tempers felsite versus mica and sand across different sites and sectors of the Northern Calchaquí Valley. Ceramic material from all excavations are represented in this chart. See Chart 4 for raw counts by sector.

Temporal Variation of Ceramic Surface Treatment

The following analysis explores surface finish as a possible trait that correlates smoothly with time. Surface finish is a characterization of how the visible surface of a ceramic vessel was treated and colored before firing. In the case of a closed form the exterior of the vessel is the visible surface; in the case of an open form the interior of the

vessel is the visible surface. In order to determine if any preferences in surface finish appear with regularity over time, ceramics from dated levels are isolated, tabulated and converted to percentages according to treatment and color by radiocarbon date. Simple frequency distributions between calendar time and the changing percentage values of treatment or color are then calculated.

This analysis considers surface treatments, which include smoothed, burnished (most likely with a stone), polished (a high-gloss finish), and combed. The outstanding pattern in the data concerns the very low percentages of high-gloss finishes for all periods (Chart 6). Since highly polished styles are typical of the Formative period in the valley (Tarragó 1978:497-501), the overall dearth of polished ceramics in this sample might be attributable to the fact that there was only one Formative period site studied by this project. There is also a conspicuous absence of polished pieces in the Inka period. Focusing specifically on the transition between the DR and Inka periods, there is no noticeable drop-off in the frequency of material whose surfaces were more carefully prepared (burnished and polished). If these higher-labor pieces were meant for activities linked to ceremonies and hospitality, then such events did not decrease (or increase) with the appearance of the Inkas. According to traditional models of Inka expansion, the Inkas tried to monopolize access to the surplus resources that were needed for gift-giving and feasting, meaning that access to items like fine ceramics would have been controlled. The likelihood that this was or was not the case in the Northern Calchaquí Valley is explored at length in Chapter 7, which considers the nature of the interactions between valley communities in the Inka period. In regard to the question of chronology, the

changes in the surface treatment data alone are too slight to be reliable in establishing the likely age of a given deposit.

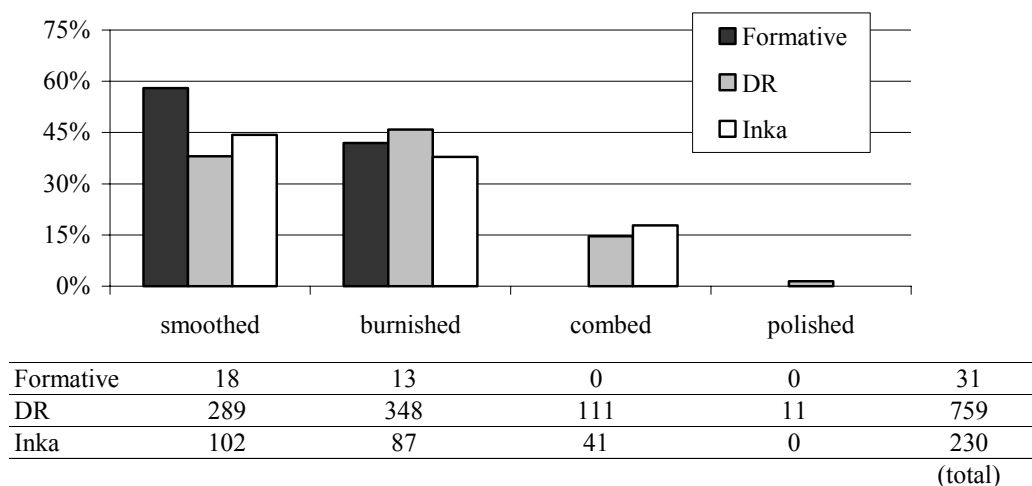


Chart 6: Percentage change in ceramic surface treatment by time period

This chart shows the change in percentage of surface treatments by time period.

Percentages are based on the raw counts that appear in the table. Only ceramic material from excavated levels that were radiocarbon dated are represented in this chart.

Temporal Variation of Ceramic Surface Color

Before dismissing surface finish altogether as an unreliable chronological marker, the use of the color red merits a close look. Over the course of ten years, members of the Proyecto Arqueológico Calchaquí have struggled to understand in particular whether the use of a polished and burnished red slip on ceramic vessels is a possible hallmark of Inka activity in the valley. This section, then, attempts to determine whether red slip alone correlates with time, and whether red slip relates to site location, structure types, and other ceramic data. In this analysis ceramic data from all sites and contexts (regardless of their association with radiocarbon dates) are examined. This means that any fragment with red slip showing on the visible surface is considered, which includes all closed forms showing red on their exteriors and open forms showing red on their interiors. This

first variable to be discussed is time, followed by a consideration of site, structure type, vessel form, and vessel surface treatment.

Period	Frequency:					
	Red slip present:		Red slip absent:		Total:	
	n	%	n	%	n	%
Formative	0	0%	136	100%	136	100%
DR	187	11%	1455	89%	1642	100%
Inka	61	25%	187	75%	248	100%
total:	248	12%	1778	88%	2026	100%

Period	Weight (gm):					
	Red slip present:		Red slip absent:		Total:	
	n	%	n	%	n	%
Formative	0	0%	1667	100%	1667	100%
DR	7534	21%	28554	79%	36089	100%
Inka	328	30%	769	70%	1097	100%
total:	7863	20%	30990	80%	38853	100%

Table 8: Change in occurrence of red slip on ceramics by time period

Counts and percentages are presented for frequency and weight analyses. Ceramic material from excavated levels that were radiocarbon dated and levels that are at least as old are represented in this table.

Table 8 lists the percentages by time period of red-slipped fragments recovered by this project. The criteria for designating the time period of an excavated context is expanded in this analysis compared with the analyses presented above. In other words, in order to increase sample sizes in this exercise, material from levels below ¹⁴C-dated deposits are considered to be at least as old as the dated level itself (i.e., terminus ante quem), and are therefore included in this analysis. For example, if a red-slipped fragment appeared in the excavated level below the deposit dated to AD 1283 (DR period), that fragment is assumed to also date to the DR period, although it might have appeared earlier (but not later). The pattern reflected in this table is clear: the use of red slip increases through time to the point that it is twice as likely to be seen in the Inka period versus the DR period. This is reconfirmed by a tally of weight versus sherd frequency

performed on the same sample. However, it is equally important to note that red-slipped wares are by no means exclusive to the Inka period.

Conclusion: The Ceramic Evidence

A complete summary of the chronological findings is presented in the last pages of this chapter, so only a few conclusions are considered here in regard to these analyses of the ceramic data. First, the ceramic data recovered from ^{14}C -dated contexts do not reveal significant correlation between time and type, temper, and surface finish. One factor to consider is that most Inka-period deposits in the Northern Calchaquí Valley are shallow and contain fewer ceramics than DR-period deposits, which means that Inka-period sample sizes are consistently small. Another factor to consider is that the ceramic styles that were in use and in circulation in the later prehispanic periods were incredibly diverse, which is a trend that also weakens these relationships. I take this pattern of material culture variance (or this non-pattern) as a clear reflection of the equally complex life of the people living in the area at the time of Inka contact. As is outlined in the introductory chapters of this thesis, this picture of indigenous societies as entirely dynamic and diverse fits nicely with similar conceptions of subject societies that have been documented in social anthropological studies of modern colonialism. In short, agents of the Inka state did not encounter a string of monolithic and isolated societies in the Northern Calchaquí Valley-- each one prepared to submit to the great empire. Instead, these societies were always changing and full of active communities and individuals interested in maneuvering for their own good.

Second, besides a very small amount of pure Inka Imperial ceramics recovered in the valley, there are only a few ceramic styles and ceramic traits that are securely related

to the Inkas. This means that the archaeological analysis and coding of valley ceramics is not as simple as one would hope. For example, whatever specific trait makes an analyst designate a sherd found in a DR-period deposit as 'Inka Provincial' is not borne out in the trait analyses presented here. Consequently, chronological determinations made on ceramics alone are initially tentative and will benefit from the support of other material categories.

Settlement Space and Structure Shape

Analyses in this section trace chronological change in settlement space and structure shape in contexts that have been radiocarbon dated. Specifically, the following three aspects of the built environment are analyzed: (1) the dimensions of architecturally defined spaces, (2) the degree to which walls were shared between structures, and (3) the occurrence of rectified versus shaped structures. Linking ^{14}C -dated excavated contexts to the creation and use of settlement space or to a particular structure is more difficult than associating the same radiocarbon samples to ceramics also found in the deposit. Before the analyses are discussed in detail, therefore, the methods that are used to link dated deposits and spatial aspects of the sites are discussed.

To some degree making precise links between excavated contexts that have been securely dated and architecture, structures, and adjoining structures is a subjective exercise. However, because 36 out of the 38 test pits excavated were deliberately set against walls or over architectural features, in most instances the excavations reveal something about the temporal nature of the architecture. In the following analyses a number of steps are followed in order to assign specific calendar dates to various structures and complexes in the study sites. First, in cases where the ^{14}C -dated context

linked directly to an architectural feature the median date of the radiocarbon assay was assigned to that structure (the period designations for each radiocarbon assay being used in this analysis are the same ones used in the ceramic analyses above, see Table 5). For example, when excavations in a domestic structure at RLP16 revealed a carbon- and ash-filled hearth placed against the wall on the floor, the ^{14}C date of AD 1194 was assigned to that structure as an estimation of the terminus ante quem of its construction and use. Second, other structures were assigned roughly the same date if they were directly associated with the first structure, for example if they were contiguous, part of the same complex, or were identical to it in construction technique, materials, and degree of deterioration. Site structures that can not be uniformly dated according to these steps have been left out of the analyses.

Dimensions of Architectural Space

A convenient means of investigating the built environment is to consider the overall size of the areas that are delineated by architecture. The surface area within the walls of a structure, whether it be a small storage feature or a large plaza, can be calculated and then analyzed across time. The results of this inquiry are suggestive, since the surface area delineated by architecture consistently shrinks through time (Table 9). In light of this pattern, it seems that using the surface area of structures as a chronological measure seems partly reliable, especially if other lines of evidence can be used for cross dating. This finding is used at the end of this chapter to help estimate the occupational chronology of the study sites that lack radiocarbon dates from excavations.

Period	Averages and statistics (m ²):					
	Median	Mode	Mean	Std.dev.	Max.	Min.
All structures:						
DR	31	15	220	479	2520	3
Inka	19	12	120	344	2089	3
Colonial	8	n/a	8	4	12	3
(all periods)	28	12	170	398	2520	3
Not including plazas and corrals:						
DR	28	15	187	444	2289	3
Inka	18	12	86	226	1260	3
Colonial	8	n/a	8	4	12	3
(all periods)	27	12	141	351	2289	3

Table 9: Averages of structure surface area by time period

Structures that are directly or indirectly associated with excavated contexts with ¹⁴C dates are included in this analysis. Surface area is measured in m², and a total of 310 structures are used in calculating the averages. Considering different types of averages (median, mode, mean) is important, because the large surface areas of plazas and corrals act as outliers in the data.

Shared versus Freestanding Walls

If two structures were built such that one wall serves to enclose both structures then the wall is considered a 'shared' wall. In such cases the wall has two internal faces, because neither face opens to the outside. If a wall serves only to enclose one structure (i.e., it has an internal and external face), the wall is considered a 'freestanding' wall. This designation also applies to the walls of large architectural spaces that were not roofed, for example patios, corrals, and plazas. Generally in Argentine prehistory, cellular clusters of structures that have many shared walls are characteristic of the DR period, while the construction of stand-alone structures link to the Inka and later periods. One of the goals of this analysis is to critically evaluate these conventions using the radiocarbon findings presented here.

The significance of this analysis of shared versus freestanding walls lies in the possibility of recognizing instances of rapid construction and instances of deliberate settlement planning. Since structures typically abut one another in classic Santamariano

settlements in the Calchaquí Valleys, the majority of their walls are shared. These abutments and the cellular clustering imply that the settlements and buildings were constructed over the long term, as if by accretion, and not all at once. The discrete and rectified divisions of space and the construction of stand-alone structures at classic Inka sites allow that these structures went up at once, perhaps according to a master plan. There are other variables to keep in mind that affected whether structures were built in tight clusters or as isolated units; for instance, the topography at hilltop sites versus valley-bottom sites presented different challenges to builders in regard to usable space. Similarly, fortified settlements that were growing behind circuit walls (e.g., RC127) had to conserve space by building structures closer together. The purpose of this analysis is to recognize chronological trends and not to determine if sharing walls represents more or less sophistication on the part of the builders. On the contrary, the social implications of sharing walls across families and groups at classic Santamariano settlements are complex and may very well have required a central authority to mediate.

Period	Freestanding walls:		Shared walls:		Totals:	
	%	n	%	n	%	n
DR	35%	243	65%	453	100%	696
Inka	69%	274	32%	126	100%	400
Colonial	100%	16	0%	0	100%	16
total:	48%	533	52%	579	100%	1112

Table 10: Occurrence of walls that are freestanding versus shared by time period
Structures that are directly or indirectly associated with excavated contexts with ¹⁴C dates are included in this analysis. Walls from 310 structures are used in calculating the figures.

In regard to the changes over time in the degree of wall sharing, there is a slight pattern between the DR and Inka periods (Table 10), as the sharing of walls falls off by almost half between the two periods. This falloff is potentially remarkable because it

occurs despite the number of Inka-built contiguous structures that are part of the two multi-structure complexes at SC065 (again, this site is discussed at length in Chapter 7, see Figure 14). Unfortunately, the chi-squared test of the counts of these data (i.e., of the n values) was not significant ($\chi^2 = 1.736$, $df = 2$, $.50 > p > .20$), meaning counting structures with freestanding walls is not a strong chronological measure per se, although it can be used perhaps to corroborate other lines of chronological evidence.

Rectified versus Shaped Structures

According to González (1981:18-21), rectangular structure forms are more typical of the Inkas than they are of Santamariano groups in the region. The reduction of a structure's form to rectangular versus round (or 'rectified' versus 'shaped' in this thesis) roughly mimics well-known debates about square and round house in the Old World (e.g., Flannery 1993, Saidel 1993) and requires some explanation. There are a number of assumptions being made here to facilitate the chronological analyses of the shape of structures at the study sites. To begin, each of the 310 structures that were identified in the field was assigned a code according to its shape (codes are listed in Appendix 7). The number of possible shapes (11) was not fixed, because as new shapes were encountered in the field, categories were added. The eleven shapes are separated into two groups depending on whether their shape is more rectified (e.g., rectangular, square) or more shaped (e.g., oval, U-shaped, irregular, circular).

In relation to time there is a jump in the amount of rectified structures between the DR and Inka periods from 46% to 78% (Table 11); however, the chi-squared test of the counts of these data (i.e., of the n values) was not significant ($\chi^2 = 4.097$, $df = 2$, $.20 > p > .10$). While this measurement may indicate a predilection for rectified structures on the

part of Inka-period builders, it also indicates that rectified structures appeared with surprising regularity in the DR period as more than half of the structures were rectified according to this study. In any case, estimating the date of a single structure based on its form would clearly be a mistake. But given the presence of other chronological evidence there is at least some use in calculating the ratio of rectified versus shaped structures across an entire settlement to suggest a possible date of occupation at a site.

Period	Rectified structures:		Shaped structures:		Totals:	
	%	n	%	n	%	n
DR	46%	86	54%	102	100%	188
Inka	78%	80	22%	22	100%	102
Colonial	75%	3	25%	1	100%	4
total:	57%	169	43%	125	100%	294

Table 11: Occurrence of rectified versus shaped structures by time period

Structures that are directly or indirectly associated with excavated contexts with ^{14}C dates are included in this analysis. There are 310 structures used in calculating the figures (sample is reduced to 294 after removing the structures without secure chronological associations).

In sum, it is possible to arrive at some understanding of the timing of construction and occupation of structures in the Northern Calchaquí Valley based on a study of settlement space and the shape of the structures themselves. The analyses of the size of the surface area of architecturally defined spaces, the degree to which walls are shared between structures, and the occurrence of rectified versus shaped structures are potentially helpful lines of inquiry when used to support other lines of chronological data. In light of these observations and in conjunction with the other analyses described in this chapter, these points are brought to bear at the end of this chapter on study sites that lack other means of secure dating.

Wall Construction and Binder Technique

The observation is made in the introduction of this chapter that in some cases multiple lines of evidence would have to be used to determine when a site was occupied. In the case of RLP16, for example, because ^{14}C dates from the excavations fell short of the Inka period by more than 250 years, it was suggested that the presence of mortar in the surface architecture may speak to an Inka-period occupation of the site. Evidence presented in this section demonstrates, however, that mortar is not an exclusive hallmark of the Inka period. Support for this comes from the extensive use of mortar in the architecture at DR-period sites like RC78-83, SC066 and RC127. Fortunately, there is another aspect of the architectural data that carries some chronological information, namely the use of core-fill to bind walls is helpful in establishing when structures were erected.

Wall binding categories:		Mortar present?	Core-fill present?
Code	Description		
1	<u>pirka</u> wall with mortar	yes	no
2	core-filled wall without mortar	no	yes
3	core-filled wall (with ceramics) without mortar	no	yes
4	core-filled wall with mortar	yes	yes
5	<u>pirka</u> wall without mortar	no	no
6	<u>tapias</u> (compacted mud walls)	n/a	n/a

Table 12: Descriptions and codes of types of wall binders

The 1170 walls studied for this research were coded according to six types of wall binder. In the analyses presented in this chapter, instances of core-filled walls with ceramics are merged with plain core-filled walls (type 3's merged into type 2's). Tapia walls, which are walls made entirely of compacted mud, were left out of the analysis because there were only 14 instances of these mud walls in the whole sample. The different variables can be looked at together, for instance as type 1 versus 3, or apart, for instance as just mortar or core-fill. Types 3 and 6 are rare.

In this research 'binder' refers to the ways that walls were built and held together. For example, mortar was used then as it is used today-- to bind together the building blocks in the faces of walls. Walls were also build with a core-fill of dirt and rubble, that

stabilized the wall's two stone faces. Walls built without a core-fill are referred to here as 'pirka' walls (pirka is an Andean term used to describe simple walls made of fieldstone).

In coding for the presence and absence of binding variables, there are four common combinations of these techniques in addition to a number of extras particular to the study area (Table 12).

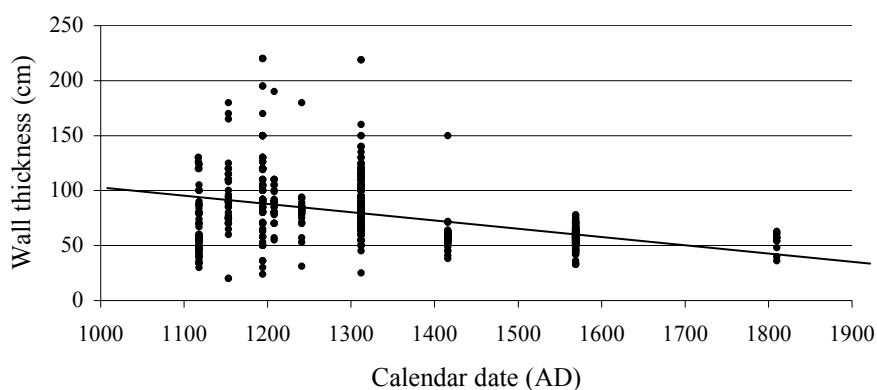


Chart 7: Scatter plot and trendline: calendar dates versus wall thickness

This chart shows a scatter plot of calendar dates derived from ^{14}C associations versus thickness of walls linking to those dated deposits. While there is a downward trend over time in wall thickness, the coefficient of determination is weak ($r^2 = 0.41$). If core-filled walls were made especially in the DR period and pirka walls in the Inka period, then this coefficient should ideally approach ± 1.00 .

As an aside, it should be noted that traditional analyses in the valley often focus on wall thickness as a reliable chronological indicator (de Lorenzi and Díaz 1977, DeMarrais 1997, Pollard 1983, Raffino 1983). Generally, it is argued that rounded structures with wide, core-filled walls (more than 75cm in width) are typical of indigenous building traditions, while thin, rectified walls with adobe mortar (less than 75cm) are Inka in date. In the architectural data analyzed here the average thickness of walls dating to the DR versus Inka periods is 89cm (sd=30) versus 58cm (sd=10), respectively, which seems to corroborate this argument. However, a closer inspection of

the data shows that wall thickness is not a precise temporal marker when considered alone (Chart 7).

There may be a number of factors limiting the usefulness of estimating chronology from wall thickness alone. First, if the Calchaquíes did build thicker walls before the Inka period, there is no evidence to suggest that they did not continue to build thick walls into the Inka period, especially in their own communities set apart from the Inka centers. The construction of thicker walls in the Inka period is one aspect that could weaken the foregoing correlation. Additionally, it is likely that structures at Inka sites in the valley were erected by Calchaquí workers, who would have relied on their own experience, knowledge and techniques in constructing buildings. In these cases where indigenous people are working under the direction of outsiders, while they could have rapidly learned foreign architectural techniques, they may have continued to build Inka structures according to familiar habits. This seems to be the case at RC021 where eleven stand-alone structures (including a three rectangular ones) have some of the thickest walls in the valley. Thin walls were also built in the DR period for a variety of reasons, for instance in roofless structures. Because of the complications of estimating the chronology of structures from wall thickness alone I suggest we consider dropping this dating convention in the study area until further research can be conducted.

In the meantime, it is helpful to consider the variable of binder. As Chart 8 shows, patterns emerge from the data in regard to binder and time. Pirka walls with mortar make up the great majority of the Inka-period sample (94%) and core-filled walls make up the majority at DR-period sites (89%), with more than half of these containing mortar. This last point supports the foregoing argument that mortar was not exclusively

an Inka construction technique. If almost 95% of the Inka-period walls are pirka and if nearly 90% of the DR-period walls are core-filled, binder seems to be a potentially strong indicator as to the age of a structure.

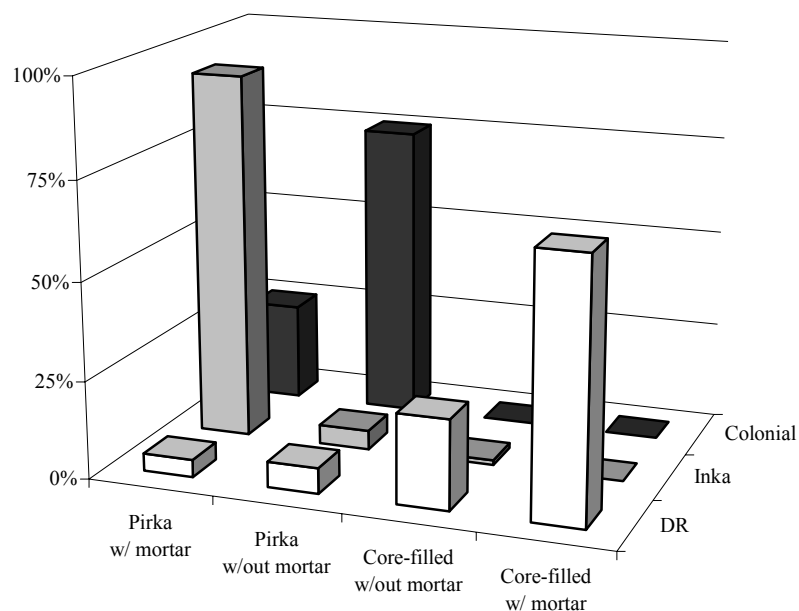


Chart 8: Change in percentages of wall binder types over time

This chart shows change over time in percentage of wall binder types over time, and the raw counts appear in the table. Walls that are directly or indirectly associated with excavated contexts with ^{14}C dates are included in this analysis (total sample = 841).

Before pushing this argument too far it is necessary, however, to consider in some detail the Inka-period sample of walls in the database. First, the walls that date to the Inka period come exclusively from SC065 (Cortaderas Bajo), where it is possible that valley-wide patterns in Inka-period architecture are not accurately reflected. For example, visits to the Inka site of Potrero de Payogasta reveal that a good deal of the walls at that site were made differently than they were at SC065, as many walls at Potrero

de Payogasta were made with superstructures of tapia (compacted adobe) placed on solid, wide stone foundations. Second, SC065 is one of the most distinctly Inka sites in the Calchaquí Valleys, meaning its layout and construction mimic Inka architectural standards seen at other well-known Inka sites in northwest Argentina. It is certainly possible, therefore, that while core-filled walls would have appeared at other Inka-period sites in the valley, they did not appear at SC065, where planning and constructions was scripted by agents of the Inka state. Finally, the 10% sample of pirka walls that date to the DR period demonstrates that, once again, some Inka-like traits appear in the pre-Inka period.

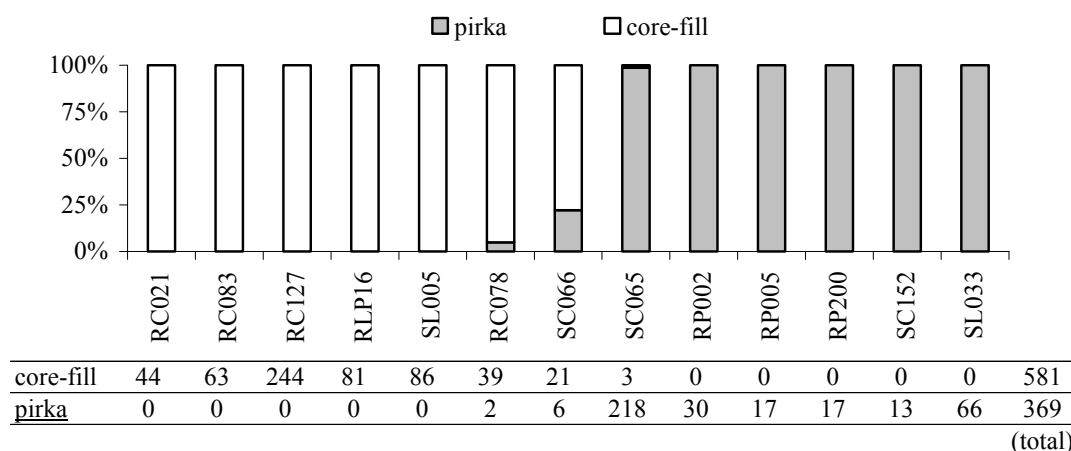


Chart 9: Frequencies of pirka and core-filled walls by study sites

Data collected from all 1170 walls are included in this analysis (sample is reduced to 950 after removing the 220 retaining walls recorded in the study). The sites are ordered left to right according their ratios of number of core-filled walls to number of pirka walls.

One way to determine the strength of these architectural patterns is to look at the entire architectural database at once. This analysis considers all 1170 walls investigated for this research, compare to the 841 walls considered above that linked to the ¹⁴C-dated contexts. In considering binder use relative to specific sites, it is clear in particular that the presence or absence of core-fill is significant, because there is a sharper division

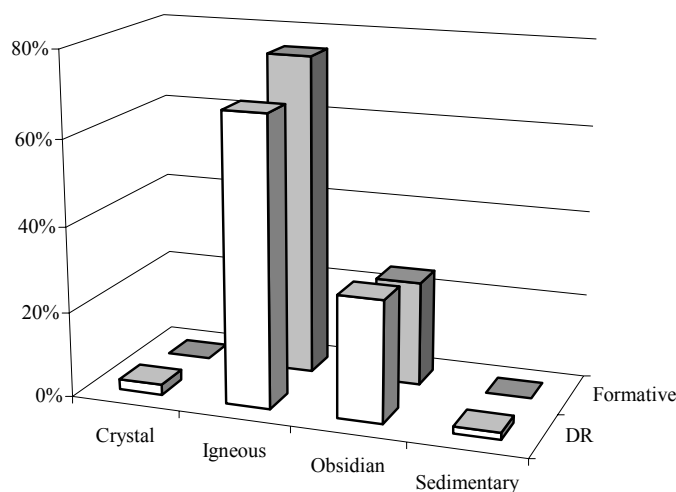
between sites with and without this feature (Chart 9). This is an indication simply that the presence or absence of core-fill is typically uniform within each site and not, for instance, between structure types or building material (the exceptions are RC78-83 and SC066).

Given both sets of analyses-- those conducted in reference to radiocarbon dates and those conducted on all the architectural data-- two conclusions can be made about the binding techniques that were used to hold walls together in the Northern Calchaquí Valley in reference to the DR and Inka periods. First, the presence of mortar is typical of all periods, as is the absence of mortar, although erosion and the looting of stones in modern times make the latter observation somewhat tenuous. In other words the presence or absence of mortar is not a primary means of dating a structure to either the DR or Inka period. Second, the use of core-fill is typical of both periods. However, there is a good chance (but not an absolute chance) that the absence of core-fill in a structure means it was constructed in the Inka period. This rule is not absolute, because a number of walls at DR-period sites like RC78-83 and SC066 are pirka walls. Based on these findings, and in conjunction with the other sets of data described in this chapter, the results of these analyses are brought to bear on research sites that lack other means of secure dating at the end of this chapter.

Lithics

There were only 218 lithic artifacts recovered from excavations by this project. Of the artifacts found, only eight are diagnostic tools, such as points or scrapers, with the remainder coded as flakes. The lithic data from the excavated deposits with Inka-period radiocarbon dates at SC042 (Potrero de Payogasta) are not included in this thesis, so it is

impossible here to analyze patterns in lithic data from pure Inka contexts. As an aside, however, one interesting observation can be drawn from the lithic data recovered by this project about differences between the Formative and DR periods. As seen in Chart 10, the percentages of different materials used in lithic production are consistent between the Formative and DR periods, suggesting stability over time. As lithic data are collected from secure Inka contexts in the future it would be interesting to see if this pattern persists.



Formative	0	40	13	0	53
DR	3	83	35	2	123
					(total)

Chart 10: Occurrence of lithic material in the Formative and DR periods

This chart shows the use of different lithic material between the Formative and DR periods. Data collected from all 218 lithic artifacts are included in this analysis (sample is reduced to 176 after removing the 42 artifacts without secure chronological associations).

A Chronology of Site Occupation in the Northern Calchaquí Valley

In light of the radiocarbon assays described at the outset of this chapter and the foregoing analyses of the material cultural data, it is possible now to venture a chronology of the occupation of the 13 study sites described in this research. In

particular, the patterns that have emerged from the portion of the data directly associated with excavated contexts that have been radiocarbon dated can be compared with and linked to contexts, architecture, and sites that are not. In common archaeological terms, this extension of patterns from dated contexts to undated contexts means that some sites and areas will be 'indirectly dated'. With the majority of excavated contexts, structures, and sites placed in a common valley chronology, it is then possible in the coming chapters to explore questions of cultural affiliation, activities, and colonial interactions.

The 13 study sites are described here in rough chronological order from earliest to latest, beginning with the Formative period site RP005 and ending with the Spanish Colonial site SC152. The likely initial founding of the site, the duration of its occupation, and the possible time of abandonment are considered according to the data presented in this chapter and already summarized in Table 4.

Site RP005: Two radiocarbon assays confirm that (1) RP005 was settled at least 1000 years before the Inka period and (2) the site lay unoccupied after it was abandoned for at least 400 prior to the arrival of the Inkas. Thus, the site was established in the Formative period and abandoned in the DR period. The semi-subterranean architecture and ceramic artifacts encountered in excavations reconfirm this chronology. On the ground surface, the highly eroded mounds and small terraced platforms that are still visible are the vestiges of this early occupation, while the few well-preserved, rectified, and thin walled structures reflect a later reoccupation of the site. The absence of core-filled walls in these structures and the presence of a large rectangular structure standing in the middle of the site, which is identical to a structure at an Inka site located 10km down stream, suggest some Inka-related activity at this site.

Site RC78-83: Four radiocarbon dates suggest that both sectors of this site were occupied contemporaneously. The single radiocarbon sample from RC083 provides a terminus ante quem for the occupation of the site of AD 1118, which means the red-slipped ceramic wares found in the excavations of the site would have been in circulation prior to the Inka period. Abutting structures, the high number of open patio spaces, and the presence of mortarless, core-filled walls also suggest a solid DR-period occupation. The next three radiocarbon dates from the lower sector of the settlement (RC078) reconfirm this occupational chronology and offer some further information about the possible abandonment of the site. In short, based on two dates from a midden, the settlement was abandoned or destroyed shortly after the mid-1200's. These early dates suggest that the hypothetical attackers (or pillagers) were not Inkas. The overall settlement plan and use of wall binder at RC78-83 do not contradict these findings, nor do the ceramic data. Finally, a number of hallmarks thought to be typical of the Inka period appear at RC78-83, including polished, red-slipped ceramics and the presence of a complicated fortification wall. These types of features are now seen to also date to the DR period in the Northern Calchaquí Valley.

Site SC066: The radiocarbon evidence from SC066 confirms that the site has pre-Inka origins. While the site may have seen some activity in the Inka period for travelers making their way across the plain of Tin-Tin, the site was constructed some 200 years before the Inkas entered the valley. The classification of excavated ceramics from the site by this research and by de Lorenzi and Díaz in the 1970s do not contradict this pre-Inka date, nor do the irregularly-shaped structures built with thick, core-filled walls.

Site RC127: Although it may have witnessed sporadic use in the Inka period, RC127 was settled and occupied primarily in the DR period. Specifically, two radiocarbon dates confirm that at least one of the 'Inka-like' rectangular structures on the site was occupied in the early AD 1200s. The second date from a likely storage feature dates abandonment to the early AD 1300s, although other parts of the site could have been occupied later. In other words, neither assay shows unequivocally that this site was occupied by indigenous groups into the Inka period, although they do not preclude the possibility either. Other material aspects of the site, including the ceramic, site planning, and architectural construction data suggest a solid DR-period occupation, which means that the handful of rectified structures at the site were also a DR-period convention.

Site RLP16: Two radiocarbon dates and ceramic data show conclusively that RLP16 was originally a DR-period site occupied as early as the 12th-century AD. Stratigraphic excavations revealed two distinct moments of occupation and it is possible that the latter occurred in the Inka period. One ^{14}C date comes from a hearth and places the earlier occupation at AD 1194. The other sample represents the abandonment of this earlier occupation and offers a terminus post quem of the later period (seen in the patio construction) of AD 1117. Evidence that the later occupation occurred in the Inka period is tentative at best. Either way, it was ephemeral and short-lived, because these later occupants simply leveled some of the standing structures, repaired a number of the extant patios, and perhaps built a handful of new ones. These observations are based on evidence from the architecture, including the mixed construction techniques whereby some walls included core-fill and others did not. There were no Inka-period ceramics recovered at RLP16 and 98% of the diagnostic artifacts were clearly Santamariano.

Site RP002: Because radiocarbon assays were not performed at this site, other chronological data are marshaled to assess the timing and sequence of its occupation. The two test-pit excavations performed at this site revealed extremely thin cultural deposits, which suggest that the site was occupied for a short period of time. Between both excavations, 36 ceramic fragments were recovered, including one rim sherd. Examples of the problematic high-gloss red ceramics were found amid the fragments of a Santamariano decorated urn, both of which are now known to have been produced in the DR and Inka periods. Some aspects of the site plan suggest that this is a DR-period settlement, namely the presence of large patios, the common sharing of walls between neighboring structures, and the irregular shapes of nearly all the structures. Other aspects of the symmetrical site plan suggest that this site was laid out by the Inkas including its proximity to the Inka road, the row of four platforms at the top of the site, the two platforms flanking access to the site, and the unique platform-on-mound structure that fronts the road and is aligned with the central axis of the site. The construction of the walls also suggests that the site was built in the Inka period as every structure has pirka walls with mortar. In view of these data, this site is being interpreted as one of the few sites that is part of this study that was occupied from the DR into the Inka period (a 'cusp' site). For the moment there is no evidence to suggest when this site was settled originally and for how long.

Site SC042 (Potrero de Payogasta): The other cusp site included in this study is SC042, which has been studied and described in detail by a number of other researchers (D'Altroy *et al.* 2000, Difrieri 1948, Earle 1994, Schávelzon and Magadan 1992). As I argue above, the radiocarbon dates processed at SC042 leave open the possibility that the

settlement was established initially in the DR period before being heavily occupied in the Inka period. Most importantly, the two early assays and their lack of association with Inka ceramics could be interpreted in this way. In regard to the quantity of Inka Provincial ceramics that appear in DR-period contexts at the site, the point is also made above that a number of ceramic traits that are commonly thought to be Inka actually pre-date the Inka period. Because the Northern Calchaquí Valley lies at such a great distance from the Inka heartland, it is not exceptional to mistake Inka-like ceramic traits in DR-period remains.

Site RC021: Because radiocarbon assays were not performed at this site, other chronological data are marshaled to assess the timing and sequence of its occupation. The three test-pit excavations performed at this site revealed extremely thin cultural deposits, which suggest that the site was occupied for a short period of time. Unfortunately, only 107 ceramic fragments were recovered across these excavations, which makes it difficult to be certain about the ceramic chronology. The following observations are made, however, in order to provide a tentative idea of the site's chronology. First, of the 107 fragments recovered, 44 sherds belong to one or two jars, the form of which is being interpreted as a classic Inka aríbalo based on the rim and neck fragments. The external surface is decorated in plain whitewash finish that is evocative of Santamariano treatments. These vessels, then, would be examples of the Inka Mixto type (from the Inka period) that combines Inka form and indigenous decoration. The settlement space and structure shape at this site also suggest an Inka-period occupation. First, the aríbalo fragments were found in one of eight circular structures identified as qollqas, which are arranged in a line along the edge of the steep bank of the Río

Calchaquí. Flanking the qollqas at either end of the row are rectangular structures that seem more domestic than commissarial. This sort of arrangement of qollqas along a hillside is typical of the Inkas. The final piece of evidence comes from a study of the binder technique, which complicates the picture somewhat. The walls at this site are some of the thickest in the sample, and all are core-filled, which might simply mean that a group of indigenous masons built these structures in the later period at the behest of the Inkas.

Site SL005 (Esquina Azul): Radiocarbon assays were not performed at this site because we were unable to collect radiocarbon samples from secure cultural contexts. Instead, other chronological data are marshaled to assess the timing and sequence of its occupation. The four test-pit excavations performed at this site revealed extremely thin cultural deposits, which suggests that the site was occupied for a short period of time. From these four excavations, a mere twelve ceramic fragments were found, all of which were from unfinished utilitarian vessels that were typical of all prehispanic periods. A number of historical artifacts were found on or just beneath the surface of one excavation, which can be explained by the presence of the modern road that splits the site and the presence of a working farm 500m to the south of the site. As is described at length in Chapter 7, this site lies just outside the walls of a much larger DR-period site of the same name (Esquina Azul or SSaLLap 5). While the architecture of that portion of the site demonstrates classic Santamariano traditions and has been dated to the DR period (Tarragó 1978:501-505), the settlement space and structure shape of the portion that lies outside the walls are purely Inka: the spaces are smaller, there are more freestanding walls, and the structures are mostly rectified. While the core-filled walls may be typical

of the DR period, it would have certainly been possible that this site was assembled by indigenous people working independently or under Inka direction. In sum, SL005 was most likely constructed in the Inka period and occupied for just a brief period.

Site RP200: Because radiocarbon assays were not performed at this site, other chronological data are marshaled to assess the timing and sequence of its occupation. Two test-pit excavations performed at this site revealed extremely thin cultural deposits, which suggest that this site was occupied for a short period of time. The six ceramic fragments recovered from the two units are felsitic wares, which are typical of the Potrero Valley. There is otherwise nothing chronologically distinctive about the ceramic data. The basic arrangement of four stand-alone structures (three of which are rectified) and the nearby corral suggest that this site was built in the Inka period as a tampu. It also lies on the Inka road that passes through the area on its way south towards the main valley. The thin pirka walls, which are bound by adobe mortar, further support the notion that RP200 was likely established in the Inka period.

Site SL033 (Peñas Blancas): Because radiocarbon assays were not performed at this site, other chronological data are marshaled to assess the timing and sequence of its occupation. In looking at the plan of this site, two separate groups of structures stand out: to the west lies a series of large corrals and structures, and to the east lies a set of four much smaller enclosures. The plan of the corrals is chronologically unremarkable insofar as the entire Peñas Blancas valley is full of ancient and contemporary corrals of the same irregular shape, although the corrals have pirka walls, which may place their construction in the Inka period. The smaller complex of four enclosures is likely colonial or even modern for the following reasons: first, the structures lie steps from a small modern

religious shrine made of the same variety of river stones (travelers still leave small offering here today); second, the wall of the older corral closest to this eastern structure has been looted of its stones, which apparently were used to build this smaller set of enclosures; and third, historic artifacts were found in the one excavation placed in these structures. The two other test-pit excavations performed at this site revealed extremely thin cultural deposits in the corrals, which confirms their use as corrals and further suggests that either SL003 was occupied for a short period of time or intermittently in this highly-traveled valley that links the Northern Calchaquí Valley to the western puna. The 17 ceramic fragments recovered from both units include one piece of Inka Mixto and one red-slipped ware, which may strengthen the possible Inka-period associations of the corrals.

Site SC065 (Cortaderas Bajo): Without repeating the findings in too much detail, the point to make about the two radiocarbon assays performed at SC065 is that they bracket the traditional dates of the Inka period quite nicely. This means that the architectural data gathered from the structures at Cortaderas Bajo provide a decent comparative profile of Inka architecture for assessing other structures in the valley. In fact, the use of space and the shapes of the structures at this settlement are similar to other examples of pure Inka architecture in northwest Argentina as documented in particular by Raffino and his colleagues (1983-85). This point is explored in more detail in Chapter 7. The construction of the walls at SC065 is 99% consistent throughout the site, each containing mortar and lacking core-fill, which further secures the sites Inka-period designation. When Acuto reports on the findings from his excavations at this site, I suspect the ceramic data will also uphold these observations.

Site SC152: Based on a number of observations, this site is securely dated to the Spanish Colonial period. First, the radiocarbon date places the use of the kiln at this site to the early AD 1800s. Second, a series of historical artifacts (e.g., iron spoon, leather sheath, peach pits) were found in two of the excavations. Third, the settlement space and structure shape suggest at least Inka- or later-period construction.

Conclusion

The observations presented in this chapter regarding the chronology of occupation at the study sites provide an opportunity to forward a number of early interpretations regarding the period of colonial contact in the Northern Calchaquí Valley. To begin, it is quite difficult to identify purely Inka attributes in the material record of the past in the Northern Calchaquí Valley. When looked at closely, a number of typical aspects of Inka-period material culture appear regularly in earlier time periods, for instance rectified structures, the occasional wall without core-fill, and glossy red-slipped pottery. Because the indigenous material record may be replete with Inka-like material elements in the DR period, it opens up the possibility that pre-Inka history may have also been replete with cultural and social phenomena thought to be Inka-related, for instance there are already hints of strong traditions of interregionalism, particular types of hospitality events, and specialized and developed uses of the landscape long before the appearance of the Inkas. The purpose of the next three chapters is to explore these points in greater detail.

Chapter 5 -- Affiliation in the Northern Calchaquí Valley

This chapter presents a study of the sociopolitical organization of prehispanic societies in the Northern Calchaquí Valley and answers the question about who the central actors were in the colonial drama that unfolded during the transition between the DR and Inka periods. As the findings make clear below, the data collected by this project are reliable enough to outline multiple groups that participated in and were affected by Inka colonialism. In particular, in the following analyses groups seem to emerge that can be thought of as relating to the Inka in a myriad of ways, including perhaps actual ethnic Inkas, agents working on behalf of the Inka state, Inka-controlled people, and scores of indigenous groups that remained independent. From the perspective of this research, therefore, the different groups that were involved in these encounters were to varying degrees locally familiar and exotically unfamiliar, meaning it would be wrong to simply portray two societies in this story-- one local and one foreign.

Theoretically, this chapter adheres to the notion that people create and maintain multiple social identities that contribute to their individuality. Following Meskell (1999, 2001), these identities direct individuals in their relations with other people and other groups such that they are constantly being formed, maintained and re-formed (see also Abercrombie 1991, Brumfiel 1992, Canuto and Yaeger 2000, Dobres and Robb 2000, Shennan 1989, Thomas 1996). Meskell (2001:189) further conceives of social identity operating on two levels: the first includes an individual's associations and affiliations with other people that serve to create and constitute their social groups; the second includes personal inclinations and thoughts that exist at the level of the individual where

identity is incredibly fluid. This second level is more immediate, but also contingent and often private, making it difficult to investigate archaeologically. Meskell makes the final point that these levels are always linked, and always mutually informing one another.

This chapter is concerned especially with the broader variety of social identity, which is easier than personal identity to recognize archaeologically because it is expressed by a collection of people over a sustained period of time. I use the term 'affiliation' in this chapter to distinguish this broader form of identity from its more personal variant, which I would simply call 'identity' insofar as this term better approximates Meskell's concept of how humans see themselves at the level of the individual. Again, both forms of identity are ultimately linked, and so distinguishing one from the other is difficult. But the expressions of affiliation that I am concerned with in particular are not static since they are manifest by active people living dynamic lives. Because it searches for evidence of broad-scale sociopolitical allegiances, this chapter passes over specific questions relating to the ethnicity, race, gender and class of the thousands of people who lived in the communities that were tied up in the colonial encounters described in this thesis. These elements of identity are significant, but they lie beneath the resolution of the extensive data that were collected by this project, which spread across 13 archaeological sites in an immense valley. By pursuing identity at the level of group affiliation this chapter avoids the trap of focusing on small identity traits to the exclusion of recognizing collective group forces that were affecting the wider colonial picture developing in the valley.

There are a number of questions, therefore, that underlie this chapter. For instance, did independent societies coexist within the confines of the Northern Calchaquí

Valley during the late DR and Inka periods? How many were there and where were they located? Had groups moved into the valley prior to as well as during the Inka period? Did any group come to identify with the Inkas? Is it possible to recognize actual Inka agents in the area? To explore these questions this chapter is divided into three parts. The first section reviews previous historical and archaeological research on the question of the affiliation of the societies living in the Northern Calchaquí Valley during the DR and Inka periods. The second section presents analyses of the archaeological material, including an investigation of an excavated burial, the ceramics data, and information on architecture and site layout. The last section synthesizes the findings from the chapter and describes the relations and affiliations of the groups that occupied the valley during Inka colonial contact.

Previous Research

There has been a great deal of historical and archaeological research on the question of the social landscape of the Calchaquí Valleys during the late DR and Inka periods, which provides a solid basis for the data presented and synthesized in this chapter. In reviewing this research the assumption is made that the study area of this project did not fall neatly into the geographic footprint of a prehispanic society or into a later Inka province. Instead, it is important to emphasize that the study area as defined by this project is arbitrary in relation to ancient boundaries and may fall within the domain of a whole society or cut across the domains of many societies. Part of the goal of this chapter is to determine just where societies were distributed relative to the research area.

According to analyses of historical sources from northwest Argentina by Lorandi and her colleagues (Lorandi 1988, Lorandi and Boixadós 1987-88, Lorandi and Bunter

1990) a group the Spanish called the Pulares occupied the greatest portion of the study area in the Northern Calchaquí Valley before, during and after the Inka period. Lorandi and Bunter (1990:294-295) specifically describes the writings of Juan Bautista Alcántara from the 1560s, who depicts the Pulares and place them in the 'Valley of Chicoana' and regions to the east. Geographically, Lorandi interprets this to mean the portion of the Calchaquí Valley that lies north of the modern town of El Churcal (see Figure 3). This area contains the modern towns of Seclantás, Cachi, Payogasta, and La Poma, as well as the region to the east of the valley that contains the pass through the mountain range that leads to the edge of the Lerma Valley. The research study area, therefore, falls entirely within the Pular area as defined by Lorandi. The chronicles are silent below this level of resolution that recognizes the Pulares, so it is impossible to identify ethnohistorically smaller communities that existed independently within the region. The records are also silent on the question of which groups moved into the valley with the Inkas, for example as agricultural colonists or craft producers.

Living to the south of the Pulares were the Calchaquíes (Matienzo 1967:Pt.2:Ch.15:280-281), and according to historical documents both societies-- the Pular and the Calchaquí-- interacted with the Inkas. Lozano (1874-75:IV:10, cited in Lorandi, 1987-88:278) suggest that while the Pulares accepted Inka expansion and were thus given a privileged position in the empire, the Calchaquíes in the central valley resisted their advance. This supports one of the notions central to this work that Andean societies could have acted independently of each other in their encounters with the Inkas. González (1982:345) makes the observation that Inkas, who divided the Northern and Southern Calchaquí Valleys into separate provinces (Chicoana to the north, Quire-Quire

to the south), may have done so in an effort to keep these indigenous societies apart.

These observations about conflict between valley societies give some historical context to the defensive architecture protecting many of the study sites recorded by this project (e.g., RLP16, RC127, SC065, RC78-83). It is possible that Pular communities in the north of the valley were protecting themselves against attacks from groups within the valley (e.g., the Calchaquíes), and that these same fortifications fell into disuse later when the Pulares allied with the Inkas.

These historical findings provide the first indication that subtle distinctions can be made within the category of 'local' in the Northern Calchaquí Valley. Such thinking is also reflected in the general research on DR-period sociopolitical organization in the greater region of northwest Argentina. The DR period in the area is seen as a dynamic and rapidly changing period (González and Pérez 1966, Raffino *et al.* 1991, Tarragó 1999, 2000). The myriad of small societies that populated the region made a number of alliances when threats were presented from inside or outside the area (Lozano 1874-75:Pt.4:163-174, Pt.5:209), but otherwise communities were fiercely independent in times of peace (Márquez Miranda 1942:10). In sum, at least from the perspective of the chronicles, the societies that met with the Inkas in the closing moments of the DR period were enmeshed in a politically complex world in which community leaders would have been veteran military thinkers as well as seasoned negotiators from decades and centuries of regional conflicts and alliance-building.

Next, turning to the archaeology of the area, it is possible to recognize a much higher degree of sociopolitical variation within the study area than what is seen in the historical documents. In lieu of other indigenously defined names given to us for

example by the documents, the societies that are outlined in this research are assigned names that reflect their location in the area, for instance there is the Santamariano community of the Potrero Valley and the Santamariano society of Cachi Adentro.

To summarize, a century of archaeological research in the Northern Calchaquí Valley provides information on more than 8000 years of human occupation in the area, including a great deal of information about the DR period (Baldini 1980, 1981-82, 1992, DeMarrais 1997, Pollard 1983, 1983, Tarragó 1978, Tarragó and de Lorenzi 1976, Tarragó and Díaz 1972, 1977) and Inka periods (Ambrosetti 1902, 1908, D'Altroy *et al.* 2000, de Lorenzi and Díaz 1977, Earle 1994, Hyslop and Díaz 1983). Fragmentation is evident in the diversity of settlements that have been documented by researchers in the valley as well as distinct vacant areas in the landscape that may have buffered different polities. These entities were not necessarily solitary settlements or towns since recent research suggests that settlement hierarchies had formed within a number of these communities, wherein population centers were surrounded and supported by satellite towns (DeMarrais 1997). DeMarrais's work focuses on Cachi Adentro, the western lateral valley above the modern town of Cachi (see Figure 2), where she has identified two possible polities centered at the sites of Borgatta and Corral del Algarrobal, and I would add a third center located at the immense site of Las Pailas (Tarragó 1977). Proyecto Arqueológico Calchaquí researchers have also identified another possible polity in the Main Valley centered at the site of Valdéz (D'Altroy *et al.* 2000:6-7). Other independent polities were located further north in the Potrero Valley and La Poma area, although research in these more remote areas is needed. All of these polities outlined archaeologically in the study area were not isolated hamlets, but integrated agrarian

communities. They were likely in constant contact with each other, conflicting and allying according to the political atmosphere of the time and according to the nature of their relations with similar societies located in other parts of the valley or beyond. This was the scene, then, into which the Inkas arrived in the middle of the 15th century.

Data Analysis

The following analyses of the archaeological data provide an understanding of the various affiliated groups that occupied the Northern Calchaquí Valley during the late DR and Inka periods. By looking at a number of lines of evidence a picture emerges that reveals how groups of people and their settlements might have been organized and where their affiliations and loyalties lay. The nature of the data considered here limits the degree to which one can fully recreate community-by-community identities. Other types of evidence, for instance data on household activities and composition, would be needed to capture patterns at this finer level of resolution. Methodologically there is significant overlap between the data presented here on affiliation and the chronological data discussed in the previous chapter. Intuitively this makes sense, because when an artifact, site or activity dates to the DR period, then we know that we are dealing in some shape or form with a Santamariano polity, although which one of many has to be determined. After analyzing and discussing data from a burial deposit recovered at RC78-83 in La Poma, the successively broader data categories of ceramics, architecture, and site layout are explored.

Burial Data from a Tomb at RC78-83

A burial deposit in a tomb or cemetery grave provides evidence both for the affiliation of the individuals interred as well as the burial's builders. The previous chapter

describes a burial deposit at the site of RC78-83 that was uncovered, excavated and radiocarbon dated by this project. This tomb is revisited here for information regarding the affiliation of the community living in and around the area of Trigal (Figure 6), which was densely occupied in prehistory. To review, the tomb lay in a small rise in the hill slope outside patio structure AD1-ASD14. It contained (1) a partially sealed, intact olla ceramic vessel with at least two interred infants, (2) a badly fractured urn that once held as many as two infants, and (3) a few pieces of a third, large ceramic vessel that may or may not have contained burials. The radiocarbon age of the carbonized wood taken from within the olla provides a terminus post quem of AD 1153 for the burial, which predates Inka contact. The other three dates from this site also fall squarely in the DR period. Even though this site was not occupied into the Inka period, understanding the political and cultural associations of its inhabitants provides some light on the possible background and position of groups that would later encounter the Inkas at sites like SL005, which lies nearby on the same ridge overlooking Trigal from the north.

Infant burials in decorated funerary urns are, in fact, recognized as the most distinctive hallmark of Santamariano societies from across most of the Argentine Andes, including in particular the Calchaquí Valleys, the Lerma Valley south of Salta, and much of the province of Tucumán (Baldini 1980, Bennett *et al.* 1948, Serrano 1976). These tall, ovoid urns have wide, flaring rims and are typically decorated in two or three colors (black on white or black and red on white). The RC78-83 interment is typical of this Santamariano practice in a variety of ways; it contained the remains of infants, one of the vessels was a classic Santamariano urn in form, and the other vessel was capped with a large burnished pucó, which is also a typical Santamariano burial object. In a number of

other ways, however, the burial was distinct from Santamariano traditions. Most notably, the burial was not recovered from beneath the floor of a domestic structure and the ceramic vessels lack the classic geometric design scheme-- the complete olla is a plain ware vessel and the crushed urn and large pucó are red-slipped and burnished.

The particular red ceramics from the tomb and identical samples found on the surface and in excavations at this site suggest ties between this settlement and the Quebrada de Humahuaca, which is another of the large, longitudinal valley that lies on the eastern slopes of the Andes (see Figure 1). Humahuaca lies northeast of the Calchaquí Valley beyond the neighboring Quebrada de Toro. That the Calchaquí Valley, the Quebrada de Toro and the Quebrada de Humahuaca were connected directly or indirectly for centuries before the Inka period is not in question as researchers since the turn of the century have recognized that ceramics were exchanged between the regions (Dillenius 1909). A pottery type known as La Poma negro sobre rojo was found in both the Northern Calchaquí Valley (e.g., in graves at La Paya, Bennett *et al.* 1948:64) and Quebrada de Humahuaca (e.g., at the site of Los Amarillos, Nielsen 1997:160). This ceramic type is distinctive for its bold black-on-red designs of swirling, curvilinear pinwheels on the inside or outside of vessels. The name is misleading, however, because this ceramic style did not originate in La Poma but came from either the Quebrada de Humahuaca (Bregante 1926) or from the Quebrada de Toro at Incahuasi (Dillenius 1909). The foreign ceramics recovered at RC78-83 were not of this Quebrada de Toro type, but were of a similar type produced at the site of Pucará de Tilcara in the Quebrada de Humahuaca known as Tilcara negro sobre rojo (black crosshatched panel designs over red slip, made with a dark gray felsite temper, see Pérez 1978).

A connection between Trigal lying in the northern reaches of the Northern Calchaquí Valley and the Quebradas de Toro and Humahuaca is understandable given the geography involved (see Figure 1). As a point of reference, the Trigal area lies 60km north of the Santamariano settlement and possible Inka administrative center of Puerta de La Paya and Guitián. By comparison, the distance between Trigal and Santa Rosa de Tastil (a major population center in the Quebrada de Toro) is only 38km and the Quebrada de Humahuaca lies 60km beyond that. Admittedly, travel up and down the Northern Calchaquí Valley between Trigal and Puerta de La Paya is easier compared to the mountain traverses required for travel between Trigal and the other valleys. However, in the past these routes heading out of the area to the northeast were well-traveled. The argument being made here, then, is not that the communities living in Trigal and around La Poma were descendent from Toro and Humahuaca societies. The La Poma populations have always been closely connected to the history and traditions of the Calchaquí Valleys and, in the DR period, this means they would have been associated most closely with Santamariano traditions and culture. Instead, it is argued that these La Poma groups, which lay at the extreme northern edge of the Santamariano cultural sphere, also had close ties with neighboring groups to the north.

In the end the different aspects of the RC78-83 tomb are interpreted as follows. First, the groups living in the Trigal area before the arrival of the Inkas were indigenous Calchaquíes for at least the 400 or so years that the Santamariano tradition dominated cultural expressions of societies in the Calchaquí Valleys (AD 1000-1470). Within this general culture category, of course, societies internal to the region would have had scores of social and political differences. One such aspect of the communities living at Trigal

was that these groups maintained exceptionally strong extra-valley contacts with societies living to the northeast in the Quebradas de Toro and Humahuaca. This evidence for a strong tradition of interregionalism among some Santamariano populations reappears later in this thesis as a central feature of my general argument about the ups and downs of Inka colonial success in the valley.

Ceramic Data

The data from the intact vessels and ceramic fragments that were collected for this research are not ideally suited for an analysis of affiliation, although a handful of tentative observations are made. This weakness in the ceramic database is a by product of the conservative approach that was used in analyzing and coding ceramic material, which was designed to insure that the designation of categories like 'Inka' or 'Santamariano' would be conclusions that were drawn from the data, not traits that were assigned to the data (see discussion in the previous chapter). As a reminder, 30 ceramic culture types have been designated by the Proyecto Arqueológico Calchaquí that reflect the period of origin of the vessel (e.g., Formative, Fase Inka), the cultural group that produced the piece (e.g., Santamariano, Inka, Pacajes, Yavi), or the location and distinguishing feature of the piece (e.g., Famabalasto negro sobre rojo, Tilcara negro sobre rojo). Table 13 presents the percentage breakdown of the various types coded in the ceramic data. The high number of pieces coded as 'unknown' reflect the conservative approach used in analyzing the material. This percentage of unknown jumps from 54% to 93% when data from SC042 are removed (SC042 data were coded by other members of the greater project).

Ceramic type	%	n
Inka-related (8% of total)		
Inka provincial	6%	319
Inka mixto	2%	126
Inka imperial	<1%	11
Santamariana-related (34% of total)		
Santamariana decorado	16%	890
Santamariana sin decorado	8%	433
bicolor	5%	305
fase Inka (cuerpo brunido)	2%	132
tricolor	2%	96
negro sobre rojo	1%	58
bicolor with red interior	<1%	6
rojo y negro sobre pasta	<1%	4
negro sobre pasta	<1%	4
Other (4% of total)		
negro pulido	2%	95
gris pulido	1%	44
rojo pulido, problematic	<1%	23
exótico	<1%	19
negro pulido tarde	<1%	15
Quebrada de Humahuaca influenced	<1%	9
other	<1%	7
formative	<1%	1
negro pulido al interior	<1%	1
Hispanic Indigna	<1%	1
Unknown (54% of total)		
unknown	54%	3080
total (all types):		100% 5679

Table 13: Occurrence of ceramic types from all excavated contexts

This table presents the frequencies and percentages of types that were coded for all ceramic material recovered in excavations.

Looking at those ceramic data that do show signs of possible affiliation, Santamariano types occur in all sectors of the valley (La Poma, the Main Valley and the Potrero Valley) and at almost every site (Table 14). When the percentages for Santamariano ceramics at a site are low, they are also typically low for Inka-related pieces (these sites have very high percentages of 'unknown' types). These data on Santamariano ceramics are too few to offer information on differences between possible distinct polities that existed up and down the study area. In other words, while the

cultural repertoires of Santamariano groups in the valley surely varied in a material sense, it is difficult to see their differences in regard to type in this set of ceramic data.

Region and site	Ceramic types:									
	Inka-related:		Santamariana-related:		Other:		Unknown:		Total:	
	%	n	%	n	%	n	%	n	%	n
La Poma										
RC078	0%	0	<1%	3	3%	27	97%	991	100%	1021
RC083	0%	0	1%	1	8%	10	91%	108	100%	119
SL005	0%	0	0%	0	8%	1	92%	11	100%	12
SL033	5%	1	5%	1	5%	1	84%	16	100%	19
Potrero Valley										
SC042	16%	410	71%	1812	7%	169	6%	147	100%	2538
RP005	0%	0	1%	10	0%	0	99%	912	100%	922
RP002	0%	0	22%	8	3%	1	75%	27	100%	36
RP200	0%	0	0%	0	0%	0	100%	6	100%	6
Main Valley/Cachi Adentro										
SC066	0%	0	23%	12	0%	0	77%	40	100%	52
RC127	0%	0	14%	18	4%	5	82%	107	100%	130
RC021	42%	45	2%	2	0%	0	56%	60	100%	107
RLP16	0%	0	9%	61	<1%	1	91%	655	100%	717
total (all sites):	8%	456	34%	1928	4%	215	54%	3080	100%	5679

Table 14: Occurrence of ceramic types by site and valley sector

This table presents the distribution of categories of ceramic types by individual sites and valley sectors. All ceramic material recovered in excavations are included in the analysis.

The use of non-plastic inclusions as temper in ceramics may, however, reflect differences in the spatial organization and affiliation of the people living at the study sites before and during the Inka period. As a reminder, non-plastic inclusions in the paste of ceramic wares were coded by manual inspection according to the categories of mica, sand, felsite, liso, or combinations thereof. Data presented in the preceding chapter support the argument presented by Pollard (1983:27-31) that these paste inclusions correlate geographically (see Chapter 4, Chart 5). In sum, when temper is looked at according to regions it varies significantly: sites in Cachi Adentro commonly have micaceous wares, while felsitic wares are more typical in the northern reaches of Potrero

and La Poma. Before arguing too strongly that the spatially discrete use of temper reflects social organization, I emphasize that the ceramic tempers used in different regions also reflect the soils that are locally available (e.g., volcanic soils are common in the La Poma and Potrero regions and micaceous soils dominate the Main Valley and Cachi Adentro).

There are a number of other conclusions that can be drawn from the temper data. First, the small portion of ceramics that contain non-local tempers in each area imply the mixing and movement of ceramics around the valley. In other words, a small quantity of ceramic vessels (or the clay used to make them) from each region did circulate to other parts of the valley, which is enough to suggest that although these polities may have been distinct they did exchange and share resources in some cases. Second, the bulk of the ceramic vessels produced and used in the valley in the later prehispanic periods was not the product of an isolated group of ceramic specialists from one area circulating their wares throughout a valley-wide network. Instead, most ceramics (especially coarse wares) were produced locally using local clay and temper sources. This picture of a cultural mosaic of indigenous polities in the area agrees with the historical accounts discussed above, which hint at a dynamic sociopolitical atmosphere at the time. Third, the outline of the groups defined by ceramic temper offers the first line of evidence for the model of pre-Inka community organization that I offer at the end of this chapter, which identifies three basic groups of affiliated communities arranged for the most part by valley area.

Architectural Data

This section presents an analysis of the architectural data in an attempt to outline the distribution of DR and Inka-period polities through their building traditions in the Northern Calchaquí Valley. Ideally, these data can provide some idea of whether groups with distinct backgrounds, loyalties and affiliations were participating as engineers, construction bosses, or builders in the construction of edifices and settlements. For instance, there is a question about who built the structures that appeared in the valley during the Inka period, especially at sites ostensibly designed and used by Inka and Inka-related groups. This section explores architectural data in order to answer these and other questions.

The following analyses seek to establish the building tendencies of valley groups as reflected in (1) the use of upright stones in wall coursing, (2) the shapes of structures, and (3) wall thickness. Some of the discussion here echoes points about architectural construction made in the previous chapter. After considering Inka building techniques in some detail, a discussion of indigenous techniques in the Northern Calchaquí Valley is offered wherein it is argued that many of the indigenous and Inka traditions blended together over space and time. Conclusions are then drawn about what these observations imply about colonial contact between indigenous and foreign groups.

Three standout features can be offered as indicators of structures designed by and made under Inka versus indigenous supervision. These are the presence/absence of upright stones in the basal course of walls, the basic shape of structures in plan view, and wall thickness. These categories are based on (1) prior studies of Inka architecture in the Northern Calchaquí Valley (de Lorenzi and Díaz 1977), (2) information about Late-period northwest Argentina building traditions (Serrano 1936), and (3) a number of

synthetic descriptions of both (DeMarrais 1997, Tarragó 1978). The common position, for instance, maintains that rectified buildings with thinner walls (i.e., less than 75cm) without upright stones are likely to be of Inka design, while rounded, or 'shaped' structures with thicker walls (e.g., greater than 75cm) and upright stones are likely to be of indigenous design.

Relying on earlier research to suggest key variables for an architectural study of affiliation can be problematic, because there is some uncertainty about the methods other researchers have used to arrive at their assessments and whether subsequent researchers have compounded problems by accepting earlier interpretations. To be as free as possible of bias, the following analyses scrutinize the three architectural variables independently in order to confirm or negate prior conclusions.

Upright Stones

In the prehispanic periods the use of upright stones in the basal courses of structure walls was common in the Calchaquí Valleys, where builders embedded large, flat stones on end at the base of walls on the inside, outside or both sides of walls. When upright stones appear on the outside of structures they likely served as splash-guards to preserve the walls against falling water draining down from the roofs. This does not explain why these upright stones appear on the inside of structures (in 93% of the structures with this feature, the upright stones appear on the inside of the structure). Placing stones on the inside of structures might have served as a way to strengthen the base of the walls during construction. It might have also been an aesthetic addition to the interior, lived-in space.

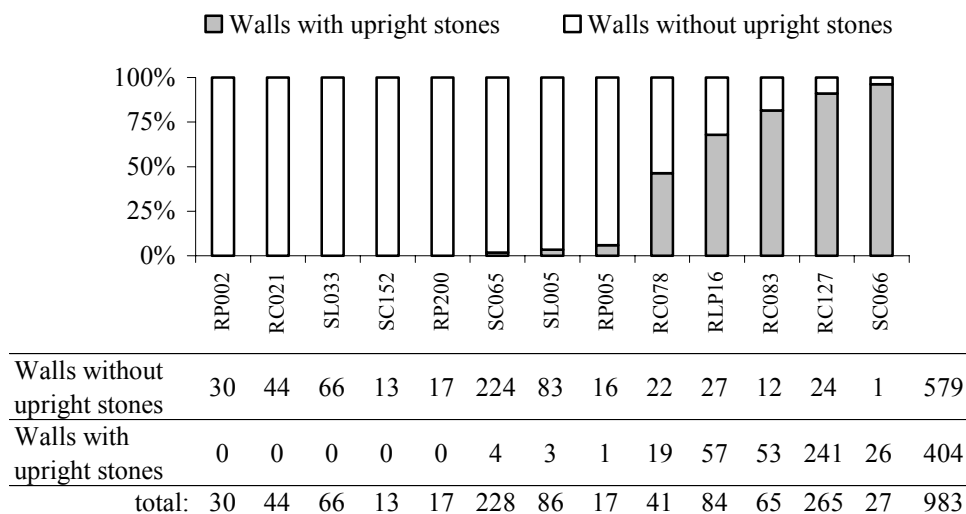


Chart 11: Occurrence of walls with and without upright stones by study site

Data collected from all 1170 walls are included in this analysis (sample is reduced to 983 after removing the 187 mounds and deteriorated walls without founding stones). The sites are ordered left to right from smallest percentage of upright stones present to largest. Values have been standardized to 100%.

Whatever the origins were of this feature, it does exhibit site-by-site patterning in Chart 11, which shows the percentage distribution of the use of upright stones by study site. This chart shows that eight of the twelve sites have few or no upright stones, while two (RC127 and SC066) have nearly a 100% presence of the feature. The heavy use of upright stones at these sites may suggest that their structures were designed and built by and under the supervision of indigenous populations versus populations foreign to the area. The eight sites that lack this feature were possibly designed and constructed by foreign groups, or at least by groups that were unfamiliar with this Santamariano wall-building tradition. When considered in light of the site chronology presented in Table 4 (see previous chapter), this characterization is strengthened. For example, of the seven sites that have architecture that dates to the Inka period or later (and thus have a chance of being Inka in their construction and use), all lack upright stones (RC021, SL005,

RP200, SL033, SC065, SC152, and surface architecture at RP005). In contrast, the structures at sites that are linked to the DR period (and thus were constructed by Santamariano peoples) have a greater presence of upright stones (RC78-83, RLP16, RC127, and SC066). The data also support the notion that perhaps some of the open patios visible on the ground surface at RLP16 were repaired or constructed in the Inka period as a third of all patios there lack upright stones. These findings are summarized in the final section of this chapter.

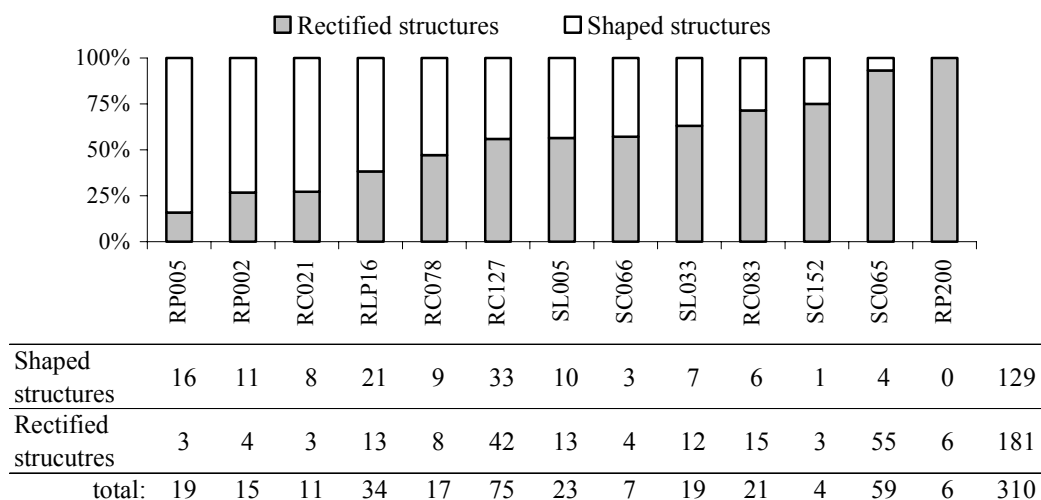


Chart 12: Occurrence of rectified versus shaped structures by study site

This chart ranks sites left to right from smallest percentage of rectified structures present to largest. All structures are included in the analysis. Values have been standardized to 100%.

Structure Shape

Unlike the foregoing analysis of upright stones, the distribution of rectified versus shaped structures by site does not split evenly into two groups since eleven of the sites have middling frequencies between 25% and 75% of rectified structures (Chart 12). The two sites that do stand apart (SC065 and RP200, which have very high occurrences of rectified structures) date to the Inka period. The reasons why people build structures in

different shapes are countless, but include such factors as the affiliation of their builders, the time of construction, and their intended use. In short, then, there is no strong link between structure shape and cultural affiliation, a point discussed in the closing section of this chapter.

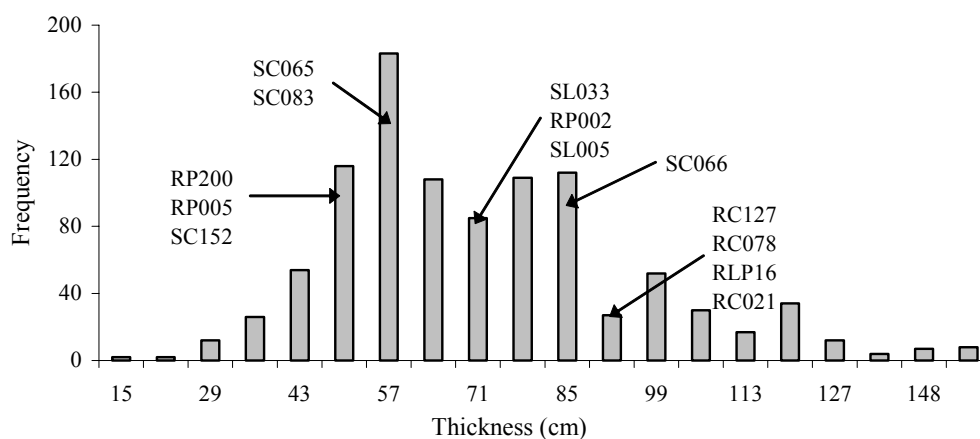


Chart 13: Frequency distribution of wall thickness across all data

Labels in this chart mark the approximate locations on the distribution of the means of wall thickness for each site. Data collected from all 1170 walls are included in this analysis.

Wall Binder and Wall Thickness

The third architectural variable that potentially links to cultural affiliation is the way in which different binding techniques were used to secure standing walls. Chart 13 presents a frequency distributions of wall thickness, which is a variable that directly reflects whether a wall is core-filled or not (see discussion in previous chapter). The chart demonstrates a bimodal distribution in overall wall thickness that clusters around walls that are roughly 57cm and 85cm wide. The sites with the four lowest thickness averages (RP200, RP005, SC152, SC065, see Table 15) are related in one way or another to the Inka period or later based on the chronological data. The sites SC066, RC127 and RC078, which have on average very thick walls, are DR-period sites, which means they

were built by locally-affiliated groups. The middle four sites have distributions concentrated between the other groups, signifying perhaps overlap at these sites between indigenous groups and foreign groups moving into the area in the DR and Inka periods.

Site	Wall data (cm):			
	No.walls at site	Mean thickness	Thickest/Thinnest	Std. Dev.
RP200	21	49.1	75/33	12.0
RP005	17	51.0	71/38	10.7
SC152	13	54.3	63/36	8.3
SC065	228	59.0	79/36	9.0
RC083	65	62.8	124/30	22.7
SL033	66	65.0	92/34	15.3
RP002	30	70.2	118/45	18.6
SL005	86	71.0	110/40	13.5
SC066	27	81.9	180/31	23.7
RC127	275	89.3	219/25	22.6
RC078	41	90.0	180/63	29.7
RLP16	87	93.1	150/24	29.4
RC021	44	94.1	240/40	37.8

Table 15: Basic wall data for each of the study sites

Data collected from all 1170 walls are included in these calculations.

The two sites at the very bottom of Table 15 (RLP16 and RC021) have notably wide standard deviations and overall high average wall widths. In plan, RC021 is Inka period or later (see following discussion), but in wall construction it is indigenous-- the wide walls with double rows of stones and core-fill are examples of Santamariano masonry. Three explanations can be offered to account for this hybrid site. First, the site is a possible example of a settlement designed in the Inka-period by non-Santamariano people that was constructed by a Santamariano work force. Second, it could have been designed and built by a Santamariano community in an attempt to imitate foreign settlement planning. Third, it could have been designed and built by Inka-related groups in an attempt to imitate indigenous building technologies. Because the plan of the site resembles an installation of Inka qollqas, I favor the first explanation and argue that

actual Inka personnel were responsible for its layout. The other site with high overall wall widths is RLP16, which is discussed in detail in the previous chapter. It appears as if this site was founded in the early DR period, subsequently abandoned, and then possibly reused in the Inka period by people who repaired previous structures and erected new ones. This occupational history would account for the wide distribution of wall thickness. These points are contextualized with other lines of evidence for affiliation in the summary section of this chapter.

In sum, it would be difficult to identify the affiliation of the designers and builders of a site based strictly on the presence or absence of upright stones, the shape of the structures, or the thickness of the walls. For example, interpretations of Santamariano affiliation based on wall thickness alone would misrepresent instances when Santamariano work parties used their methods of making walls to execute Inka-designed structures. This seems to have been the case at RC021 and at the Inka-period site of Cortaderas Izquierdo, where two immense Inka structures were built with thick, core-filled walls (see discussion in Chapter 7). In these types of cases, it is not essential to identify whether the structure was 'Inka' or 'Santamariano'; what matters more for the present study is the relations between the communities of people that came into contact during its construction and use. These types of subtle interpretations can only be made when multiple lines of evidence are considered and when the histories in question have been sorted out. The discussion at the end of this chapter, which follows the next section on site layout, presents such an overview.

Site Layout and Affiliation

The following analyses consider spatial data in order to analyze the possible social affiliations of the designers and builders of the study sites. These analyses explore the data in reference to what is already known about the building habits of the culture groups that were most likely interacting in the valley in the Inka-period. There is some thought, for instance, that the Inkas engaged in a sort of compulsory urbanism in many places in the Andes and constructed many of their settlements according to standardized templates that are recognizable archaeologically (Morris 1972). One example includes the Inka habit of building fully enclosed spaces that are recognizable by the presence of structures built entirely within other structures, all of which probably reflected an interest on the part of the Inkas in creating microcosms of their worldviews across the Andes. Another example of differences in building traditions that is discussed in the previous chapter and that is possibly relevant to an analysis of affiliation concerns how some settlements were built by accretion versus others that were built more quickly.

There is also the possibility that specific architectural signatures exist that also speak to the social affiliation of the builders and inhabitants of these sites. The most obvious is the presence of telltale Inka features like usnus and kallankas, which are associated with ceremonial activities. Both of these types of structures have already been documented at SC042 (D'Altroy *et al.* 2000, Difrieri 1948, Schávelzon and Magadan 1992). In northwest Argentina there are also long, rectangular compounds called rectángulo perimetral compuestos (RPC's), which typically enclosed a number of smaller structures (Madrazo and Ottonello 1966:60-63). RPC's have so far been identified in the Northern Calchaquí Valley at the sites of Cortaderas Izquierdo and Corral Blanco. Unfortunately, structural forms that can be linked to late Santamariano designers and

builders in the Northern Calchaquí Valley have not been documented to the same degree as Inka traits and are therefore more difficult to identify.

Structures Built within Structures

While it is argued that sites like SC042 (Potrero de Payogasta) are an example of a pure Inka settlement in the Northern Calchaquí Valley (de Lorenzi and Díaz 1977:48, Hyslop 1984:177-178, Raffino 1988), identifying sites this far from Cuzco as 'Inka' begs the question, who actually designed and built these sites? The appearance of structures built within structures in the Northern Calchaquí Valley is one type of evidence that can be used to understand the affiliations of the designers, builders and users of the study sites. An example of structures built within structures is seen in the southwestern corner of SC065, where a complex of 25 rectangular enclosures fronts the Inka road (see Figure 14, Chapter 7). The central part of this complex consists of a large open patio that contains eleven smaller enclosures, some of which are connected to each other and others which stand alone. I argue that that this spatial feature is an indication of Inka settlement design. This point is supported by a test that looks at pre-Inka versus Inka-period sites as defined in Table 4 (Chapter 4) and by calculating what percentage of the structures (i.e., ASD's) lie entirely inside other structures. In other words, if this is an Inka design habit, then there will be fewer interior ASD's at pre-Inka sites than there will be at Inka-period sites.

This, as it turns out, is precisely the pattern. While only 8% of ASD's are inside other enclosures at pre-Inka sites (13 of 173), at Inka-period sites this number jumps to 26% (25 of 133). It is helpful to study the pre-Inka exceptions closely for information regarding the logic of this practice. At the pre-Inka sites (where there are only 13 interior

structures to consider) not one of them is freestanding-- that is, they are all built against the wall of the greater, containing structure. Because they abut the walls of the larger structures in which they lie, they were built secondarily and designed according to a logic of expediency. In contrast, at Inka-period sites the sense of spatial segregation by design is distinct. Returning to SC065, for example, which dates squarely to the Inka period, the patio in the southwestern complex contains a ring of six freestanding structures that open towards each other in the middle of the patio space. Interestingly, there are three Inka-period sites that lack structures within structures (RC021, SL033 and RP002). I argue below that these were built in the Inka period possibly by Santamariano populations according to their own mental templates of settlement design. In some cases they may have been working under the direction of the Inkas, while in others they may have been working on their own.

Duration of Construction

Another set of differences in building traditions that is relevant to an analysis of affiliation concerns how some settlements were built by accretion while others were built more quickly. Specifically, we can look at differences in settlement planning that reflect variation in the duration of time of the construction of these sites. Sites that show a cellular pattern of construction were built in stages (i.e., they were built as if by accretion), where one structure had to be completed before another could be added on. At these sites wall-sharing and wall abutments are typical. Sites that have more stand-alone structures or large spaces that were internally divided could have been built more quickly (i.e., they were built from the outside in). The argument being made here is that sites of the former type were built by Santamariano groups who lived in the valley for

centuries and that sites of the latter type were built by Inka-related groups who lived in the area for no more than 100 years.

Period and site	Freestanding walls	Shared walls	Total	% of walls shared
DR-period sites				
RC127	50	244	294	83%
RLP16	31	93	124	75%
RC083	51	31	82	38%
RC078	29	17	46	37%
SC066	22	6	28	21%
RP005	25	0	25	0%
total (DR):	208	391	599	65%
Inka-period sites				
RP002	22	28	50	56%
SL033	38	34	72	47%
SC065	140	93	233	40%
SL005	57	33	90	37%
RC021	44	0	44	0%
RP200	21	0	21	0%
total (Inka):	322	188	510	37%

Table 16: Distribution of freestanding and shared walls by study site

The raw counts and percentages of freestanding versus shared walls at the study sites are grouped by time period. Data collected from all 1170 walls are included in this analysis (sample is reduced to 1109 after removing the retaining walls from the sample). The sites are ranked by period and decreasing percentage of shared walls per site. See discussion of chi-squared statistic in text.

As is shown in Chapter 4, the presence of freestanding walls is twice as great at Inka-period sites as it is at DR-period sites (see Table 10). Table 16 considers these same data on a site-by-site basis in order to determine whether other information emerges relating to community affiliation. First, RC127 and RLP16 have the highest percentages of shared walls. These sites, which date to the DR period, are located in the Main Valley and Cachi Adentro, respectively. While both sites have high degrees of wall sharing as well as defensive walls, they are not alike in plan. RC127 contains many small contiguous enclosures and RLP16 contains a number of massive contiguous patios. This, perhaps, is early evidence for the differentiation between Santamariano groups in the pre-

Inka periods. Next, RC078 and RC083 have nearly identical percentages of shared walls, which is logical given the fact that they are two sectors of the same site. SC066 is a small site dominated by one large open corral against which the other structures were built. That is, while the walls may not be shared, the site was built essentially from the inside out (or, from the corral out). Lastly, the absence of shared walls at RP005 is somewhat deceiving since it was occupied in the Formative period when mounds dominated settlements, and then reoccupied later in the Inka period when shared walls were less common.

While Santamariano sites were possibly built piece-by-piece as reflected in their cellular architecture, Inka-period sites were more likely to have been built in one fell swoop. In fact, the difference between the purely Santamariano sites from the DR-period and sites in Inka period with respect to proportions of freestanding walls and shared walls is significant ($\chi^2 = 3.706$, $df = 1$, $.10 > p > .05$, where the χ^2 value falls very close to the 5% significance level of 3.841). RP200 and RC021 are prime examples, because each consists exclusively of freestanding structures that do not abut one another, meaning that no one structure at these sites was necessarily built before another. The other extremes in this category are SL033 and RP002, which I believe were built in the Inka period by Santamariano groups based in part on their higher percentages of shared walls. While the plan of SL033 can be seen as Santamariano in nature, the layout of RP002 is intriguing and is discussed in more detail below and in Chapter 7. In short, this site is a good example of a hybrid site, or a type of settlement that is neither purely Inka or Santamariano, but something else all together.

Among the DR-period sites, therefore, there is sufficient evidence in the way that walls were shared to suggest that perhaps different groups were in place designing and building their settlements to slightly differing degrees (e.g., RC127 vs. RLP16). At sites that appeared in the valley in the Inka period there is evidence that while the Inkas were active at some of them (e.g., SC065), other sites were settled and used apart from the Inkas (RP002, SL033). In some cases, these sites were truly isolated from the Inkas and in others they were potentially linked through some type of relation.

Northern Calchaquí Valley Affiliations in the Later Periods

This section brings together the divergent data from the preceding sections and from prior historical and archaeological research as it outlines the social affiliation and political organization of the populations that occupied and entered the Northern Calchaquí Valley in the years surrounding the Inka period. The following descriptions of each of the 13 study sites are not organized chronologically as per Table 4. Instead, summaries of the sites are presented here in three geographical clusters. I argue below that these groupings are a product of the data themselves since they emerge as discrete entities that have meaning in regard to the pre-Inka and Inka-period affiliations of communities living in the valley. At the outset I emphasize that these possible independent sociopolitical formations belong strictly to the later periods (DR and Inka), and not necessarily to the other periods (Formative, Early DR, Spanish Colonial, etc.).

These three groupings roughly correspond to Acuto's (1999:49-65) notion that the valley was organized in the late DR period into three regions. Acuto bases his ideas on previous archaeological research and secondary sources, and so the data presented here should be seen as an extension and refinement of his ideas. As will be made clear in the

presentation below, while the first two sectors described (La Poma and the Potrero Valley) are clear and well-defined, the third sector (the Main Valley) lacks detail as only a few sites are available here to define the character of this large area (Figure 9). The three sectors to be described are La Poma (Acuto's sector C), the Potrero Valley (Acuto's sector A) and the Main Valley (Acuto's sector B).

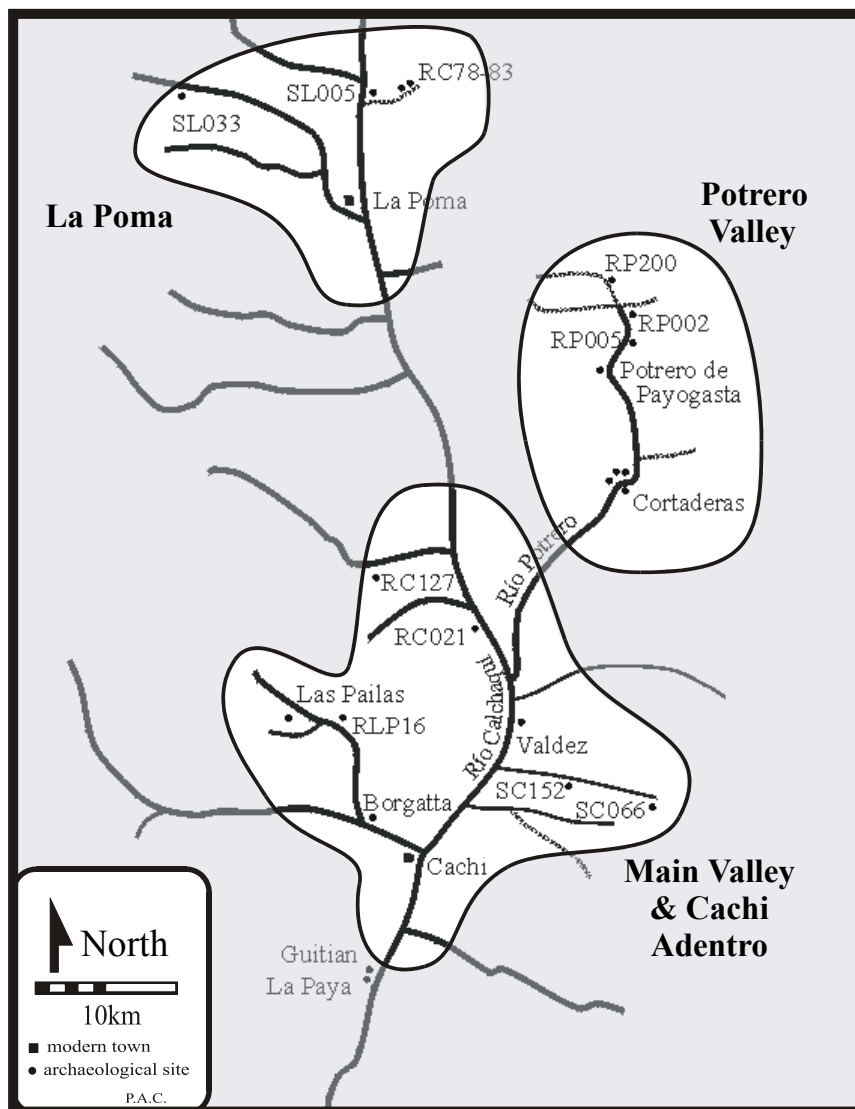


Figure 9: The sectors of La Poma, Potrero Valley and Main Valley
This map shows the study area in the Northern Calchaquí Valley and the sectors of La Poma, Potrero Valley and Main Valley/Cachi Adentro.

La Poma

The La Poma area of the Northern Calchaquí Valley falls entirely within the study area defined for this research (Figure 9). The impression from being in the area of La Poma is that this portion of the river valley resembles a basin, because the open valley floor is walled in by features of the natural landscape on all sides. The northern limits of the basin lie at the modern town of El Saladillo ($24^{\circ} 36'$ south latitude), where the valley constricts considerably. Below this point the meandering river has flattened the landscape and made it ideal for irrigation agriculture. Above this latitude the river flows in a deep canyon (where agriculture is much less common) from its headwaters at the Nevado de Acay. The eastern limits of the La Poma basin are clearly defined by the Cerro de Lampasillos, a towering mountain range that separated La Poma from the Potrero Valley. There is no evidence that this range was ever crossed regularly, which is understandable given its severe incline. Instead, to reach the Potrero Valley from La Poma it is more convenient to travel south down the main river valley to the confluence of the Ríos Calchaquí and Potrero before turning north up the Potrero Valley. The western limits of the La Poma area are easily defined by the Sierras de Cachi and Pastos Grandes, which are the mountain ranges that dominate the western side of the valley.

The southern limit of the La Poma area corresponds to two massive, anomalous geologic features that cross the valley landscape at roughly $24^{\circ} 47'$ south latitude. On the east side of the river stand Los Gemelos, which are twin volcanoes just south of the modern town of La Poma. Opposite these black, basalt-covered volcanoes on the west side of the river lies a massive outcrop of marine sediments, which measures 5 x 2km (north-south/east-west) and resembles from afar a white dome rising from the valley.

Both of these features in the landscape are geological newcomers to the otherwise ancient Precambrian landscape; the younger volcanoes are Tertiary in origin and the white dome is Mesozoic. The appearance of these geological landmarks starting 150 million years ago greatly affected the form of the valley and directly caused the formation of the La Poma basin. By impeding and occasionally damming the flow of the river at this latitude, these geological intrusion served as a natural dam across the valley that caused soils to accumulate upstream during the Upper Tertiary and Quaternary eras (at one point the river flows underground between these geological features). As a result of this action the change in elevation of the Río Calchaquí as it travels through the La Poma basin is gentle compared to the steeper drop of the river as it flows into and out of the basin. This collection of river soils over the millennia has created an alluvial plain ideal for agriculture.

Overall, the La Poma basin measures 18km long (north-south) and no more than 4km wide (east-west). It is physically isolated from the other of the sectors of the valley and self-contained insofar as there are scores of permanent water sources emanating from valley springs and flowing into the area from the surrounding mountains. Relative to the barren landscapes that surround La Poma at higher elevations, the basin is verdant. Because of its agricultural potential, La Poma has the sense of being a breadbasket that was lowered into the surrounding rugged mountains. The area also benefits from easy access to and from the high puna in three directions, which would have guaranteed past societies ample herding opportunity. It is no surprise, then, that people have lived in this area for thousands of years.

RC78-83

According to the chronological data presented in Chapter 4 this site was occupied in the DR period and not at all in the Inka period, which implies, of course, that Santamariano inhabitants built and occupied this site. The affiliation data concur with this expectation. First, the evidence from the urn burial discussed above indicates that the inhabitants at this site participated in a classic cultural tradition of Santamariano societies in northwest Argentina-- namely the placement of infant urn burials in residential settlements. The presence of a number of Santamariano architectural features (i.e., upright stones, irregularly shaped structures, consistently thicker walls) also support that the inhabitants of this site practiced a number of common Santamariano traditions typical of DR-period societies in the area. The same can be said for the overall planning of the site, which is dominated by large patios with smaller enclosures built against the inside walls.

Beyond these indications that the inhabitants of this site can be generally identified as Santamariano, there are a number of reasons to believe that they differed in ways that distinguished them from their Santamariano neighbors to the south. This comes as little surprise given the location of La Poma along the extreme northern boundary of the Santamariano cultural sphere in the Calchaquí Valley. This location afforded the inhabitants of the area ample opportunity to interact with other groups in northwest Argentina that lay to the north. The ceramics found at this site reflect this spatial pattern in a material way, because while there were no easily identifiable Santamariano decorated types, there were a number of decorated pieces found that had clear connections to the Quebradas de Toro and Humahuaca. Similarly, the defensive wall surrounding the site, which has four semi-circular turrets spaced evenly along the

defensive wall, is more similar in conception to circuit walls in the Quebrada de Toro (Raffino 1993:227) than such walls in the Northern Calchaquí Valley. In light of these extra-valley contacts I argue that the Santamariano inhabitants of this site were extremely mobile insofar as they maintained connections with groups to the north and east and perhaps to the west. Evidence for the mobility of the site's inhabitants could be better documented by studying the hundreds of corrals that are located in the foothills of the mountains to the east of the site. That this settlement was connected to other societies outside of the valley does not mean that they were not familiar with and loyal to their Santamariano neighbors located to the south in the Main Valley. The point is that these sorts of interregional connections maintained by the La Poma groups set them apart from other groups in the Northern Calchaquí Valley in terms of their potential and subsequent relations with each other and possible Inka-related groups. These points are reintroduced in the discussion of the social history of the valley that appears in Chapter 8.

SL005

The site of SL005 lies 1.5km west of RC78-83. According to the chronological data presented in Chapter 4 this site was probably occupied in the Inka period. While the ceramic data collected at the site offer little information about the affiliation of the site's inhabitants, the other categories of data do suggest some sort of connection between the site's inhabitants and the Inkas. As is discussed above, architecturally there are no upright stones in the base of the structure walls, more than half the structures are rectangular, and the average thickness of the walls is small (71cm). More significant is the settlement's plan, which includes a number of rectangular kallanka structures arranged around at least two small, open spaces that could have served as public plazas. There is

also a small collection of round, Inka-like qollqas at the west end of the settlement. More significant still is the location of SL005 outside the walls of the Santamariano settlement of Esquina Azul. I deal with the relation between the small, possibly Inka settlement of SL005 and the large Santamariano town of Esquina Azul in more detail in Chapter 7, where I discuss the phenomenon of Inka settlements that were located just outside the walls or limits of major indigenous centers. In short, in a number of cases in northwest Argentina the Inkas built their recognizable settlements in the shadows of occupied indigenous settlements, reflecting a sort of symbiosis between the groups.

I argue, then, that SL005 was inhabited by people who were in some way related to the Inka state. Whether these individuals were actual ethnic Inkas is unclear, although I would argue against the idea based on the lack of Inka ceramics at the site, the smallness of the settlement, and the fact that the planning and execution of the Inka-like architecture is a far cry from the Inka architecture and masonry seen, for instance, at SC065. The group that did live at this site was poorly supported by Inka standards, because SL005 lacked many of the features of an Inka outpost, for instance a larger storage complex or a clear association with the Inka road. Instead, the inhabitants of SL005 may have been depended on the beneficence of the people living within the walls of the large neighboring Santamariano site of Esquina Azul. In turn, the SL005 inhabitants may have provided food and lodging for agents traveling on behalf of the empire or for actual Inkas. Whatever the arrangement was, based on the site's shallow deposits I suspect that the site was occupied for just a short period of time. Lastly, given La Poma's connections to regions north and east of the valley, the small group of inhabitants at SL005 may have migrated into the area to settle this site around the onset

of the Inka period. Alternatively, in light of the abandonment of a site like RC78-083, which was possibly sacked before or at the arrival of the Inkas, the SL005 inhabitants may have been indigenous to the valley. Which of these scenarios is more likely is explored in Chapter 7.

SL033

The last site in the La Poma area to be considered is SL033, which is located in a well-traveled lateral valley (Quebrada de Las Peñas Blancas) that connects the Northern Calchaquí Valley to the western puna via a low mountain pass. According to the chronological data presented in Chapter 4 the site was possibly built in the Inka period. However, because the quebrada has been used and occupied constantly since the beginning of human time in the region, establishing the timing of any human activity in the valley is difficult. The ceramic data from the site, which show equal amounts of recognizable Santamariano, Inka, and Spanish Colonial types, suggest how settlements in the valley have been and are constantly being reused. The felsite temper that was used in the majority of the ceramics from this site does reflect the site's proximity to the La Poma area. No exotic types appear in the site's ceramic collections, which is surprising given its location on a major route in and out of the Northern Calchaquí Valley.

Roughly half the structures at the site are corrals and their irregular shapes suggest they were built by a Santamariano community in the DR period or later. However, the lack of upright stones suggest that the designers and builders were related to the Inkas, especially since a tremendous number of boulders were forsaken that were readily available in the river lying 15m away. The abundance of shared walls would immediately suggest an indigenous sense of design; however every wall juncture is

bonded (versus abutted), which means that the site was built more or less in one construction episode. In sum, then, while it is admittedly difficult to secure the affiliation of the inhabitants and the timing of their activities in this valley, I do argue that the SL033 structures were erected in the Inka period, but by indigenous groups that did not necessarily maintain any loyalties to the Inkas. It is unlikely that the site was permanently occupied. Instead, it would have been used seasonally or temporarily by herders and travelers.

Potrero Valley

The Potrero Valley sector is clearly demarcated geographically and it, too, falls entirely within the study area outlined by the Proyecto Arqueológico Calchaquí (see Figure 9). While the Río Potrero is actually a tributary of the Río Calchaquí, its valley is significantly larger than many of the other lateral drainages. In many ways it is similar to the La Poma area: it is supported year round by permanent water, it enjoys easy access to high elevation herding territories, it is closely linked to neighboring valleys to the northeast, and its indigenous potters in the past used predominantly felsite tempers. The northern limits of the Potrero Valley are defined by the mountains that extend across the top of the Potrero area at roughly 24° 46' south latitude and that contain the headwaters of the Río Potrero. This northern limit lies 2km north of RP200, which is the northernmost Potrero site included in this study. At this northern point the river bed shrinks to less than a few meters wide and there are no substantial ancient settlements from this point to the north. The Inka road exits the valley at precisely this point and climbs into the mountains due north towards the Quebrada de Toro. This stretch of the Inka road, which is dotted with Inka installations, has been carefully studied by Hyslop and Díaz (1983).

The eastern limits of the Potrero Valley are defined by the same north-south mountain ranges that define the eastern edge of the Northern Calchaquí Valley itself. At the latitude of Potrero this includes the Cumbres de Zamaca. The southern end of the Potrero Valley is defined by the confluence of the Ríos Potrero and Calchaquí at 24° 59' south latitude. In much the same way that geological features define the southern end of the La Poma area, a distinct set of hills serve to conceptually divide the Potrero area from the Main Valley. These hills, which on maps are labeled Los Cerrillos but are known locally as Las Llamitas, stretch across the base of the Potrero Valley like a curtain wall, serving as a visual break between the areas. Just before it joins the Río Calchaquí, the Río Potrero passes through the hills via a steep, narrow gorge.

Overall, the Potrero Valley measures 25km long (north-south) by no more than 6km wide (east-west). Compared to the La Poma area, the Potrero is not as isolated from the main trunk of the Northern Calchaquí Valley. It is also not as rich in resources as La Poma: first, although the Río Potrero is fed by permanent waters, the valley does not receive as much water annually as La Poma; second, although there are herding areas nearby to the east and north, the valley does not have direct access to the vast territories of the western puna; and third, although it has some lands for agriculture, it does not have the same, wide expanses that are available in La Poma. Pre-Inka habitation of the Potrero Valley was subsequently less intensive than that in La Poma. As the following summaries show, the area became more actively occupied in the Inka period.

SC065 (Cortaderas Bajo)

SC065 was occupied in the Inka period according to the chronological data presented in Chapter 4. The affiliation data discussed here confirm this chronology,

because the architecture and planning data from SC065 are some of the purest examples of Inka material culture documented in the Northern Calchaquí Valley: there are no upright stones in the basal courses of the walls, the great majority of the structures are rectangular, and the walls are on average very thin. The planning is also purely Inka, for instance there is a high occurrence of structures built within structures. This assessment of an Inka occupation of SC065 is made in the absence of ceramic data, although there are a number of reliable claims made by other researchers that the ceramic data that have been recovered at this site confirm Inka affiliation (D'Altroy *et al.* 2000, de Lorenzi and Díaz 1977:48, Díaz 1983:100, Earle 1994, Hyslop 1984:176, Tarragó 1974). Another reason to conclude that this site was designed, built and occupied by Inkas (or at least by groups closely associated with the Inkas) is the overwhelming similarity between the layout of SC065 and other Inka sites in the South Andes. For instance, open, square patios with interior enclosures dominate the Inka site of Chuquiago de Suipacha, which lies just over the border in southern Bolivia (Raffino 1993:186). There are similar open, undefended Inka sites in the valleys of Abaucán and Hualfín in Catamarca, such as Hualfín, Shincal, and Watungasta (Raffino *et al.* 1983-85). I argue, then, that if the groups living and working at SC065 were not actual Inkas, and on occasion a few of them would surely have been, the caretakers of the site would have been closely affiliated to them. Otherwise this immediate location was not previously occupied.

What does this imply about the occupation of the whole of the Cortaderas settlement? As is discussed in detail in Chapter 7, SC065 is one of four settlements covering 26 hectares at Cortaderas. The other parts of the area include (1) Cortaderas Alto, which is a fortified town strategically set atop a 250m tall hill that was occupied

mostly during the DR period; (2) Cortaderas Derecho, which is an Inka-period community that was possibly home to re-settled Inka laborers; and (3) Cortaderas Izquierdo, which is an Inka industrial sector with a series of storage structures, corrals and two immense multi-purpose enclosures. The likely sequence of occupation and abandonment of these four settlements that is considered in more detail in Chapter 8 involves the Santamariano inhabitants of Cortaderas Alto being forced to leave their homes and to resettle on the low ground at Cortaderas Derecho, where Acuto (2002) has recovered evidence for a short-lived, intensive occupation during the Inka period by non-Inka agricultural workers. Cortaderas Bajo was most likely an Inka administrative center, because not only does it contain some of the most consistent examples of Inka architecture in the valley, it is also closely associated with the Inka road, which transverses the site. There is also a clear mix of secluded residential structures and accessible public buildings, which further suggests a typical seat of Inka colonial administration. Cortaderas Izquierdo would have served to store and supply resources for the area and to generally support the activities taking place at SC065. The next site to be considered, which lies 7km north of SC065, is also ultimately associated with the Inkas.

SC042 (Potrero de Payogasta)

According to the chronological data presented in Chapter 4 this site was occupied in the DR and Inka periods. While only ceramic data are available in the analyses presented here regarding the site's affiliation, these data do confirm the chronological findings. In particular, the ceramic data from SC042 show a mix of Santamariano and Inka styles, with 71% of the identifiable material being Santamariano. While this could mean that indigenous groups were working at the site in the Inka period, the pre-Inka ¹⁴C

dates that were recovered in excavated contexts suggest otherwise (see discussion in Chapter 4).

The site layout, which can only be discussed in general terms (the architecture at SC042 was not studied according to the standards developed for this project), also suggests that the site was originally occupied by a Santamariano polity before the Inkas arrived in the area. As background, there is no doubt that the northern sector of SC042 was designed and used by the Inkas (see Figure 8, Chapter 4); not only is there a well-defined Inka kallanka dominating the plaza, there is also an Inka usnu in the middle of the plaza. In light of these structures many people have argued that Potrero de Payogasta was a center of Inka activity in the area (see discussion above). It is the southern portion of the site that suggests earlier Santamariano activity at this location. The architecture and planning of this southern sector, which rests on a slight rise along the edge of the river, includes a number of features that could be related to an indigenous occupation. Most significantly, there are a number of irregularly shaped patios with interior enclosures built against their walls that together form domestic compounds similar to those seen at other Santamariano sites in the valley (e.g., RLP16, SC066, RC78-83). This is not to say that the Inkas did not redesign and rebuild much of the site when they arrived. The point here is merely that there are possible vestiges of the DR-period groups that lived at this location before the Inkas came to the area. The further significance of this will be addressed in Chapter 8. Suffice it to say here that this site may have been a place where Santamariano and Inka groups interacted.

RP005

The next site in the Potrero Valley to consider is RP005, which is located 4km north of SC042. According to the chronological data presented in Chapter 4 the site was first occupied in Formative period and then possibly reoccupied in the Inka period. The ceramic data from excavated contexts are associated exclusively with the Formative occupation, which means that the Inka activities were ephemeral enough not to leave any substantial archaeological deposit. Outside of the slumping, Formative earthen mounds that dominate the site, the three stand-alone structures on the surface are purely Inka: there are no upright stones in the basal courses of the walls, the structures are rectified, and their walls consistently thin. Not much can be said about the affiliation of the site's Inka-period inhabitants without excavated material, except that the inhabitants were somehow related to the Inkas, because they built structures that mimicked Inka traditions. One possible scenario is that workers were directed to the site by the Inkas to exploit the same lithic resources that appear with abundance in the excavated Formative deposits.

RP002

The next site to be considered is RP002, which lies a little over 1km north of RP005. According to the chronological data presented in Chapter 4 the site was occupied in the DR and Inka periods. Unfortunately, the affiliation data for this site are equivocal and do not immediately support the site's chronology one way or another. Of the little ceramic data available, the identifiable types are Santamariano-related, with no Inka or exotic types present. In turn, the architectural data reflect a bit of both indigenous and Inka influences; for instance, while there are no uprights in the walls, the building shapes are highly irregular, and the thickness of the walls falls between the traditional averages. Furthermore, the settlement's layout is pure Santamariano, but many of the details are

pure Inka. For instance, the presence of open patios with internal auxiliary structures is Santamariano, as is the apparent accretional building method. But there are Inka-like elements that are striking. First, there is a neat row of small platforms placed in the middle of the central patio, which suggests more of a link to the Inkas than to any indigenous community. Second, there is a pair of larger, matching platforms standing on opposite sides of the site's main access. And third, at the foot of the site just alongside the Inka road is a curious feature consisting of a small stone platform placed on a larger earthen mound. These multiple platforms and their alignments suggest Inka planning, which is why I argue that, although the site may have been originally built by Santamariano groups in the DR period, in the Inka period RP002 saw some Inka-related activity. In sum, because of the overall Santamariano layout and the lack of Inka portable artifacts, I argue that there was a Calchaquí group living here when the Inkas moved into the Potrero Valley, and that subsequently the people of this site began to adopt and emulate some of the habits of their new neighbors.

RP200

The last site in the Potrero Valley to consider is RP200, which is located near the headwaters of the Río Potrero some 7km north of SC042. According to the chronological data presented in Chapter 4 this small site was occupied in the Inka period. While the few ceramic data available are silent regarding the possible affiliations of the site's inhabitants, the architecture suggests Inka origins; there are no upright stones in the walls, all structures are rectified and standing alone, and the walls are very thin. In short, I argue that this small site was established by the Inkas and perhaps inhabited by an indigenous or resettled group for the purpose of managing the nearby canal and its intake

that supplied water to settlements downstream. This site could have also served as a way-station for travelers as they moved in and out of the valley.

Main Valley and Cachi Adentro

The Main Valley portion of the Northern Calchaquí Valley includes those parts of the study area that do not fall in either the La Poma or Potrero Valley areas (see Figure 9). The eastern margin of the area is defined by the Potrero Valley, the Cumbres de Zamaca and the Cerro Tin-Tin. The western margin is defined by the towering Sierra de Cachi. The northern limits correspond to a constriction in the valley that lies at the modern settlement of El Rodeo (24° 49' south latitude). This constriction is the mouth of a very deep and narrow canyon extending north along the Río Calchaquí towards La Poma. The southern border of the Main Valley is also defined by a narrow constriction in the valley, which lies 29km downstream from El Rodeo and 7km upstream from Puerta de La Paya (25° 8' south latitude).

Because the designation of the Main Valley serves as a catchall category for analysis, there is a chance that the area held a number of independent prehispanic polities within its boundaries, or that it transected others that once may have extended beyond the study area. There is some tentative evidence, for example, that a pre-Inka polity existed at the far eastern edge of the Main Valley near the modern settlement of Puil, which today contains a church, a school, and a handful of families living amid scores of ancient sites. Life at Puil in the past and today is supported by the permanent flow of water flowing out of the eastern mountains, which has created an alluvial fan that spreads out onto the floor of the Main Valley. While Puil is isolated from other past and present communities in the Northern Calchaquí Valley by stretches of empty valley floor, there

are a number of ancient and contemporary roads leading in and out of the area. I suspect that future research at Puil will reveal that this area once supported an independent DR-period society. There is also evidence on the eastern side of the Main Valley (south of Puil) that a small community lived in and around the Quebrada del Río Mollar, which is the lateral east-west valley connecting the Northern Calchaquí Valley to the routes leading east over the plains of Tin-Tin. In different periods the study sites SC066 and SC152 would have been part of this community.

Across from Puil and the Río Mollar lie, respectively, the modern towns of Palermo and Cachi. Like Puil, Palermo sits on a massive alluvial fan that spills out into the Main Valley. This alluvial fan, which today supports some of the most intensive cultivation in the valley, was once the likely basis for a polity in the past that included the study site RC127. Cachi lies to the south of Palermo at the opening of Cachi Adentro, one of the most well-studied lateral valleys in the Northern Calchaquí Valley. Ongoing research suggests that this Y-shaped drainage, which holds two permanent rivers fed by glacial runoff from the Sierra de Cachi (the Ríos Las Arcas and Las Trancas), may have been home to two or three independent Santamariano polities (DeMarrais 1997). The study site RLP16 was most likely associated with the Las Pailas polity located upstream on the Río Las Arcas. Finally, back out on the Río Calchaquí, there may have been any number of polities at different points in time. For instance, in the late DR period there was certainly a polity centered at the large site of Valdéz (D'Altroy *et al.* 2000:6-7). The study site RC021, which lies directly on the banks of the river, may have been part of such a community.

All in all, therefore, in the pre-Inka period there may have been as many as seven or eight independent Santamariano village polities located in the Main Valley at these and other archaeological sites. While they were separated by stretches of vacant spaces that lie between them, they were also well connected by various routes and roads that crisscross the area. While each may have reacted to and dealt with the arrival of Inkas and the threat of colonialism independently in some cases, they may have also come together as a unified force that the Inkas would have had to reckon with in one way or another. In either scenario, each of these entities was free to establish relations with their neighbors and with colonial agents of the Inka state in order to negotiate their political standing and future in the valley.

SC066

SC066 is one of the two study sites that lie on the eastern border of the Main Valley in the Quebrada del Río Mollar. According to the chronological data presented in Chapter 4 the site was established in the DR period and then possibly reused in the Inka period. The affiliation data recovered at this site do not contradict these findings. The ceramic types identified in the data are Santamariano-related, with no exotic types present. The architectural details evoke Santamariano building traditions, including the presence of upright stones in the walls, irregularly shaped structures, and consistently thick walls. The use of the site as a corral and possible staging area for travelers crossing the mountains between the Calchaquí and Lerma Valleys does not suggest any particularly affiliated group, although the plan of the site is extremely similar to Saladillo, a site built by Santamariano groups in the Lerma Valley (Mulvany 1999, Mulvany and Soria 1998). If, as Mulvany and Soria suggest, a group of ethnic Pulares lived at

Saladillo at the far end of this route, the same might be said of SC066. In short, then, I argue that the builders and original occupants of SC066 belonged to a Santamariano society that possibly maintained relations with groups in the Lerma Valley. There is also the likelihood that the site was used in the Inka period, although not necessarily by Inkas or Inka-related groups.

SC152

At the foot of the same lateral valley (Quebrada del Río Mollar) lies the colonial site of SC152. No ceramic remains were recovered from the excavations at this site, but a number of historical artifacts (a spoon, a leather sheath) confirm this chronology, as do the architectural data (no upright stones in the walls, rectified structures, thin walls). In short, this site was built and occupied in the Spanish Colonial period by a community or family keen on using the nearby spring to support their domestic and kiln-related activities. There is no reason to believe that these groups were not descendents of earlier indigenous populations.

RC127

According to the chronological data presented in Chapter 4 RC127, which lies just outside the modern town of Palermo, was occupied primarily in the DR period. Everything about the affiliation data concurs with this chronology since they suggest that the inhabitants were indigenous to the valley in every way. First, the ceramics recovered fall exclusively into Santamariano categories and, except for a few Inka-period sherds found on the surface, no exotic types were identified. Second, the architecture of the irregularly-shaped structures is consistently indigenous, with upright stones present in most of the thick walls. Third, there are no structures built within structures and the

whole of the settlement, which resembles a beehive, was built by accretion. In short, RC127 is a classic Santamariano site. Furthermore, given their insulated position tucked in at the foot of the Sierra de Cachi, the RC127 community had minimal connections to extra-valley polities. That is, unlike groups living at the head of routes leading out of the valley at places like La Poma, Potrero, and the eastern edge of the Main Valley, the population at RC127 was largely hemmed in by the mountains to the west. Given its substantial defensive walls and its hilltop location, this Palermo polity, which would have been well provisioned by the area's permanent water and rich agricultural lands, was apparently involved in some form of conflict.

RLP16

RLP16 lies south and west of RC127 in Cachi Adentro. According to the chronological data presented in Chapter 4 this site was occupied in the DR period and may have been reused superficially in the Inka period. The data about the affiliation of the site's inhabitants do not contradict these findings. The ceramic types identified in excavated contexts fall squarely in Santamariano categories and there are no exotic or Inka types present. Roughly 75% of the walls have upright stones in their basal courses and are predominately thick. Most of the enclosures, which are consistently irregular in shape, and are large and open, suggesting that they were used as patios and corrals. While there are a few interior structures in these large spaces, they are typically built against the patio walls, and so are not like the freestanding structures seen at sites like SC065. The circuit wall that surrounds the settlement is similar in design to the wall surrounding the Santamariano site of RC127. In sum, I argue that the inhabitants were quite similar to the people living at RC127. Like the former settlement, RLP16 would

have experienced only indirect contact to extra-valley societies given its isolated position in Cachi Adentro. Given their secure and well-defended position in this valley, the RLP16 inhabitants would have also enjoyed a certain amount of latitude in conducting their agriculture activities. As I argue in the next chapter, this area of Cachi Adentro is dominated by the site and fields of cultivation of Las Pailas, which may have been the area's greatest producer of agricultural products. The nature of the reuse of the site in the Inka period is unclear, because the data of this later activity are limited to the minor construction of some surface architecture. If, as I suspect, RLP16 was reused sparingly by Inka-related groups, it is possible to speculate that the Cachi Adentro breadbasket remained under the control of Santamariano polities in the Inka period.

RC021

The final site to consider lies in the middle of the Main Valley on the western banks of the Río Calchaquí. According to the chronological data presented in Chapter 4, RC021 was occupied exclusively in the Inka period. While the site's affiliation data discussed here mostly confirm this date, the affiliation data here are somewhat ambiguous. First, the scant ceramic data reveal a quantity of a certain temper type that is anomalous to the valley, which consists of a light colored paste that is well-fired at very high temperatures. A number of these exotic fragments come in traditional Inka forms, but are entirely void of Inka surface designs. The architectural data are likewise a mix of Inka and non-Inka traits. The walls, for instance, do not have upright stones and the size, roundness, and alignment of the majority of structures suggest an Inka installation of qollqas. However, the walls average nearly 1m in width, which is tremendously thick, and are uniformly core-filled, which is a Santamariano trait. Tentatively, I argue that the

inhabitants of this site, who would have lived in the three rectangular structures flanking the eight qollqas, were tied into Inka activity in the valley, but were not themselves Inkas. In this scenario, they may have been a small community of workers placed on the river in order to cultivate, produce and supply food resources to the Inkas.

Conclusion

The foregoing profiles of the communities of people living at the 13 study sites during the late prehispanic periods provide a picture of the social identity and political organization of the societies that eventually come to participate in the colonial encounters in the Northern Calchaquí Valley. This emerging picture provides an outline of different societies that existed within an area that the chronicles suggest belonged exclusively to a people called the Pulares. This means that the events that unfolded in the study area during the transitional moments between the DR and Inka periods took place between more than the traditional dichotomous pair of an indigenous and a foreign group.

Who then, precisely, were the participating and affected actors in this colonial drama? In regard to the imperial side of the colonial encounters, a number of groups seem to emerge that can be thought of as relating to the Inkas in distinct ways. For instance, it is certain that at one time or another a number of actual ethnic Inkas and loyal agents of the Inka state occupied SC065 and SC042. Simultaneously, there is evidence that some groups with ties to the Inkas were active at smaller sites in the valley (RP200, SL005) although whether they were voluntarily loyal to or controlled by the Inkas remains to be explored (see Chapter 7). It is also the case that a number of sites show evidence of use by independent non-Inka groups moving into or through the area during the Inka period (SL033), although what they were doing exactly remains to be seen (see

Chapter 6). In regard to the Santamariano side of the encounter, a number of points are clear: first, as evidenced by the abandonment of indigenous sites in pre-Inka times (e.g., RC78-83), the sociopolitical scene in the valley was already dynamic in a historical sense; and second, as evidenced by the sites that were only superficially affected by Inka activities (RC127, RLP16), in many cases Santamariano life proceeded independently. Finally, there are two sites that belie easy explanation (RP002, RC021). These sites, as I argue in the next chapters, were the locations of the types of Inka-period colonial encounters and negotiations that lie at the heart of the questions and ideas motivating this research.

Chapter 6 -- Activities in the Late Periods in the Northern Calchaquí Valley

The goal of this chapter is to reconstruct the activities that occurred at the 13 study sites in the Northern Calchaquí Valley in the late prehispanic periods. To that end, the portable artifacts and surface remains investigated by this project are analyzed in a number of ways in order to arrive at some understanding of the activities that lay behind their creation, their use, and their deposition. In regard to portable artifacts, for example, the identification of ceramic or metal workshops can be strengthened by an association with artifacts such as raw materials (e.g., clays and ores), manufacturing tools, molds and crucibles, and the byproducts of production. Prior investigations in the Northern Calchaquí Valley have, in fact, recovered artifacts reflecting a wide range of activities, including metallurgy (e.g., slag, copper ores, crucibles, and finished objects), lapidary work (e.g., atacamite and muscovite fragments), and stone tool manufacture (e.g., chert and obsidian debitage, cores, and hammer-stones). In regard to surface remains in the Northern Calchaquí Valley (e.g., architecture, site plans, features of the landscape), the research data can also be analyzed for information about activities that occurred in the past based on comparisons with known Inka architecture (Gasparini and Margolies 1980, Kendall 1985, Lee 1997, Nielsen 1995). This means that features of the built environment can be easily distinguished that served military, production, storage, residential, and ceremonial purposes. For instance, metal or ceramic workshops can be identified by their cellular architecture and detritus. Many Inka production enclaves were home to mitmaqkuna, or labor colonists who provided many of the goods and services for state use, and such settlements have already been described historically (Lorandi 1991)

and identified archaeologically in Argentina (Williams and Lorandi 1986). Storage facilities are also identifiable by their modular size, linear alignments, and form, and they also occur in the study area (Acuto 1994). It is also possible to distinguish typical kancha residences of Inka personnel, which are enclosed compounds of two or more structures and a patio, as well as usnu and kallanka, which are associated with ceremonial activities. These structure types have also been previously documented in the valley (de Lorenzi and Díaz 1977, González and Díaz 1992, Schávelzon and Magadan 1992).

In the first section of this chapter I investigate the portable artifacts (ceramic, lithic and bone data) for clues about activities that occurred among the communities that lived in the Northern Calchaquí Valley in the DR and Inka periods. In particular, information about feasting and exchange relationships is outlined between groups that lived within and beyond the Northern Calchaquí Valley. No evidence was found for metallurgical activities among the portable artifacts studied by this project, which is important because it conflicts with the popular theory that the Inkas were attracted to the mines and metallurgical resources and expertise of the area (González 1983, Llagostera Martinez 1976). In the middle section of this chapter I consider data that have been drawn from surface remains (architecture and site plans). In the same way that the portable artifact data do not indicate much Inka involvement in the production of metals in the area, the surface data do not speak of much of an interest on the part of the Inkas in the valley's key agricultural areas at Trigal and Cachi Adentro. This position also conflicts with a prevailing theory, which anticipates that the Inka state relied on the Northern Calchaquí Valley for food supplies (González 1983, Hyslop 1984:172). Much of this idea is based on the curious and solitary site of Los Graneros, which lies in a steep,

narrow canyon half way between La Poma and Palermo. This site is really a shallow cave in the side of the canyon wall that contains roughly 15 storage silos that historically were used to store maize. There are a few, small prehispanic hamlets located upstream from Los Graneros, none of which have been identified as Inka. The Inka origins of Los Graneros needs to be confirmed rigorously before it is possible to conclude that the Inkas inserted themselves into the valley's complex and productive agricultural industry.

Data Analysis: Portable Artifacts

Ceramic Vessel Forms: Feasting and Serving in the Northern Calchaquí Valley

In the prehispanic Andes the activities of feasting and gift-giving were central to the successful creation of reciprocal obligations. Throughout the Andes researchers have found evidence from all time periods that such social activities were constantly used by aspiring leaders to garner favors and followers. A direct method of reconstructing feasting archaeologically is to assess the presence and intensity of the behavior of serving food. The most typical archaeological manifestation of the serving of food is the presence of open forms of ceramic vessels, for instance of low-sided bowls (pucos), plates, and decorated drinking cups. Places and structures once used by hospitable leaders engaged in hosting and feasting should contain the remains of a relatively high percentage of open-mouthed bowls or flat serving vessels compared to the remains found, for instance, in a place of storage, which should contain a greater percentage of closed-mouth vessels that would have been more suitable for the storing and transporting of materials.

To identify serving behavior, therefore, it is necessary to identify serving vessels versus vessels used for activities like storage, transportation, and food preparation. It is

equally important to closely consider the contexts of serving behavior in order to understand the origin of the serving vessels in question and to determine which groups actually did the hosting. As is discussed in Chapter 3, every ceramic fragment recovered by this project was coded by form according to a number of categories typical of the Late and Inka periods in northwest Argentina including open forms such as pucos, open bowls, cups and plates and closed forms such as jars, ollas, bottles and urns. Chart 14 presents the results of an exploratory analysis of the distribution of open and closed vessel forms by site.

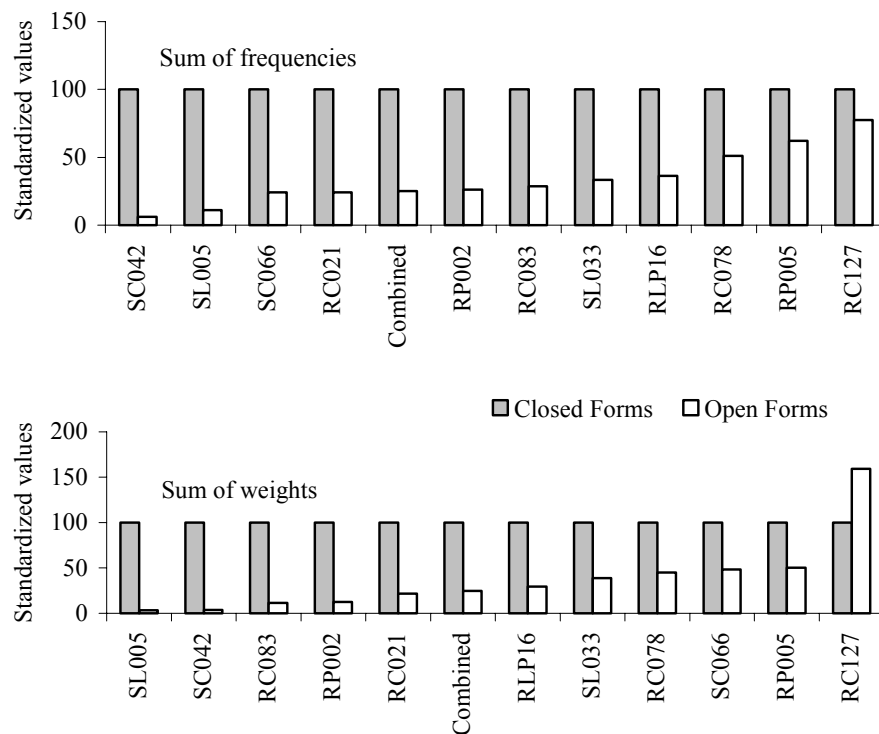


Chart 14: Comparative distributions of ceramic vessel form by site

These charts compare the distributions of sums of counts and sums of weights (gm) of ceramic vessel form by site. Percentage values for open forms have been standardized against values of closed forms, which are set to 100. Graphs are sorted by the ratio of open to closed forms in ascending order. The 'Combined' case in each chart represents cumulative totals of all sites (See Appendix 8 for raw data table, including original counts and percentages).

A number of immediate conclusions are drawn from these data. First, except for some shifting between neighboring cases, the same order is roughly apparent whether sorting by count or weight. This implies simply that sherd weight was roughly consistent across the study area. The one instance when this is not the case comes from RC127, where four sherds were uncovered from the same vessel that weighted over 480gr, or roughly 120gr each. This far exceeds the mean-average sherd weight across all excavations of 13.7gr, which means that the position of RC127 shifts positions between the weight and frequency charts.

The second observation that can be made of Chart 14 concerns the high and low ends of the same two graphics: RC127 and RP005 lie at the high end of both charts (they have a larger relative percentage of open forms) and SL005 and SC042 lie at the low end of both charts (they have a lower percentage of open forms). Taken strictly at face value, this immediately suggests that in relative terms there were more hosting-related activities taking place at the former sites and less at the latter sites. This is a unanticipated pattern on a number of levels. First, given its status as a well-known Inka center, SC042 should have been the focal point of ongoing Inka-sponsored hospitality rituals involving feasting and serving between the Inkas and Santamariano groups. This is not the case, however, since it lies at the extreme low end of the chart. Second, because SL005 is an Inka-related site (see discussion in previous chapter), it should have also been the scene of feasting and serving as per traditional interpretations of Inka activities, except that it, too, lies at the lower end of the chart. Third, according to radiocarbon analysis and architecture studies, RC127 demonstrates DR-period features, which might otherwise suggest that its inhabitants were more egalitarian in their recourse to feasting and serving

activities. If we set aside issues concerning differential discard patterns from place to place and time to time, the fact that the data contradict these expected scenarios is eye-opening and provides the impetus to reconsider and redirect the analysis.

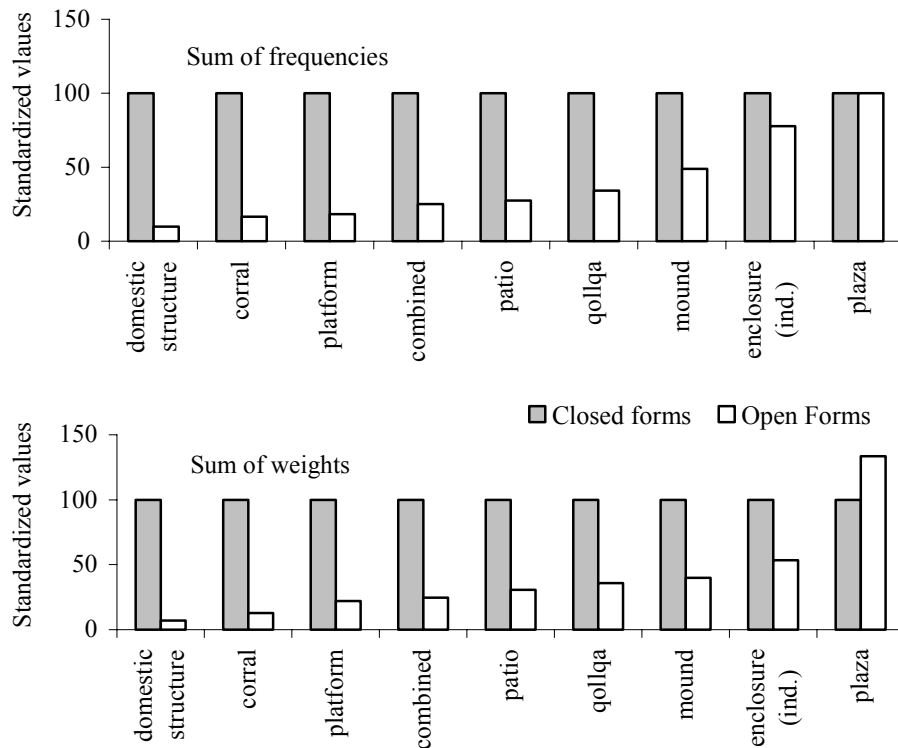


Chart 15: Comparative distributions of ceramic vessel form by structure type

These charts compare the distributions of sums of counts and sums of weights (gm) of ceramic vessel form by structure type. Percentage values for open forms have been standardized against values of closed forms, which are set to 100. Graphs are sorted by the ratio of open to closed forms in ascending order. The 'Combined' case in each chart represents cumulative totals of all sites (See Appendix 8 for raw data table, including original counts and percentages).

One direction in which the analysis can move is towards recognizing that the excavated ceramics under study were collected from different types of activity areas. As is described in Chapter 3, excavation units were placed in all sorts of structure types that served different functions (e.g., domestic structures, corrals, middens). Chart 15 presents the results of an exploratory analysis of the distribution of open and closed vessel forms

by structure type. As in the foregoing analysis, the occurrence of open and closed forms are explored in this graphic as they are represented by raw counts of sherds and by the sum of their weights. These graphics also suggest a number of interesting points: first, domestic structures across all sites have low percentages of open forms relative to closed forms; second, in contrast, plazas and structures of unclear function have higher percentages of open forms; and third, storage structures have a greater percentage of open forms than might be expected, given the assumption that closed-mouthed containers would have been used in these buildings. The first two points suggest that serving activities at the study sites took place less frequently in the private interior spaces of residences and more frequently out in open public spaces. The last point suggests that either storage structures are being falsely interpreted or, perhaps, that they were used as pantries to store ceramics.

The discussion presented in Chapter 8 brings together these observations with the results of the multiple lines of analysis that are presented throughout this study. The point is made there that there are interesting links between these observations about the distribution of serving and feasting activities across the valley and the chronological analyses discussed in Chapter 4. It is clear, for instance, that no Inka-period community in the valley-- whether it included actually Inkas or people working on behalf of the Inkas-- had a monopoly on feasting as a political maneuver in the late prehispanic periods. In the DR period activities associated with feasting and serving were firmly in place at a noticeably high rate. Later, when the Inkas did establish themselves in the valley, for instance at sites like SC042 and SL005, serving and feasting were not the pervasive activities that might be expected.

Exotic Ceramics and Interregional Relations

One of the themes being established by this research is that Northern Calchaquí Valley societies actively participated in interregional relations that created a valley history replete with migrations of people and movements of things in and out of the valley long before encounters with the Inkas. The ceramic data discussed in this section substantiate this trend of interregionalism and suggests that the inhabitants of the Calchaquí Valleys were accustomed to traveling beyond their valley in order to participate directly in the trade of material objects and, thus, in the exchange of information, culture and ideas. This atmosphere of interregionalism supports the argument that the appearance in the later prehispanic period of the Inkas and their retinue was not exceptional in the daily lives and histories of the Calchaquíes. A clear exception to this would have been the appearance of the Inka army, the size of which would have been quite remarkable in the eyes of indigenous people. For the time being, however, trying to determine whether (and when and where) the army may have appeared in the valley is difficult.

Chart 16 presents an analysis of the presence of ceramics of different regional origins across three time periods. For this analysis the categories of ceramic types are defined as follows: Northern Calchaquí Valley (NCV) ceramics include all Santamariano types, local utilitarian wares and Fase Inka ceramics, which are ceramics made in the area during the Inka period; northwest Argentina (NWA) ceramics include ceramics that were at least produced in the neighboring valleys and areas and include Inka Provincial and Mixto styles (a handful of these styles may have also been produced in the Calchaquí Valleys); and Exotic ceramics include all the styles that clearly originate in areas far from

the valley context, for instance Inka Imperial, Quebrada de Humahuaca material, Pacajes, Yavi, and Famabalasto negro sobre rojo. As the graph shows, while there is a steady increase over time in the presence of ceramic material from extra-valley sources, by no means are these ceramics absent from the valley in the DR period. There is little reason to think, therefore, that the Northern Calchaquí Valley in the context of northwest Argentina was isolated and that human relationships did not extend well beyond its geographical limits before the time of the Inkas. While these relationships, which took the form of both culture exchange and trade networks, may not have been as prevalent in earlier periods, they were by no means insignificant. In short, as a geographical entity, northwest Argentina provided its tenant societies ample opportunity to develop and exploit advantageous relationships across its mountains, plains and valleys.

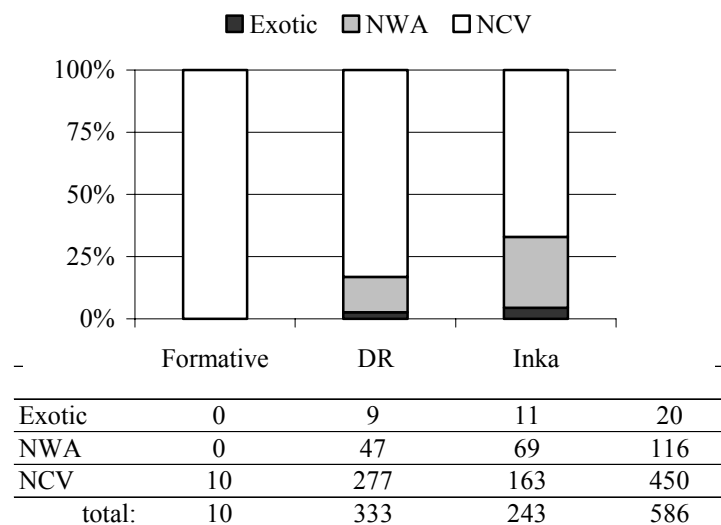


Chart 16: Regional origins of ceramics by time period

This chart presents data on the regional origins of ceramics by time period as calculated by count. Included in the table are identifiable ceramics from securely ^{14}C -dated contexts. Unidentifiable ceramic material are not included. The difference between the occurrence of ceramics of different regional origins with respect to time periods is significant ($\chi^2 = 9.331$, $df = 4$, $.10 > p > .05$, where the χ^2 value falls very close to the 5% significance level of 9.488). See text for definitions of NCV, NWA and exotic.

Another way to look at the same data on the geographical origins of the ceramic material is in relation to its distribution across different valley sectors. Chart 17 depicts one of the salient features of the data. Of the material whose provenance is identifiable, the ratio of exotic material to local (NCV) and regional (NWA) material is noticeably high in La Poma. This basic pattern supports the proposition introduced in the previous chapter that the La Poma area of the Northern Calchaquí Valley was linked actively to regional and interregional networks of exchange (especially to the Quebradas de Toro and Humahuaca).

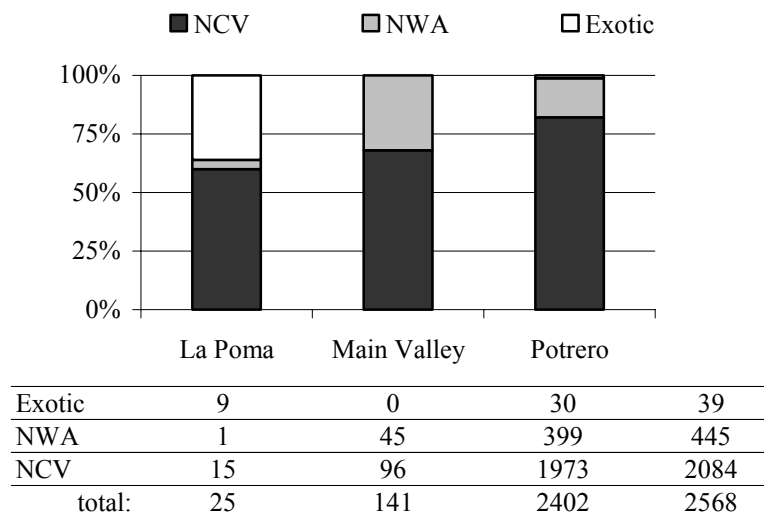


Chart 17: Regional origins of ceramics by valley sector

This chart presents data on the regional origins of ceramics by valley sector as calculated by count. Unidentifiable ceramic material are not included in the calculations. See text for definitions of NCV, NWA and exotic.

Lithics

Only 218 lithic artifacts were recovered by this project in excavations at eleven of the study sites. Two thirds of these artifacts come from two sites (RC078 and RP005) and there are no data from the sites SC042, SC065 and SC152. In light of the slight and inconsistent nature of the lithic data, only preliminary conclusions can be proposed here

about the activities that might be reflected in this material. By looking at the frequencies and density of lithics by weight in different valley contexts, for instance, a number of points can be made about the likely activities that are reflected in the patterns of manufacture and use of lithics across the valley.

Specifically, a predictable pattern emerges when the data are grouped by sector. As Chart 18 shows, three areas of the valley (Potrero, Main Valley, La Poma) trend closely along a best-fit straight line. This trend simply means that as the raw count of lithic debris increases in any of these contexts, so does lithic density by weight in the subsurface deposit. This implies that people in these areas were manufacturing and using lithics in the same sorts of ways at least as reflected in the standardized size of the lithic detritus. The anomaly to this pattern is Cachi Adentro, whose data have been separated from the Main Valley in Chart 18. The illustration shows that consistently fewer but larger pieces of lithic debris were in use in this lateral valley. The quantities of data in this analysis are admittedly small, but they can be interpreted preliminarily in at least two ways. First, it is possible that Cachi Adentro communities were more involved in the earlier, or primary production stages of lithic tool manufacturing wherein larger pieces of debris were being handled and prepared before being moved out of the area. Alternatively, or coincidentally, it is possible that these communities were simply involved in activities that demanded consistently larger lithic tools, such as agricultural work that involved the use of large hoes and in the field and grinders in the processing areas. This scenario agrees nicely with descriptions of the lushness of Cachi Adentro and its long-time involvement in agricultural production at sites like Las Pailas (DeMarrais 1997:255-257, Tarragó 1977).

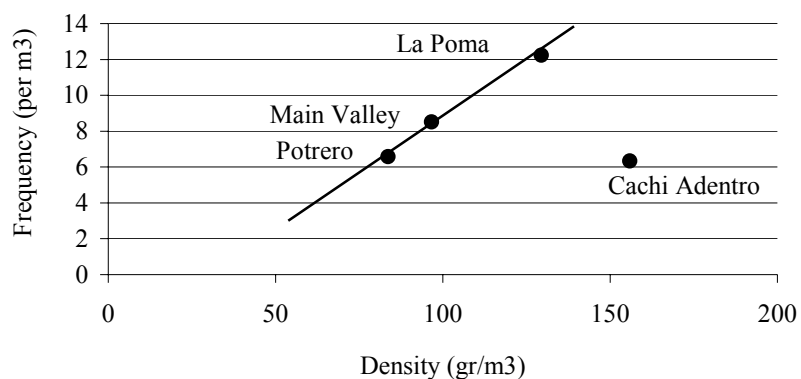


Chart 18: Scatter plot of lithic debris by sector, density versus frequency

Density in gr/m^3 of lithic material is plotted against frequency of remains recovered per m^3 . There is a very strong correlation between the sectors Potrero Valley, Main Valley, and La Poma (Pearson's $r = 0.998$). The Cachi Adentro sample is distinct. Statistical note: Pearson's r indicates the strength and direction of the relationship between two measurement variables, in this case the density versus frequency of lithic debris by valley sector. Because Pearson's r is the square root of the ratio of variance (expressed as r^2) it can be negative or positive depending on the slope of the best-fit straight line. The value of r represents the strength of the relation (zero indicates no relationship and ± 1 indicates a strong relationship).

Another question that can be asked of the lithic data concerns how lithic-related activities in the valley developed and changed over time. As it turns out, the densities and frequencies of lithic material in confirmed pre-Inka and Inka contexts are strikingly similar (108.6 and 112.5 gr/m^3 from pre-Inka and Inka contexts, respectively, and 10.1 and 8.0 pieces/ m^3 , respectively). This suggests tentatively that the lithic industries that were in place before Inka colonialism may not have been disrupted in the Inka period. Some of the specific industries that involved lithic materials that would not have been uninterrupted include agricultural work using sickles and hoes, metallurgical activities, camelid hunting and processing, and an assortment of domestic activities. Whether this stability in lithic activities through time came about because the Inkas chose deliberately to leave the industries intact or because they had little or no control of them in the first

place is a difficult question to answer. In light of some of the other data being presenting in this thesis that typify Inka colonialism in the Northern Calchaquí Valley as a series of successes and failures (see Chapter 7), however, it is easy to imagine that the second scenario was just as likely to have transpired.

Lastly, a number of researchers in Argentina have made the observation that Inka groups commonly resettled Formative period sites during colonization (Callegari B. and Ravina M. 1986, DeMarrais 1997:200-202). Among the study sites described in this work, RP005 in the Potrero Valley fits this pattern and offers a possible explanation as to why the Inkas occasionally reused much older sites (DeMarrais describes RC016 in the Main Valley as another example). Lying at the edge of the Río Potrero, RP005 would have enjoyed direct access to an abundance of raw lithic resources available in the bed of the river that is atypical for the Northern Calchaquí Valley. The Formative period deposits uncovered through excavations as well as surface scatters at this site are dense in lithic remains. The large Inka-period structure erected in the middle of this site could have been used as a lithic production center that made use of the nearby lithic resources as well as some of the lithic debris left on the site itself. The two smaller domestic structures built on the site in the Inka period, then, would have housed the overseers and laborers that worked in the larger structure.

Bone

Like the lithic material, the osteological material that was collected by this project is unevenly distributed between the study sites. For example, while more than half the sample was recovered at RC078, less than 10% of the material comes from eight other sites combined. In light of the inconsistent nature of the osteological data, therefore, only

a handful of preliminary conclusions can be proposed about the activities that might be reflected in this material. Even these superficial observations can be valuable, however, when they are considered in conjunction with the other data being presented in this work.

By calculating the frequencies and density of the animal bone in different contexts a number of points emerge about the activities that are reflected in the differential use of animal resources across the valley. These, in turn, raise questions about possible variation in the access to and consumption of camelid food resources. One line of inquiry that is actively pursued here concerns the different body parts of the animals that were consumed in different contexts, because the various parts of an animal equate to greater or lesser quantities of consumable meat (the great majority of these artifacts are the remains of food processing and consumption since fewer than ten of the 3647 bone fragments recovered were used as tools). Specifically, limbs, which are represented by long bones such as the humerus, radius, tibia, etc., are typically more valuable in terms of consumable meat per bone relative to bones from the head and trunk of the same animal. In a number of the following analyses, therefore, the distribution of bones by body part is investigated against a number of other variables including time and the types of structures in which the bones were discovered. Before these analyses are presented in detail a general observation is offered about the bone data in relation to the different sectors of the valley.

It is possible to calculate the average weight of the excavated bones for each valley sector by dividing the density and frequency of bones recovered per m³ of deposit. That the ratios for each sector are similar (Cachi Adentro 2.1gr, Main Valley 2.5gr, La Poma, 2.9gr, and Potrero Valley 3.3gr) simply indicates that the average bone size in all

areas is constant, which in turn suggests that the activities performed in the curing, consuming and discarding of the bones were also consistent from sector to sector. However, as Chart 19 shows, there is a difference in the intensity of the bone-related activities in the La Poma area, which contains nearly twice the amount of bone as the other sectors of the valley per cubic-meter of deposit. As is described in the previous chapter, the La Poma area of the Northern Calchaquí Valley is bordered on three sides by high-elevation territories that were and are largely uninhabited. These areas to the west, north and east are prime territories for herding domesticated camelid and for hunting wild camelid and other species of animal (these mountain areas are still popular today for herding and hunting). The greater quantities of bone in the La Poma deposits, therefore, are interpreted to mean that the people who lived in this area during the late prehispanic periods did, in fact, take advantage of their direct access to these areas.

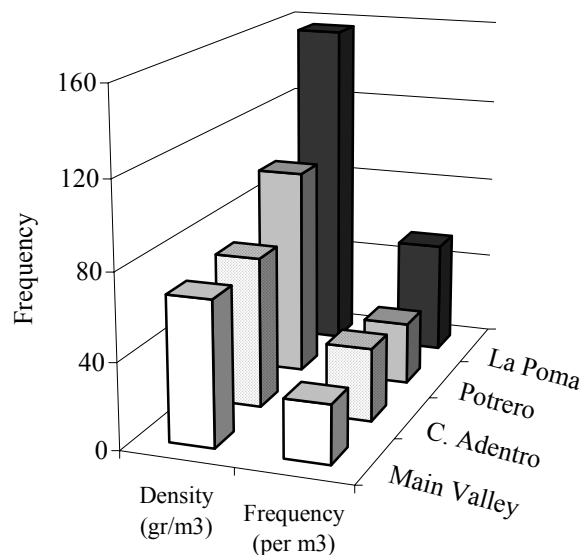


Chart 19: Comparative frequency distribution of animal bone by valley sector

This chart shows the density and frequency of animal bones per m³ of excavated deposit by valley sector. While the Cachi Adentro data are separated from the Main Valley data for the sake of analysis, they are essentially the same.

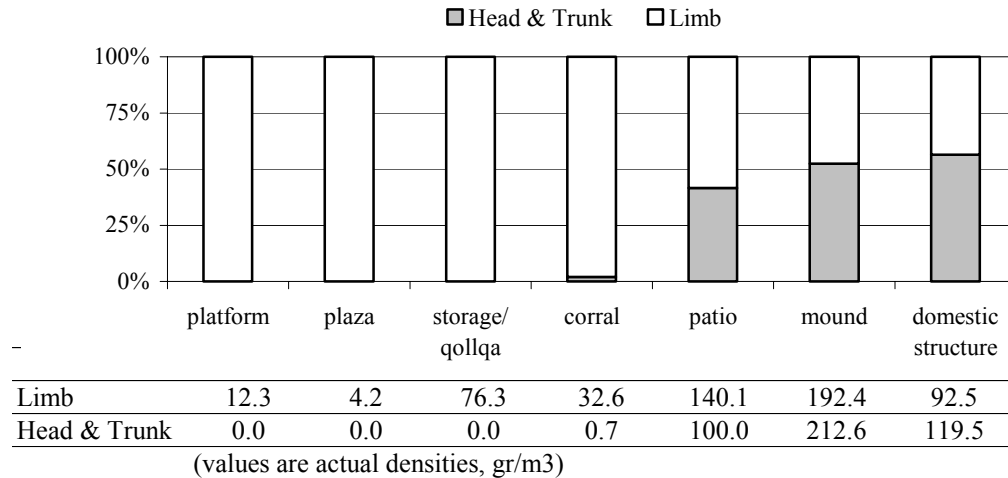


Chart 20: Densities of animal body parts by structure type

This chart shows the densities (gr/m³) of animal body parts as percentages by structure type. All periods are represented. Not only are head and trunk bones found exclusively in structures related to domestic activities, the overall densities of bones in these structures are clearly greater.

Turning to the question of the differential consumption of animal body parts, Chart 20 shows the densities of limb bones versus head and trunk bones relative to the types of structures in which they were found. The remains of limb bones appear in contexts that are associated with formal consumption, such as platforms and plazas, which reflects the fact that these meaty bones are well suited for feasting and formal contexts in terms of their preparation and presentation. Limb bones also appear with regularity in areas associated with storage, which may correspond to the notion that meat was stored while still on the bone. Why there is such a high percentage of long bones in corrals is unclear, although it is possible that the consumption of the more valuable long bones in these corrals was taking place during ceremonies that involved the care and regeneration of the living camelid herds. The remaining three structure types contain roughly equal mixes of limb bones and head and trunk bones. In regard to the mounds this makes sense insofar as these features were constructed from trash that eventually contained the remains of

bone debris. Similarly, animal carcasses were likely processed, prepared and informally consumed in domestic structures and outdoor patios, which explains the mix of body parts in those contexts as well.

Based on these analyses it is possible to argue that only the valuable body parts of consumable animals were (1) being prepared and consumed in public places with high visibility and (2) being stored in safe structures for later consumption. In quotidian contexts, for instance in domestic and patio contexts, people did not differentiate between animal body parts, preparing and consuming the whole of the animal in consistent and greater proportions. While these findings support standard subsistence models presented by both Andean prehistorians (Hastorf 1993) and ethnoarchaeologists (Miller 1979), they are drawn here from all the data regardless of time period. The following discussion considers the data as it relates to pre-Inka and Inka time periods.

Chart 21 shows the distribution of large mammal bones across time and reveals that limb bones are found in greater quantities in Inka-period contexts. This point can be considered in a number of ways. To begin, while it is clear that more limb bones are being preserved in the archaeological record in the later period, because of the uneven nature of the data it is difficult to determine whether it might be the indigenous groups or foreign groups (or both) that are consuming greater quantities of the richer body parts. If it were more clearly the case that the Inkas and their supporters were the ones that enjoyed greater access to the better parts of animals, we would be free to speculate about how they may have maintained such an advantage. It would not have necessarily been the case, for instance, that the Inkas mandated through force that they be given the finest cuts of meat. Instead, if it really was the case that just the Inkas were the ones consuming

higher portions of limbs, it may have been because they were not able to hunt and herd in the area as well as indigenous groups. In this scenario the Inkas would have been forced to engage in exchange relations with Santamariano meat producers, thus becoming dependent on them for camelid and animal meat. Because it was more efficient for the producers to deliver the meat to the Inkas on limb bones, there are more limb bones found in Inka contexts. If this less unilateral and less imperial scenario was in fact the context in which groups interacted during the Inka period, it would be entirely consistent with the general falloff in head and trunk bones found in Inka-period contexts. More research in La Poma, for instance, might bear this out one way or another.

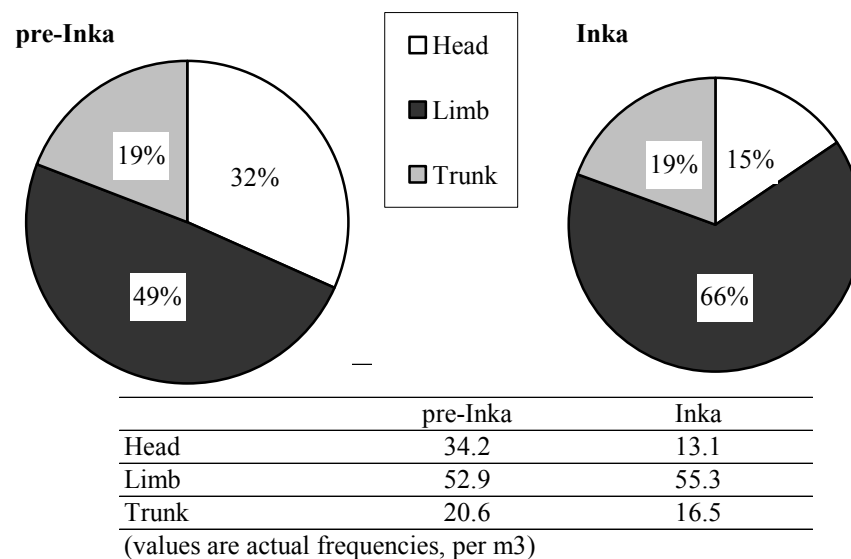


Chart 21: Frequency of animal body parts by time period

This chart shows the frequencies (per m³) of animal body parts as percentages by time period. All osteological animal data are included. Inka-period contexts have higher counts of limb bones relative to pre-Inka contexts.

Data Analysis: Architecture and Site Planning

The following sections consider evidence for activities that occurred in the study area in the Northern Calchaquí Valley as seen in the remains of the built environment.

The categories of data that are explored include physical aspects of architecture as well as elements of the organization and layout of space in each of the study sites. While I refer to the latter as simply 'site planning', this category of data is especially complex in dimension and detail, and can include, for instance, evidence for standardization, degrees of centralized planning, directionality, and more. Both sets of data are considered in terms of the specific activities that they suggest and in terms of the more general activities that are visible in their composition.

Specific Activities Seen in the Architecture and Site Planning Data

One means for interpreting the use of the built environment involves looking at the distribution of identifiable types of structures as they occurred through time. In looking at these data a number of suggestive trends emerge concerning continuity between the periods (Chart 22). First, the percentages of domestic structures that appear at the study sites remains the same for the pre-Inka and Inka periods (ca. 31%), implying some continuity in population density and household composition between the time periods. Second, the same can be said for the static percentages of plazas between the periods, suggesting that the occurrence of gatherings and ceremonies taking place in and around these spaces in the DR period persisted into the Inka period. Third, the slight decline in corrals can be read to mean that patterns in herding and the use of camelids for caravans and transportation fell off slightly between the periods. As for the decline in earthen mounds, it may have been the case that the Inka period saw new ways of dealing with refuse at some of the newer settlements. This was certainly the case at SC065, where there are no mounds among the 59 structures. The last notable statistic in Chart 22 concerns the increase in the percentage of storage features between the two periods.

Although it may well have been the case that the Inka period saw more storage related activities, by no means did possible Inka groups have a monopoly on this behavior as the raw numbers are almost equal. Furthermore, storage is not solely the result of state-sponsored planning and provisioning, but can also be the product of basic organization and planning at almost any level of society. These points introduce a question that is taken up in the next section about whether new and more formal means for constructing and organizing space appeared in the Inka period.

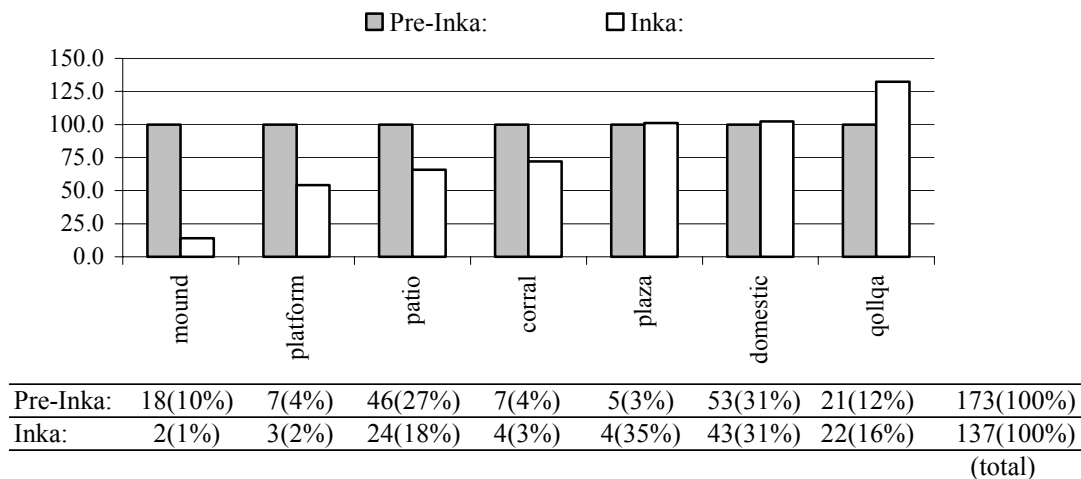


Chart 22: Comparative distributions of structure types by time period

This chart compares the distributions of sums of counts of structure types by time period. Percentage values for Inka structures have been standardized against values of pre-Inka structures, which are set to 100. Graph is sorted by the ratio of pre-Inka to Inka counts in ascending order. All structures recorded by the project are included in the tabulation.

Before turning to analyses of the data for information about some of the more generalized activities that may have occurred at the study sites, a number of points can be made about specific aspects of the recorded architecture that are notably present or absent from the database. In particular, it is possible to consider a handful of very particular architectural features that relate to agriculture and militarism. A tally of these features for each site appears in Table 17.

Site	Nearby agricultural features:			Military features:		
	Cleared fields	Canals	Terracing	Circuit wall	Hilltop location	Fortress
RC021	X	X				
RC78-83	X			X	X	
RC127	X	X	X	X	X	
RLP16	X		X	X		
RP002		X				
RP005		X		X		
RP200	X	X				
SC042	X	X	X			
SC065	X	X				X
SC066						
SC152		X				
SL005	X	X				
SL033						

Table 17: The presence/absence of certain features near the study sites

This basic table shows which agricultural and military features can be associated with each of the study sites.

Two points can be made about this table. First, not surprisingly the two sites without agricultural features (SC066 and SL033), are both located far from the rich agricultural potential of the valley floor and are being interpreted as way-stations dominated by corrals. Second, the circuit walls that protected settlements against attacks from the outside exist exclusively at pre-Inka sites (RC78-83, RC127, RLP16, RP005). Three of these four sites were abandoned by the time that the Inkas arrived (RC78-83, RLP16, RP005), indicating that the threat of attack did not originate with the Inkas, but came from some other source in the earlier period. Three of these sites are also located on hilltops stressing further their concern for defense (RC78-83, RC127, RP005). The Inka-period fortress at SC065, which is the only structure of its kind in the Northern Calchaquí Valley, is discussed at length in the next chapter.

Despite a number of versions of a theory that postulates that the Inkas were prospecting in the South Andes for metallurgical wealth (González 1983, Llagostera

Martinez 1976, Raffino 1983), there is no evidence in these data for mineral extraction and the production of metals at any of the study sites regardless of the chronology of their occupation. By no means does this discredit this theory, especially since mill stones and furnaces have been documented at one possible Inka installation north of the study area (Rodríguez Orrego 1979) and since metal detritus and crucibles have been recovered at SC042 and Guitián by other members of the Proyecto Arqueológico Calchaquí (Earle 1994). However, more extensive evidence for metallurgical activity needs to be encountered in the area before the theory can be upheld with more certainty. Such evidence might take the form of metal workshops that contained artifacts such as raw materials (e.g., ores), byproducts of production (e.g., slag), manufacturing tools, molds and crucibles. None of these artifacts was recovered by this project, which for the moment suggest that the Inkas engaged in metal production only slightly in the Northern Calchaquí Valley.

General Activities Seen in the Architecture and Site Planning Data

A number of points are considered in this section regarding evidence for the presence of activities at the study sites that are less specific than the ones just explored. First, the data are investigated for information about the possibility that communities standardized the layouts and plans of their settlements to different degrees in the DR and Inka periods. Second, analyses are performed concerning evidence for activities that might be characterized overall as private versus public in nature. Some of the physical elements that are considered in detail to generate these analyses include variations in the quantity of space that was enclosed within structures at different sites as well as the portions of these areas that were roofed versus open-aired.

As background, Chapter 4 explores averages in the surface area enclosed by different structures as one means of determining the occupational chronologies of the study sites. It is shown there that the mean average surface area drops between the pre-Inka and Inka periods (see Table 9). It is possible to follow this line of inquiry even further to determine whether these averages in the size of structures were somehow standardized within one or the other time periods. Charts 23 and 24 depict the relationship between the number of discrete structures (ASD's) and their combined surface area for each site regardless of structure function. The first chart, which presents the data as they are distributed site-by-site, shows that there is no correlation between the number of ASD's at a settlement and the total surface area covered by those structures. Two sites (RP002 and RLP16) stand out for what appears to be larger-than-average surface areas relative to the number of ASD's present. In fact, these sites are characterized by mostly large open patios with only a few small enclosures.

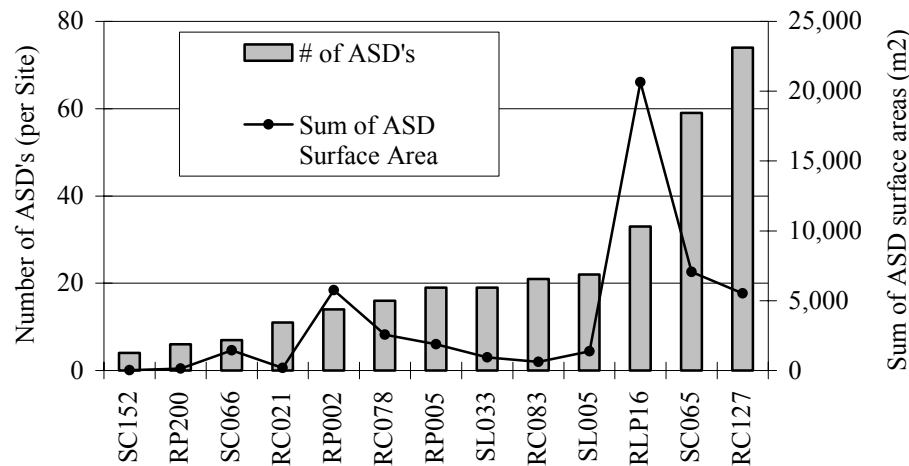


Chart 23: Frequency distribution of ASD counts and total ASD surface area

This chart compares the frequency of ASDs that appear at each study site (seen in the bar plot) with the total surface area (m²) covered by those structures (seen in the line graph). All structures recorded by the project are included in the illustration. There is no correlation between the variables (Pearson's $r = 0.434$, see explanation for use of this statistic in caption for Chart 18).

Chart 24 plots the same data, but separates the sites by time period. Linear regressions of the two series are given alongside their correlation coefficients (the fit is more significant for the Inka period than the pre-Inka). These findings can be read simply to mean that site layout and building construction in the Inka period were more standardized at least in terms of the size of the structures across the settlements. Conversely, building and site layout at pre-Inka sites is characterized by more diversity. It may have been the case, therefore, that certain notions about how settlements should be organized and about how large or small structures should be came to the valley during the Inka period, whereas building and planning in early times was more freeform and particular from community to community.

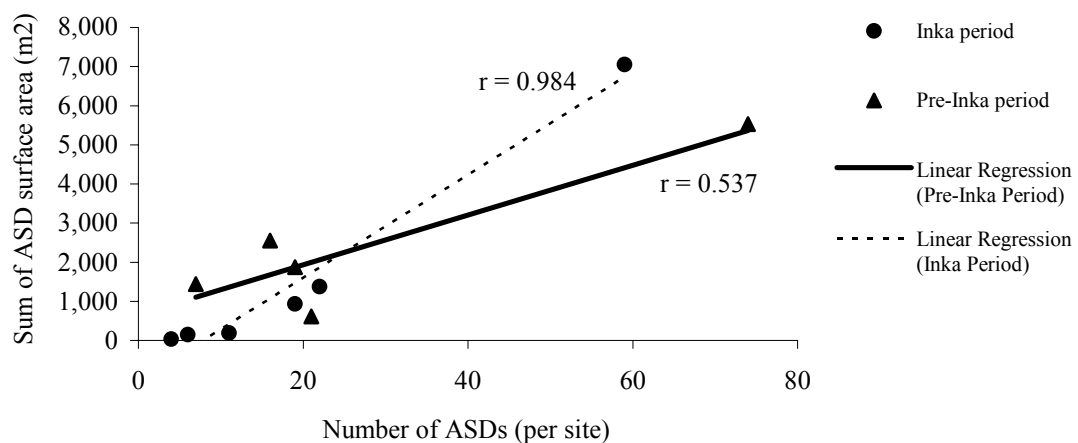


Chart 24: Plot of ASD counts versus total ASD surface area by site and time period

This is a plot of the number of ASD's at each site versus their total surface area (m²). Correlation coefficients appear beside each regression (see explanation for use of Pearson's r in caption for Chart 18). All structures recorded by the project are included in the graphic and one outlier has been removed from the pre-Inka data (site RLP16). When it is replaced, the pre-Inka period coefficient falls to 0.278.

The next point to be considered in this section deals with evidence about activities that might be characterized overall as private versus public in nature. One way to determine whether a particular structure or portion of architecturally-defined space was used more for private or public activities involves determining the general visibility of that structure or space and its placement in relation to the rest of the site. This line of analysis assumes that activities taking place in spaces with high visibility are more public than activities that take place out of sight. One simple way to measure visibility directly is to examine indoor versus outdoor space as defined by whether a given space was covered by a roof or was open to the outside.

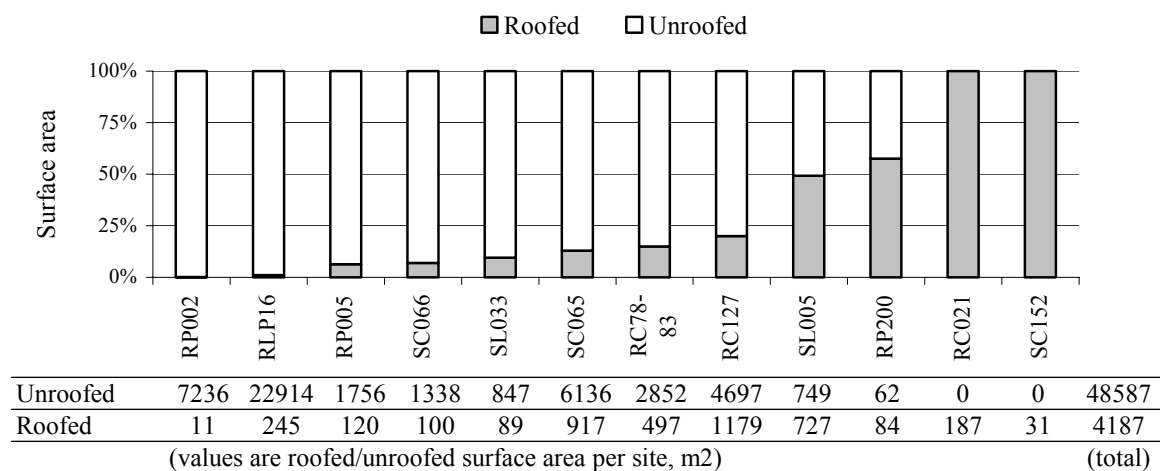


Chart 25: Frequency of roofed/unroofed space as a percentage at the study sites

This chart shows the frequency of roofed and unroofed space at the study sites as a percentage. All structures recorded by the project are included in the graphic.

Chart 25 presents a breakdown of the architectural data for each of the study sites according to a distribution of the percentages of roofed versus unroofed space. As the graphic demonstrates, there are two sites that contain exclusively roofed structures (SC152 and RC021). The first is the small Spanish Colonial settlement located in the Main Valley that contains only four buildings, including a well-built kiln. The second is

also located in the Main Valley and is dominated by storage structures. The presence of roofs all the structures at this site supports the interpretation that this site was a small storage facility, because an open-air depot used to store grain would be unlikely.

At the other end of the chart are two sites with few or no roofed structures at all: RLP16 and RP002. The first of these is the Santamariano site in Cachi Adentro that is dominated by extremely large open patios and only a few small structures that might have had roofs. Open Santamariano sites of this nature have been studied throughout the Calchaquí Valleys and are described as having rows of wood and thatch structures built against the patio walls that served as residences for the site occupants. Whether this was the case at RLP16 is unclear, although one of the structures that was excavated may have served as a communal kitchen for such a population. Because of the site's location amid a tremendous diversity of agricultural features in this lateral valley, I argue below that the people using this site were ultimately involved in some form of agricultural work, although it is not certain if these inhabitants lived here permanently or moved through the area on a temporary or seasonal basis.

The second site with no roofed structures (RP002) may have also been occupied by people who built wood and thatch structures against patio walls. There is reason to believe, however, that the site was not permanently occupied at all, but was a destination for nearby communities that congregated here to perform open-air activities. Again, this site is perhaps the most vexing of all the study sites, because it contains a peculiar mix of features. First, RP002 consists almost exclusively of large, open-air patios that are associated with Santamariano populations. Second, the site demonstrates an Inka-like concern for symmetrical site layout and the placement of platforms throughout the site

(four in the upper patio, two flanking the access into the site, and one at the foot of the site along the Inka road). Whether a number of these open patios were used as corrals or temporary residence for travelers moving along the road may certainly be possible; however, the presence of the Inka road and the Inka-styled platforms are being interpreted for the moment to mean that a series of more public and perhaps ceremonial activities took place at this site on a regular basis.

Since it seems possible that some communities did participate more consistently than others in activities that were intended for public versus private audiences, the next point to ponder concerns whether these audiences were inclusively or exclusively formed. By an inclusive public audience I mean a group of people that gathers as an open community without restrictions on access and participation. It is possible to identify these types of communal gatherings by recognizing certain features of the spaces in which they convene. For example, plazas that lack surrounding walls and that have wide-mouthed and multiple points of access would have allowed more than just a few select people to participate. Open spaces located at the edge of settlements under less supervision might also be thought of as the scene of inclusive public gatherings. By exclusive public audiences I mean a group of people that has gathered to witness an event to which there is limited access and in which only a few can participate. In other words, while this second type of audience can see certain public activities taking place as if on display, it can not itself participate in them. Evidence for this second scenario might include courtyards or patios that are well-defined by walls, that define spaces that might be visible from an impersonal distance, and that have limited routes of access.

Of the 13 study sites described in this work, a number contain public spaces that clearly define one type of audience or the other. As is discussed below in the site-by-site summaries, the public spaces at Santamariano sites almost unanimously delimit inclusive audiences while Inka-period sites suggest the gathering of exclusive public audiences. Sites from the earlier period, for instance RLP16 and RC78-83, have a number of irregularly shaped plazas and open patios accessed by wide openings. Two examples are the open space around the platform at the north end of RLP16 and the central, open plaza at RC78-83. RC127 is another DR-period site and it, too, has at least three of these common plazas, especially towards the edge of the settlement. These are the types of spaces, I argue, in which community groups mustered to hold activities and ceremonies involving more participatory performances. In contrast, sites from the Inka period, for instance SC065, SC042 and SL005, tend to have planned plazas with limited access and higher walls. It would be in these spaces that some individuals could gather and perform for an audience that may not have participated in the activities but may have watched from afar. This type of event anticipates the central questions of the next chapter, which is concerned with how communities and people of different backgrounds might have interacted in the Northern Calchaquí Valley during the era of Inka colonialism.

Site and Valley Sector Summaries

The summaries presented below pull together the findings described in this chapter in an effort to outline possible sets of activities that took place at each of the sites and sectors in the valley. It would be fruitless to reduce these activities to one category for every site, because most of the settlements in the study area would have been places where people conducted their diverse daily activities-- where they met their neighbors

from near and far, where they stored their possessions, managed subsistence industries, and otherwise behaved in all the peculiar ways that humans do. Many of the sites demonstrate exactly this type of mix of activities that are based around residential life. Furthermore, given the fact that there is little change between the pre-Inka and Inka periods in terms of the portions of settlements that were set aside for residential uses, there is a good chance that there was a core population in the Northern Calchaquí Valley spread across a number of discrete communities that persisted in their activities for centuries despite the occasional influx and outflow of migrating groups. This does not mean it is impossible to isolate more specific or narrowly defined activities among some of the sites in the region, for instance a number of places were ideal for agriculture and others better for corralling livestock. The following summaries highlight these and other uses when they appear.

La Poma

RC78-83

In the La Poma area of the Northern Calchaquí Valley there is a higher occurrence of animal-based activities as reflected in the greater densities of all types of animal bones at each of the study sites in the area. The evidence of bone remains in the excavations at RC78-83 support this overall pattern, although not all these animal-based activities were necessarily related to the maintenance of animals for consumption. Many of the camelid remains recorded at a site like RC78-83 likely reflect an involvement in the transportation and exchange of cargo by way of seasonal caravans of the type that persist even today. This use of the domesticated variety of camelids for transportation would not have precluded the eventual consumption of these animals nor the use of their pelts for fur and

leather goods, which explains one of the processes by which their remains end up in the cultural deposits. A portion of the ceramic material recovered at RC78-83, in particular the exotic material that links directly to the distant Quebrada de Humahuaca, supports this emerging picture of communities at La Poma that were consistently involved in the regional and interregional networks and exchange systems that moved material and ideas around northwest Argentina.

Two prominent elements of the architecture and layout of RC78-83 reconfirm the idea that the people who once lived at this site supported herds of animals that may have been used in long-distance caravans. First, the site lies just at the mouth of a narrow drainage that leads out of the valley towards upland pastures and possible routes to the north and east. Second, a well-built corral lies within meters of the central plaza of the site, just to the west of the settlement's circuit wall. By placing the corral here the builders took full advantage of the fact that the animals and their accouterment (and their dung, odor and sounds) remained outside of the settlement proper, but were still close to the center of life at the settlement, thus arguing for their importance to this community.

The plaza itself affords very open and general access, which is interpreted to mean that the site's inhabitants may have been included in whatever public activities took place there. Encircling the plaza is a series of open patios and only two smaller enclosures that may or may not be residences. It is not until one moves up the steep incline to the east that a series of smaller, more domestic-like structures are found in the RC083 sector of the site. In sum, this site overall seems divided between a public and work-related sector to the west and a residential sector perched on the cliff to the east. Settled life here would have been supported by the permanent stream of water flowing

below the site to the south and by the nearby massive system of agricultural fields of Trigal (see Figure 6, Chapter 4).

SL005

SL005 shares a similar position as RC78-83 on the edge of the terrace overlooking the Trigal fields from the north. It lies 2km west of RC78-83 in the direction of the Río Calchaquí. Like its neighbor, SL005 would have relied on the permanent flow of water coming out of the mountains from the east as well as on the waters of the Río Calchaquí. SL005 also would have benefited from its own proximity to Trigal and the production of food stuffs that came off its verdant fields. The architecture and layout of SL005 suggest the settlement supported a small residential community. There are a number of modest rectangular enclosures, larger open patios and a handful of qollqas that cluster into two patio groups. While the eastern group contains more patios, the western cluster contains more qollqas. Unlike the plaza at RC78-83, the open spaces that lie at the center of the SL005 patio groups are closed and access is restricted. Again, the idea here seems to be that although the activities being performed in these spaces were public they were also exclusive.

The most striking feature of SL005 has to be its proximity to Esquina Azul, the large, walled Santamariano settlement located less than 50m southwest of the site. There is no reason to believe that this settlement, which was first occupied in the DR period by Santamariano people (Pollard 1983, Tarragó 1978:501-504, Tarragó and Díaz 1972:51), was abandoned in the Inka period. Instead, as the next chapter explains, the Inkas may have placed a small community here in order to interact with the community that lived in this much larger and well-defended indigenous settlement. To anticipate support for this

discussion, it is interesting to note that, given the Inka-period designation for SL005 and given traditional models that assume that the Inkas would have been keen on hosting indigenous people, there is no ceramic evidence for feasting at SL005. It is possible that such remains might be found within Esquina Azul, thus indicating that the Inkas assumed the role of guests as they attempted to ensnare the people of Esquina Azul into a web of obligation with their gifts. However, for the moment it is also possible to suggest that the tables were turned in the other direction and that it was not the Inkas but the locals, with all their locally-based resources, that did the wining and dining.

SL033

Only a limited number of activities could have been conducted at SL033. It is possible to discount agriculture, because it would have been difficult in this rocky and narrow quebrada that is at most 40m wide. There are also no storage structures that might have held grain or other food stuffs at this settlement nor at most of the sites investigated superficially up and down the quebrada. There are few or no permanent residences at the site as the four structures that might be interpreted as residential are too small to be habitable for any great length of time. There are no trash mounds to speak of and the excavated cultural deposits were extremely thin, which also suggests light occupation. Instead, the site contains a series of open corrals or patios that could have easily been used to pen and secure large herds of animals that were brought to the area seasonally to graze in the mountains or were part of caravans passing through the quebrada. This area of the quebrada, which is located 15km from the valley proper, is still used today to graze cattle and lies along a major route for foot traffic between the Northern Calchaquí Valley and points west, including the western puna, Pastos Grandes

and Chile. For the moment, therefore, this site is being interpreted primarily as a tampu, or a way-station that would have served a number of transient functions associated with camelid herding and the transportation of material in and out of the Northern Calchaquí Valley.

Potrero Valley

SC065 (Cortaderas Bajo)

This summary of the activities that took place at SC065 is limited to what can be learned from the architecture and site planning data and what can be summarized from prior research at the site (more information about SC065 is presented in the next chapter). Portable artifacts recovered in excavations that have been discussed by other members of the Proyecto Arqueológico Calchaquí (Acuto 1994, 1999, D'Altroy *et al.* 2000:7-11), and the site in general has been the topic of some treatments of the Inka period in the valley (de Lorenzi and Díaz 1977:48, González 1983:354, Hyslop 1984:175-177). These treatments are reviewed here in particular as they relate to possible activities that occurred at SC065.

For many years SC065 was thought to simply be an Inka tampu with fortress that housed a garrison of the Inka army (González 1983:354). It was also considered a key location from which the Northern Calchaquí Valley could be surveyed and controlled by the Inkas who settled there (de Lorenzi and Díaz 1977:48). Because the Inka road passes over the settlement and through a small opening in a curtain wall that crosses the site, Hyslop argues that the Inka used SC065 as a tampu to monitor and control traffic moving along the Inka road. Excavations conducted at this site by members of the Proyecto Arqueológico Calchaquí revealed features in one structure that suggest that some of the

buildings were used as by the Inka state as storehouses (Acuto 1994, D'Altroy *et al.* 2000:10).

Many of these points are valid and reflect the tendency to divide SC065 into two sectors: to the east on a small hill lies the structure thought to be a fortress and to the west lies a series of structures along the Inka road thought mostly to be a basic Inka tampu (see Figure 14, Chapter 7). This second sector (i.e., everything except the fortress) can be further divided into four parts. At the northern end of the site lie two residential patio groups that are separated from each and from the Inka road by a dividing wall. These patio groups each contain a large structure at the high (northwest) end of the patio and a number of smaller outbuildings arranged around the lower end of the patio. This arrangement of buildings is more evocative of an Inka residential kancha than it is of a Santamariano residential group. The lack of mounds in the patio groups reinforces this designation and further supports the notion that these patio groups represent new and different idea about living spaces in the area that appeared in the Inka period.

The remaining structures to the south form two distinct multi-building complexes, one on each side of the road. The northern complex contains two open patios each bordered on the south by three enclosures. The northeast patio in this first complex also has a number of extra internal structures and an additional large patio built against its northern wall. The southern complex across the road is the most intricate edifice at the settlement. Along the Inka road lie eight structures end-to-end that only open onto the road itself (i.e., not into the inner area of the complex). Behind these eight rooms lies the bulk of the complex in the form of one, large open patio that contains twelve freestanding buildings. The only means of entering this inner space is through a circuitous path

between the buildings to the southwest. This complex is considered in detail in the next chapter, so for the moment it is sufficient to point out that this patio represents an interest in exclusively formed spaces that held semi-visible activities. That is, while groups on the surrounding hills may have been able to see what was taking place inside this closed patio, participation in the activities themselves was tightly controlled. Access to the large open plaza at the center of the site was also monitored by way of the small opening in the northeast curtain wall and the wall extending between the two complexes that blocks entrance to the plaza from the southwest. All in all, a good number of activities took place at this site, which was more than just a military outpost and tampu for the Inka. There was also a certain residential presence as seen in the two compounds in the north, as well as a keen interest in various spaces for ceremony and display. This last point concerning the question of who was participating in the site's activities is taken up in the next chapter.

RP005

RP005 lies 15km up the Potrero Valley from SC065. It was originally included in this study for what appear to be a number of Inka-related structures built on the remains of an eroded Formative period settlement dominated by earthen mounds. One of the Inka structures in particular-- the large, square compound in the middle of the site-- is identical to a structure located in the middle of Cortaderas Derecho, the Inka-period settlement to the south that is being studied by Acuto. The excavations conducted at RP005 were in Formative period deposit, which renders the artifact data from this site useless in a study of Inka period colonialism, although these remains could be used to direct future studies. For instance, RP005 exhibits one of the highest percentages of ceramic feasting

paraphernalia found among the study sites, and a good number of lithic remains from both test pits underline the importance of this material to life in the Formative period. Also, the remains of a long circuit wall that closes off the eastern end of the settlement may suggest conflict in the area at a time earlier than previously thought.

In lieu of excavation data it is possible to study the surface architecture and site planning for possible information about activities in the Inka period. In particular, the Inka-period structures built over the deteriorated remains of the earlier settlement suggest a modest interest in and re-use of this site as some sort of workshop, perhaps focusing on the lithics that are abundant on the surface and in the nearby river. The first structure to consider is the central patio described above, which could have been used to contain and oversee workers conducting any variety of tasks. There are two other structures built using the same techniques as this patio. The first of these is rectangular and sits on the edge of the second river terrace overlooking the first river terrace. Based on its size and on the presence of a small storage feature built against its southern wall, this building appears to be residential. The second Inka-period structure lies on the lower, first river terrace and is slightly L-shaped. Based on the smaller size of this structure and its proximity to the cleared fields on the lower terrace, this structure could have been used for any number of tasks related to agriculture or camelid herding by the residents of this site. In sum, although it is typically believed that the Inkas and their agents rarely participated in lithic production across the Andes, the possible reuse of this Formative site as a workshop for lithics could provide an exception.

RP002

More than 1000m up valley from RP005 on the same side of the river lies RP002. Excavations in two test pits at this site recovered minor amounts of artifacts from paper-thin deposits, which suggests immediately that occupation and use of this site was occasional or short-lived, or both. As is emphasized in this and the preceding chapters, the architecture and planning of this site is exceptional by valley standards and thwarts easy interpretation. The most elemental aspects of the site are, first, its location alongside the Inka road to which it is associated vis-à-vis a set of platforms and, second, its location at the top of a natural slight amphitheater in the hillside. This shallow depression is accentuated by the structures of the site, which lie in a U-shape around the lip of the gully running up the hill. All of this would have created a dramatic entrance to the settlement. As individuals leave the Inka road at the base of the site they pass the mound-and-platform feature that lies just along the road itself. They then walk up the small gully between twin platforms above eye-level and are confronted with a terrace wall that crosses between the platforms. Once over or past the wall they enter the bottom of the amphitheater looking up at the patios at the top of the hill.

Many of these large patios could have been used as corrals as there is only one enclosure that could have had a roof. Some spaces may have also contained wood and thatch structures used as residences, which would link the site to the DR period, although no evidence for such structures was found. As is discussed in detail in the previous chapter the symmetrical layout of the site and the presence of a number of platforms are being associated with the Inka period. The central patio, which would have been difficult to access, contains a row of four platforms, part of a dividing wall, and half of a large earthen mound (the other half lies in the adjacent patio). This patio of platforms would

have served as the center of exclusive activities, while more open and inclusive activities would have taken place in the center of the site at the bottom of the amphitheater. For the time being, then, I believe that although a mix of activities may have taken place here, among them were certain public and maybe ceremonial activities that were determining factors in the layout and construction of the site.

RP200

The last study site to review in the Potrero Valley is RP200, which lies 1500m north of RP002. RP200 lies on a small flat shelf of land 20m above the riverbed. It contains a ring of four small enclosures and a nearby corral built against the side of a cliff. While this arrangement at an Inka-period site might suggest a basic Inka tampu, the site falls too close to the Inka-period tampu of Corral Blanco and the Inka center of Potrero de Payogasta to be considered a formal tampu. Instead, RP200 was likely home to a small family in the Inka period that tended the nearby agricultural fields and maintained the intake point of the well-built irrigation canal that lies just below the site. This canal, which hugs the steep banks of the river until it reaches the surface of the first river terrace nearly 1000m downstream from RP200, feeds a number of large agricultural fields as well as the ancient settlement of Ojo de Agua. The remains of this larger settlement lie under a modern homestead and is poorly preserved. I suspect that the group or family living at RP200 would have been closely linked to Ojo de Agua as they were physically linked by the canal and the intervening fields. Unfortunately, as was the case at RP002, excavations at RP200 recovered minor amounts of artifacts from paper-thin deposits. Because of the apparently residential nature of this site, this shallowness is interrupted to mean that RP200 was not occupied for any great length of time.

*The Main Valley and Cachi Adentro*SC066

The last five study sites to consider lie south of the Potrero area in the Main Valley. Among these only SC066 has been the focus of prior work. Unfortunately, the excavated artifacts from the earlier project (which were recovered from the only possible domestic structure at the site) are missing in the Museo Arqueológico de Cachi. The excavations conducted by the project at hand revealed very few artifacts, which suggests that the occupation would have been periodic or would have occurred for just a short period of time. However, given the likelihood that the two large spaces at this small site were used as corrals, the main use of the site may also be a factor in the low densities of artifacts. The primary use of this facility as a corral is underlined by the arid surroundings, which would have precluded the presence of agriculture at the site, and by the proximity of the site to the vast and desolate plains of Tin-Tin that stretch away from the site towards the east. Today a major route in and out of the Northern Calchaquí Valley passes just by SC066, crosses over Tin-Tin and the Cuesta del Obispo before finally following the Quebrada de Escoipe down to the verdant Lerma Valley. This modern route apparently follows the ancient route (Díaz 1983:102), suggesting that the location of SC066 at the head of this long eastern route would have served as a way-station for caravans migrating and trading in and out of the valley.

SC152

While SC066 lies at the head of the Quebrada del Río Mollar, SC152 lies at its foot close to the point where it opens onto the valley floor. In the same way that many of the data from RP005 were too early to be of much comparative use, the data from SC152

are too late. For instance, excavations at this Spanish Colonial settlement did not recover any prehispanic artifacts, although a good number of historical artifacts were encountered including an iron spoon. The site sits amid a landscape rich in clay deposits and directly atop a natural spring. A person that lives near the site today attests that heavy winds consistently whistle through this narrow quebrada, and it is clear that the placement of the kiln recorded at SC152 takes full advantage of these winds. The kiln, and a number of others like it noted up and down the drainage, sits above the spring on a knife-like ridge running up and down the valley. The kiln's two air vents are aligned east-west towards the prevailing winds, which would have helped maintain heat in the kiln sufficient to manufacture pottery or even metal. Unfortunately, excavations failed to reveal evidence for either industry as the kiln has long since been swept clean.

RC127

The Santamariano site of RC127 lies on the opposite side of the valley from the Quebrada del Río Mollar in the vicinity of the modern town of Palermo. The settlement's 75 discrete structures are the most that were recorded at a single site and underline the notion that this was a village or town supporting a large residential community. A massive network of canals, many of which are ancient, distributes water to every corner of the Palermo area, including at one time the area below RC127. The settlement sits on a hill that lies between the foot of the steep mountains that rise to the west and the edge of fertile alluvial fan that runs out from the site towards the east. Not only does the site's hilltop location provide it with some security, the tremendously thick circuit wall also protects the site on all sides. Internally, the site contains five plazas that can be accessed easily from a number of directions, which suggests that many of the site's inhabitants

participated in whatever activities were taking place in these plazas. The largest of these plazas rests on the highest point inside the site and would have been in plain view from nearly every corner of the village. There are also three well-built corrals at the western tip of the site, which is the end facing the mountainous destination of town's drovers and their herds on a year-round basis.

The ceramic data recovered from RC127 reveal some of the higher percentages of feasting paraphernalia seen across the study area. This reinforces the foregoing notion that access to possible ceremonies may not have been restricted to a limited few individuals in this community. Except for a few scant surface remains that may represent post-abandonment occupation, there is also a dearth of imported ceramics at this site, which supports the idea proposed in the preceding chapter that this community is a prototype for the DR period. Its inhabitants were deeply interested in communal security and maintained direct access to rich agricultural lands to the east and herding areas to the west. A good percentage of them shared in open community events, perhaps participating in large feasting ceremonies. This depiction of an active ceremonial life in the DR period allows that the traditional model of Inka colonial manipulation and dominance (whereby the Inkas obliged indigenous leaders through gifts and feasting) may not have always been deployed in one-sided ways to ensnare Santamariano people in webs of Inka debt. Instead, evidence from sites like RC127 now suggests that indigenous people, who could draw easily from rich local resources, may have also been adroit at the political games typically associated with the Inkas.

RC021

The Inka-period site RC021 lies on the edge of the upper of two terraces that form the western bank of the Río Calchaquí. The site's eleven structures fall in a north-south line along the edge of the terrace, stretching 550m from end to end. Rectangular structures lie at either end of the line-- two to the north, one to the south. In between are eight round structures of various sizes that are being interpreted as qollqas. There is no central place or plaza and all eleven structures are small enough to assume that they were roofed at one point. These points can be read to mean that there was little interest at this site in public activities. The ceramic data support this observation, because there was a low occurrence of open ceramic vessels and a high occurrence of closed-mouthed forms. These patterns are consistent with the architectural signs that this site was predominantly a storage facility. While the structures may have been used to hold agricultural products coming off the fields that line the terraces up and down the river, it is also likely that they may have been used to store materials that were being transported through the valley. This idea is supported by the presence of a number of ceramic vessels at the site that came from extra-valley contexts.

RLP16

The last site to summarize in regard to activities performed in the past is RLP16 in Cachi Adentro. Unfortunately much of the ceramic material recovered at this DR-period site was badly deteriorated because of the poor, micaceous temper used as a binder in the majority of its ceramic vessels. The lithic artifacts recovered suggest a unique use of these items relative to the rest of the study area, the most obvious being as parts of composite tools used in agriculture. A handful of grinding stones were noted on the surface of this site, which supports the idea that RLP16 was involved in agricultural

production. The plan of the site is unique when compared to other Santamariano sites like RC127. The large open patios likely contained wood and thatch structures built against their internal walls. A number of features in and among these patios suggest a significant period of occupation at RLP16, including a variety of trash mounds, large platforms and a number of multi-use enclosures. One of these at the center of the site, which was full of ash and contained a hearth uncovered through excavation, may have been a communal cooking area. The large circuit wall that surrounds the site also suggest some permanency of life here, as does the site's association with nearby agricultural terraces built on the hill north of the site and with the massive agricultural facility of Las Pailas neighboring the site to the west.

The final point that can be made about this site concerns its dissimilarity to RC127, which lies 15km to the north over the hills. Based on the chronological data discussed in Chapter 4, the occupations of these sites clearly overlapped in time. Each community was involved in agriculture to some degree and each was concerned with settlement defense. However, in terms of layout and plan, it would be difficult to locate contemporary sites that are so strikingly different. This site is characterized by open patios of highly irregular shape, and RC127 is characterized by small, compact, cellular structures that are round and semi-rectangular. RLP16 has a wide assortment of mounds and platforms while RC127 does not. These sites and their differences help illustrate a larger point being made in this work, namely that in pre-Inka times there was a tremendous diversity of people living and doing many different things in the valley according to their own designs and aspirations. Some of their interactions were apparently hostile, although others were surely amicable and the source of alliances. In

short, these communities were experienced in negotiation and maintaining interregional relations. By the turn of the 15th century and the entrance of the Inkas into the area, there is little reason to suspect that these diverse indigenous communities were not in some command of their own destinies, even if it meant resisting the Inkas to the point of conflict. The exact nature of their relations with the Inkas is the topic of the next chapter.

Conclusion

A number of overarching conclusions can be drawn from the exploration of the data presented in this chapter regarding the activities that took place at the study sites. In some sense, each conclusion presented below has in common a paradoxical truism, which states that most of the activities that occur in the space of an empire are, in fact, not imperial. In other words, most of what people do in an empire, especially at the level of the community in the periphery, looks a lot like what people did when they were free of imperial dominion; they eat, sleep, work and socialize within their families and communities such that very few people are directly mixed up in imperial affairs (Haynes and Prakash 1991:7, Portugal 1989, Thomas 1994:57-58). This is especially the case in an empire as loosely constituted as the Inka empire and among people like the Calchaquíes who lived far from the heartland. This explains why it is difficult archaeologically to see at a quotidian scale the machinations of empire. Understanding the activities of subject populations during moments of imperial control is not just a matter of anticipating that, whatever it was that the 'locals' were doing, they did so exclusively at the behest of the agents of the controlling power. Instead, it is essential to recognize that these potential subjects living in relative obscurity in terms of the grand

imperial plan often acted according to very specific self-interests, habits and designs that where all their own.

In the particular case of the Inka colonization of the Northern Calchaquí Valley, a number of these self-directed, indigenous activities can be described. The most obvious relate to the ancient, productive and persistent industries of agriculture and animal husbandry, evidence for which appears at many of the study sites and for all of the time periods documented. Before the Inkas arrived in the valley two of the standout agricultural centers in the area were located at Las Pailas in Cachi Adentro and at Trigal in La Poma. Both areas were intensively farmed and exhibited advanced systems of irrigation. In the following period the Inkas do not establish much of a presence in either area; they are completely absent from Las Pailas and are only marginally present at Trigal at SL005. In other areas of the empire, for instance in central Peru, this hands-off approach would be interpreted as an example of indirect or hegemonic rule. In the case at hand, however, I argue that the scenario is quite different, and that the Inkas are hanging on to the less productive lands in Potrero while hoping and planning to gain entrance into these richer breadbaskets given the right circumstances.

Another activity that can be isolated involves the extensive and well-developed regional networks that brought together products, people, and ideas from across the South Andes. These interregional relations would have been maintained and entirely managed for centuries by indigenous populations before the Inka period (Krapovickas 1984, Pollard 1984). These networks surely included economic relations between people, which were motivated by the supply and demand for goods that were differentially available throughout the region. But they were also motivated by social and political

forces such as human curiosity and perhaps the desire to connect and intermarry with different communities. These networks were so strong before the Inkas attempted to introduce their own systems of exchange and dependence, that their effects were felt down to the most mundane and common aspects of people's lives. Materially, these age-old relations meant that there were luxury and exotic objects moving in and out of a place like the Northern Calchaquí Valley before the Inkas themselves introduced their own assemblages of tempting artifacts. The greater implication of this for Inka studies is that it may have been substantially more difficult for the Inkas to present themselves as uniquely exotic in the eyes of Santamariano groups than might be otherwise expected.

The final conclusion, which anticipates the next chapter on social interaction, concerns the activity of feasting in the prehispanic communities investigated in this study. It appears that people were feasting outdoors more than indoors at the study sites and that they were typically feasting in open spaces on the better body parts of the animals being consumed. Valley communities were also feasting on better body parts at a higher rate in the Inka versus earlier periods. Based on the data presented here it is not clear if Inka-period groups were able to demand these higher quality animal resources from a position of power or whether they were in a compromised situation in which they were forced to negotiate and barter for these resources.

In sum, no Inka-period community in the valley-- whether it included actually Inkas or people working on behalf of the Inkas-- had a monopoly on feasting as a political or social maneuver in the late prehispanic periods. The activities of feasting and serving were very much part of the standard political and social repertoire of the earlier periods. When the Inkas did establish themselves in the valley, serving and feasting did

not become the central activities that would be expected. The presence of the Inkas, therefore, may well have been likened to the arrival of any other foreign group that had crisscrossed the area in the centuries before the Inka period. This would mean that the Inkas held a low profile in the Northern Calchaquí Valley-- going about their business in the discrete Potrero corner of the valley.

Chapter 7 -- Interaction in the Late Periods in the Northern Calchaquí Valley

This chapter presents a study of the different ways that colonial agents interacted during the Inka period in the Northern Calchaquí Valley. Some of the groundwork for the arguments presented in this chapter has been laid in the preceding three chapters. It is possible to characterize, first, the chronology of Inka colonialism in the valley (Chapter 4), second, the profiles of the societies that were involved in these encounters (Chapter 5), and what activities occurred when these agents came into contact (Chapter 6). The last piece of the colonial puzzle is to simply determine how everyone interacted.

The types of colonial interactions that are conceived of in this chapter expand the discussion beyond the binary scenario of foreign Inkas dominating indigenous Calchaquíes. Attempts are made to consider the relationships that existed between the valley communities themselves, between these communities and people from elsewhere in northwest Argentina, and between all these societies and Inka-related groups that may have come to the region from the central Andes. The possible combinations of interaction between the various parties are endless, which speaks ultimately to the richness of the colonial moment. Broadly speaking, in some places there were no interactions at all, in others the interactions were apparently cooperative, and in still others they were riddled with conflict. On the cooperative side there were relationships of emulation, hybridization, and mutual opportunism, all of which imply some sort of negotiation. On the conflicted side were relationships of resistance and outright conflict, both of which imply obvious tension.

The methodological framework developed in this research to capture these varieties of interactions expands archaeological explanations of material culture in reference to local-based processes that took place during colonial encounters and that gave rise to different types of interactions. In particular, in this chapter I discuss how groups modified and shifted within their landscapes, how space and architecture were reformed within affected settlements, and how relations changed within regional economic systems. I begin with a consideration of the ceramic data that suggest that although the practice of feasting among indigenous groups persisted into the Inka period, it was maintained at levels that were higher in Santamariano groups than among the Inkas. This is surprising because it is thought that the Inkas overtook this type of behavior in colonial contexts.

In the middle section of this chapter I use Hyslop's 1990 study as a starting point for an analysis of the valley settlement in order to demonstrate the diversity of types of interactions that were present in the area. There is evidence, for example, that life and productivity was uninterrupted in areas like Cachi Adentro. There is also evidence for negotiation in the way that some Inka sites were placed at the margins of Santamariano towns, for cooperation in how the layout of some sites appears to be the product of hybridization, and for emulation in the way that some Santamariano communities mimicked Inka material culture traditions. In the last section of this chapter I consider in some detail the layout of the site of Cortaderas Bajo, where the Inkas may have sought to use coercion in their relations with Santamariano groups to leverage a strategic or symbolical advantage they felt they held in the area. Relying on coercion in their relations with Santamariano groups was not the only approach they attempted, although it

may have been the cause of the possible conflicts that came to pass at other sites like Potrero de Payogasta and possibly Guitián. In sum, this chapter makes clear that the archaeological record in the study area suggests that a myriad of interactions existed between the colonial agents that came into contact in the Inka period in the Northern Calchaquí Valley.

Elite Life, Wealth Displays and Decorated versus Undecorated Ceramic Material

In Chapter 6 the distribution of open versus closed ceramic vessels is examined relative to the study sites and structure types. The illustrations in that chapter show that the activity of feasting, which is seen in part in evidence for serving in open vessel forms, was distributed differentially and significantly between sites and structure types. This is seen, for example, in the relative dearth of serving activities that took place in corrals versus plazas, and in the surprising difference in serving activities that took place at the two Inka-related sites of SL005 and SC042. With some understanding of the likely location of serving and feasting activities, one follow-up question is, who was serving whom? To answer this question a similar analysis is performed here on decorated versus undecorated ceramic material recovered from excavations. Ideally, this line of questioning provides an understanding of differences in the display of wealth among the people living in the Northern Calchaquí Valley in the Late and Inka periods, since conspicuous displays of wealth are one indication of elite life and activity. By locating where (and when) elite groups lived and performed, and by comparing this information to the previous analyses of feasting behavior, it is possible to appraise the identity of the groups occupying the host roles during the time periods of interest.

In the following analyses the excavated ceramic materials recovered in this project are sorted according to the basic binary criteria of decorated or undecorated. Decoration is defined here as any vessel (and fragment there of) that has a painted design or that has been burnished or polished on any surface. Decorated ceramics required more time and labor to produce (according to this definition) compared to undecorated ceramics, which are defined as vessels with surfaces that are simply combed, wiped or untreated. The extra labor and time required to produce a decorated ceramic vessel is one shorthand indicator of higher status consumption and activity.

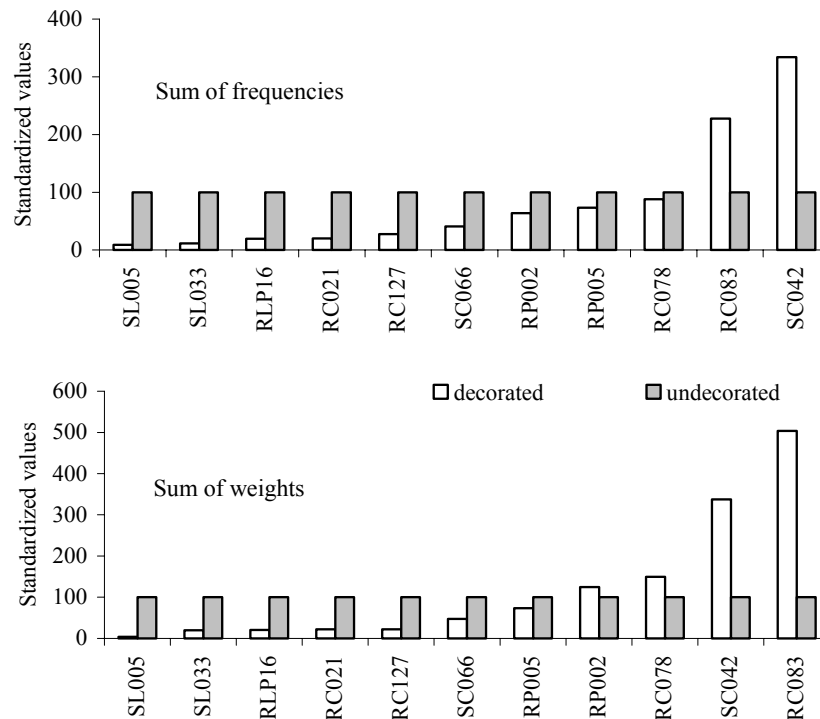


Chart 26: Comparative distributions of decorated/undecorated ceramics by site

These charts compare the distributions of sums of counts and sums of weights (gm) of decorated ceramics by site. Percentage values for decorated ceramics have been standardized against values of undecorated ceramics, which are set to 100. Sites are sorted by the ratio of decorated to undecorated in ascending order, from left to right (See Appendix 8 for raw data table, including original counts and percentages).

Chart 26 presents the results of an exploratory analysis of the distribution of decorated and undecorated vessel forms by site based on the categorization of ceramic decoration. The occurrences of decoration by site are explored in these illustrations as they are represented by frequencies of sherds and by the sum of their weights. Chart 27 presents the results of a similar analysis of the distribution of decorated and undecorated ceramics by structure type. The occurrence of decorated and undecorated ceramics are also explored in these illustrations as represented by frequencies of sherds and by the sum of their weights.

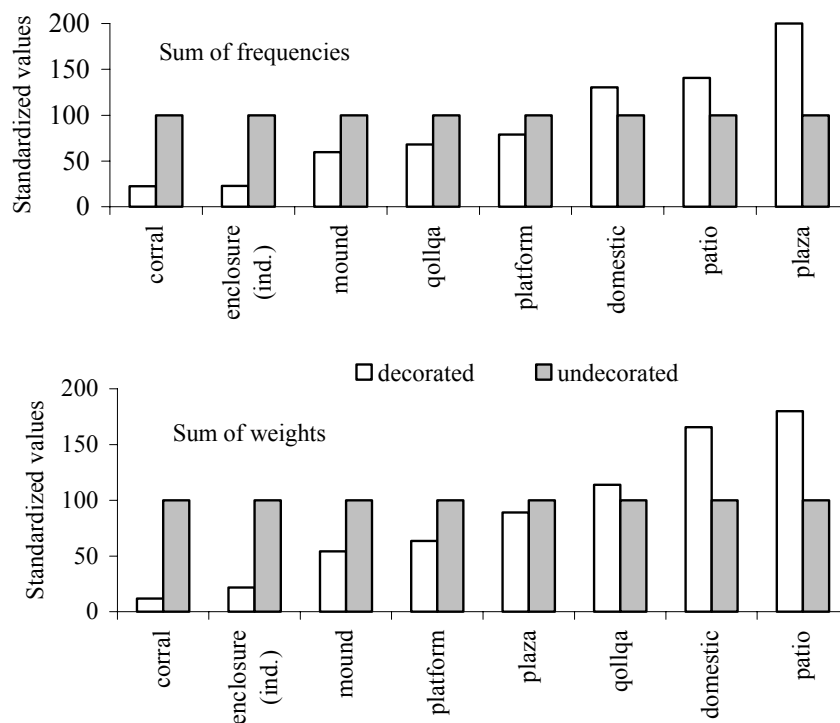


Chart 27: Distributions of decorated/undecorated ceramics by structure type

These charts compare the distributions of sums of counts and sums of weights (gm) of decorated ceramics by structure type. Percentage values for decorated ceramics have been standardized against values of undecorated ceramics, which are set to 100. Sites are sorted by the ratio of decorated to undecorated in ascending order, from left to right (See Appendix 8 for raw data table, including original counts and percentages).

These charts suggest a number of interesting points. First, except for some minor shifting between neighboring cases, sites appear in the same order in the figures in Chart 26 whether sorting by frequency or weight. This simply implies that sherd weight was roughly consistent across the study area. The same can not be said with certainty for the structure type of 'plaza' in Chart 27, which shifts four places between the frequencies figure and the weight figure. This is best explained by the small number of ceramics recovered in plaza excavations. Second, a visual inspection of Chart 26 reveals that sites RC083 and SC042 are distinctive for their high percentages of decorated versus undecorated ceramics. While there are no interpretations that relate this high value at RC083 to a methodological or archaeological oversight, there is one for SC042: not all ceramics recovered in excavations by the Proyecto Arqueológico Calchaquí from SC042 have been analyzed. Instead, for his analysis, D'Altroy (who coded the a majority of the SC042 ceramics used in this study) selected SC042 collections from contexts dated securely through radiocarbon analysis, which in turn were selected in part for their high percentage of diagnostic (i.e., decorated) ceramics. In other words, because of differences in selection criteria at SC042, percentages of decorated ceramics may be artificially high relative to the other sites presented in this study.

The third observation that can be made of Charts 26 and 27 concerns the high and low ends of the four graphics represented. In Chart 26, the two site sectors of RC78-83 lie at the high end of both figures (i.e., they have a larger relative percentage of decorated ceramics), and SL005, SL033, RLP16, RC021 and RC127 lie at the low end of both figures (i.e., they have a lower percentage of decorated ceramics). This suggests that there was more elite activity taking place at the former sites and less at the latter sites. In

regard to Chart 27, patios and domestic structures lie at the high end of both figures (i.e., they have a larger relative percentage of decorated ceramics), and corrals and non-domestic structures lie at the low end of both figures (i.e., they have a lower percentage of decorated ceramics). This suggests that there was more elite activity taking place in the former structure types and less in the latter. These observations are informative on two levels. First, the fact that displays of wealth were more intense in residences and in plazas (relative to corrals, for instance) nicely fits expectations that events in which these materials were used took place in exactly these types of areas. Second, because SL005, SL033 and RC021 are Inka-related sites it would typically be the case that they contained a decent share of wealth displays and elite activities in the late periods that were associated with Inka expansion into the area. Apparently, however, this is not the case.

The discussion presented in the next chapter returns to these observations as it ties together the results of the multiple lines of analysis that appear in this study. As a preview, it is interesting to link these observations about the distribution of decorated ceramics between sites to the results of the radiocarbon analysis discussed in Chapter 4 and the affiliation data discussed in Chapter 5. It seems that Inka and Inka-related communities that appear at Inka-period sites did not have a monopoly on the display of wealth as seen at least in access to decorated ceramics. While such displays were present during the Late period at sites like RC78-83, they were not present at the likely Inka-period sites of SL005 and RC021. This pattern in the data reveals a complexity in the events and in the colonial relations of the Late-to-Inka-period transition in the Northern Calchaquí Valley. It tells of a persistence in the ceremonial activities being conducted by indigenous groups and, by extension, an endurance of the sociopolitical systems and

relations that defined who these groups were and how they were relating into the Inka period.

Settlement in the Inka period in the Northern Calchaquí Valley

Through an analysis of the organization of settlements in the Northern Calchaquí Valley this section considers evidence for the nature of colonial interactions between the communities of people that lived in and came through the valley in the late prehispanic periods. It is concerned with answering the following questions: What can be learned from studying patterns in settlement organization in terms of how different groups did or did not get along? To what degree do the settlements of late-period communities blend or stand alone? Much of what can be said in response to these questions relies on the findings presented in Chapter 5 concerning the distribution of indigenous communities at the onset of the Inka period and the distribution of Inka and Inka-related settlements in the valley. The goal in this chapter is to look at these settlement data in terms of how they were placed relative to other settlements and resources and to what degree the inhabitants of these sites did or did not interact.

In order to understand the nature of Inka-period settlement and what it reveals about Inka efforts to colonize and control the Andes, Hyslop (1990) provides a useful starting point in his review of Inka settlement planning. This section begins with a brief look at his particular ideas about mixed settlements in the Inka empire and mentions some of the Andean examples that he uses to illustrate the three categories he identifies. Following this review, the last of Hyslop's mixed settlement categories is expanded and elaborated so as to account for the diversity of data that have emerged from the Northern Calchaquí Valley as well as from other areas in northwest Argentina. As I argue below,

it would have been at these very sites (Hyslop's third type) that colonial negotiations and interactions were at their most intense and, thus, where many of the questions posed by this research can be answered.

Hyslop's Mixed Inka-Local Settlements

In Chapter 8 of his 1990 book on Inka settlement planning Hyslop distinguishes between three types of mixed Inka-local settlements (labeled here A, B and C). As Hyslop notes, many of the Inka structures and site sectors that he documents across the Andes appear in or near non-Inka site, and it is among these 'mixed' settlements that he distinguishes three general types.

Hyslop's Type A: Residence of Local Lords and Elites

At some sites in the Andes structures and site sectors that appear to be Inka in origin were actually built and occupied by factions of indigenous groups with little input from the Inkas at all (Hyslop 1990:244-249). The people who built and lived in these copy-cat structures may have had little direct connection with the Inkas. To illustrate his point about these type of mixed settlements Hyslop describes four examples, including Puerta de La Paya in the Northern Calchaquí Valley and the sites of Ichu near Huánuco Pampa, Hatunmarca and Marca in central Peru, and Lupaqa in Bolivia. In regard to La Paya, in reference to work at the site done by Ambrosetti (1908) and González and Díaz (González 1982:327, 1992), Hyslop describes the Casa Morada (the Inka-styled rectangular structure in the middle of the site) as the home of an indigenous lord or chief that ruled over this settlement and the surrounding area during the Inka period (Hyslop 1990:245).

There are a number of reasons that indigenous builders imitated Inka style. For one, people may have mimicked the Inkas in order to symbolically link themselves to the empire and its colonial project. Alternatively, the newness of Inka building and planning may have been appealing for indigenous groups and inspired some to emulate the style. In either case, there are a number of implications about Inka-period colonialism that can be drawn from the appearance of this type of mixed Inka settlement in the empire. On the one hand, these sites may imply that their indigenous inhabitants were friendly to and accepting of the Inkas and their efforts to expand into different corners of the Andes. If this were the case, it certainly seems fortuitous for the Inkas that indigenous groups were unilaterally attracted to Inka style, because the Inkas would have had to invest little in relationships in which they found themselves being emulated. On the other hand, in response to dynamic indigenous history and political relations, some indigenous groups may have employed Inka style opportunistically as a way to distinguish themselves from other neighboring or rival factions. In such cases it is possible that these indigenous operators had little or no interest in what Inka objects and styles represented to the Inkas, but were more concerned with the place and effect of these objects in more personal and immediate relations. These are just some of the dynamics that appear to have been in place in the Northern Calchaquí Valley that are discussed in the next chapter.

Hyslop's Type B: Areas with No Inka Architectural Planning

Hyslop's second type of settlement pattern (1990:249-251) covers areas in the Andes that fall within Tawantinsuyu, but which lack actual Inka material remains. To illustrate this settlement type Hyslop points to the large region of the Chimú kingdom on the north coast of Peru. The paucity of Inka sites and structures in the Chimú area is

related to the unique political and cultural circumstances that the Inkas faced in the region. As the largest and most complex adversary to face the Inkas, the Chimú state has been described as the closest thing to a peer polity that the Inkas encountered. Hyslop explains that, once they were sure that the upper level of the Chimú state was destroyed, the Inkas deliberately removed themselves from ruling the region directly, instead using the lords and chiefs to administer Inka policy that the Chimú had previously vanquished. Beyond the example of Chimú, Hyslop's treatment of this type of mixed Inka settlement is not developed to the same degree as the other types, because at the time of his writing the research in Inka-free regions of the Andes was limited. Not surprisingly, such areas are common given the great size and short life of Tawantinsuyu. Since the writing of Hyslop's book in 1990 there has been a tremendous amount of regional research on Inka expansion conducted in these areas, which allows for a more complete discussion of what these areas might signify.

The idea that the Inkas ruled indirectly in some areas through indigenous rulers and their well-established political organizations is one of the earliest Inka strategies of rule described in the provincial research on the Inkas (Menzel 1959). This is not to say that the Inkas ruled indirectly in all areas of the Andes where there is little or no Inka material culture, because there were definitely areas where the Inkas wanted to settle but were turned away by indigenous groups. There also were cases when the Inkas would have wanted to enter into areas but held back on account of being badly prepared, small in number, and far from home. I argue that these types of scenarios are underreported in Inka studies. For instance, in the Northern Calchaquí Valley there is at least one and perhaps two areas into which the Inkas were possibly trying to gain access, including the

area of Cachi Adentro and Trigal in La Poma (both areas were agriculturally productive in the prehispanic periods). But there is very little Inka presence documented in these two areas, which I argue below is an example of both persistence and resistance on the part of the indigenous societies living in the area.

Hyslop's Type C: Inka Building within Local Towns and Cities

The last type of mixed settlement described by Hyslop (1990:251-265) is comprised of indigenous settlements that have individual buildings or sectors that were built and used by the Inkas and their agents to conduct administrative activity. These sites were predominately constructed and occupied by indigenous Andean societies, regardless of whether they were built before or during the Inka period. Though similar to Type A above, these sites are different because the varied and complex Inka structures served more than the function of housing indigenous elite. To illustrate his point, Hyslop considers in some detail the Chilean sites of La Puerta in the Río Copiapó Valley and Turi in the Atacama Desert, the Argentine site of Fuerte Quemado in the Yocavil branch of the Santa María Valley south of the Calchaquí Valley, the Peruvian site of Pachacamac in the Lurin south of Lima, and the Ecuadorian sites of Ingapirca and Tomebamba. Compared to the other types of mixed settlements, these sites represent more commitment by the Inkas, suggesting that the relations between groups at these sites entailed some element of direct rule by the Inkas.

In sum, in the Northern Calchaquí Valley alone there are examples of all three of Hyslop's mixed types. La Paya, of course, is one of the prototypical Type A sites. The areas of Cachi Adentro and, to a lesser degree, La Poma are good examples of Hyslop's Type B. As I explain below, most of the remaining Inka-related settlements in the study

area can be loosely defined as Type C, because they demonstrate a mixture of indigenous and foreign building and planning styles beyond what might be expected in cases of emulation (Type A). Therefore, while I do place most of the study sites describe here in this last category, I take this opportunity to expand on Hyslop's definition and interpretation of this important material culture category.

Expanding Hyslop's Typology

In his typology of mixed Inka-local settlements Hyslop is dealing with material that is helpful in a number of ways in trying to understand how colonial encounters unfolded between agents of the Inka state and members of indigenous Andean societies. First, these settlements contained many of the indigenous leaders and human resources that the Inkas needed to sustain and grow their empire. Second, these centers, villages, towns and cities were also the settings for many of the actual face-to-face meetings that took place between the various colonial agents. In light of the potential value of these settlements in terms of colonial relations, Hyslop's Type C really just begins to represent the complex nature of these types of sites, and it is possible to expand Hyslop's third category of settlement based on what is now known about Inka-period life in the Northern Calchaquí Valley. In reference to the study sites described in this work as well as other known Inka-related sites in northwest Argentina, the following discussion presents a number of ways to think about mixed settlements in the region. I conclude the discussion with a consideration of three important Inka sites in the study area (Potrero de Payogasta, Guitián, and Cortaderas). While these three sites might be thought of as classic Hyslop Type C sites, they belie easy interpretation and so are considered on their own terms.

Paired Sites

There are two, or perhaps three instances in the Northern Calchaquí Valley when Inka structures appear not inside, but alongside pre-Inka Calchaquí settlements. I refer to these arrangements as 'paired sites'. The first is SL005, the Inka complex of structures built just outside the much larger settlement of Esquina Azul, which Tarragó (1978:501-504) and Tarragó and Díaz (1972:51) argue was occupied from the DR and to the Inka period. The second is the Inka settlement of Cortaderas Bajo that lies at the foot of the hill just below the Santamariano site of Cortaderas Alto. (Because of its complexity and size the whole of the Cortaderas site is considered in greater detail below). Third, it is possible to see La Paya and Guitián as paired sites, with La Paya being the indigenous settlement and Guitián being the Inka site. However, because there are a number of additional points to consider about both of these sites (e.g., the Inka sector within La Paya and the pre-Inka occupation of Guitián), these are also considered below. The point here remains that what makes a paired site unique is that the Inka sector is not in the indigenous settlement, but lying beside it. Because of their physical closeness, paired sites clearly speak of contact between the occupants of both sites. But, unlike Hyslop's Type A sites, which suggests processes of emulation, the pairing of sites is more suggestive of negotiation and alliance.

Arrangements of paired Inka-local sites in this manner are common in northwest Argentina. In the Quebrada de Humahuaca there are two possible examples of paired sites. The first pair includes the Pucará de Yacoraite (Krapovickas 1969) and Yacoraite Bajo (Krapovickas 1968), which lie together at the conjunction of the Quebradas de Yacoraite and Humahuaca. In this case the outside Inka sector is simple: two concentric

patios enclosing a third kallanka-like structure built according to Inka conventions. As an arrangement this pair is almost identical to the Cortaderas Alto and Cortaderas Bajo pair in the Northern Calchaquí Valley. The second example from this area is the indigenous Hornaditas and its nearby Inka-period storage facility in the Rodero-Coctaca sector of the northern Quebrada de Humahuaca (Nielsen 1995). It is also possible to assign Punta de Balasto (Inka) and Fuerte Mendazino (pre-Inka) to this category. These sites lie south of the Calchaquí Valleys in the Yocavíl portion of the Santa Maria valley. According to Hyslop (1990:254), the nearby Santamariano site of Fuerte Quemado also has an Inka sector to the side.

Hybrid Settlements

There are two examples of sites studied in this project that speak of the colonial process of culture hybridity. These sites and their layouts, organization, and buildings are not the products of indigenous design or imperial planning. Instead, they represent a blending of ideas, techniques and productive behaviors particular to the confluence of forces that occur under colonialism. The first example is RP002 in the upper Potrero Valley. As is described in the preceding chapters, aspects of this site belie easy categorization. Elements like the wall construction techniques, the shape of the structures and the plan of the settlement seem to incorporate ideas from both Santamariano and Inka groups. The large, irregularly shaped Santamariano patios are symmetrically arranged around three Inka-like platforms and the Inka road. Similarly, SL033 in La Poma represents a type of hybrid style that combines a number of influences in the building, management and use of this site. As outlined in Chapter 1, hybridity is one of the most dynamic products of a colonial encounter and there is no reason to believe that similar

forces did not exist in the Northern Calchaquí Valley, where groups of different backgrounds and habits found themselves cooperating in their efforts to get ahead.

Reused Settlements

As Hyslop (1990:244) rightly points out, the reuse of an abandoned settlement by the Inkas reveals very little about Inka planning. However, it does shed some light on Inka-period colonialism in other respects. Because settlement reuse does occur, it suggests that the Inkas were opportunistic in the same way that indigenous people who emulated Inka style (for instance at La Paya) were opportunistic. It would be difficult to know exactly why the Inkas reused some sites while bypassing others, although it is possible to speculate. In areas where indigenous populations were still active, the reuse of an indigenous site might mean that the Inkas were interested in blending into the indigenous cultural landscape without disrupting indigenous life. More obviously the Inkas may have found it convenient to settle among partly pre-fabricated sites. The best example of a reused settlement in the Northern Calchaquí Valley is RP005, which is the Formative period mound-site in the upper Potrero Valley that also contains a number of Inka-period rectangular structures. DeMarrais (1997:199-202) has identified a similar Formative period site in the Main Valley (RC016) that may have been reoccupied by the Inkas. There are also a number of similar examples of reused sites from the Inka period in northwest Argentina, including a well-described case from the Province of La Rioja, where the Inka settled on an ancient Formative site at Rincón del Toro (Callegari B. and Ravina M. 1986).

Reverse Emulation Sites

Some sites, it seems, were built by the Inkas intentionally to mimic indigenous styles. Because this is a provisional category, further research is needed to fully validate its usefulness. The underlying concept is not complicated: just as indigenous groups may have emulated Inka styles (Hyslop's Type A), it is possible that Inka groups may have emulated indigenous settlement planning and building traditions, possibly in order to garner local political favor. One line of evidence comes from high altitude archaeology in the form of mixed shrines and ritual outposts built by the Inkas on mountains tops throughout the South Andes. It is generally thought that the Inkas adopted the regional practice of constructing high altitude sites as settings for ceremonies involving ritual offerings of textiles, metal objects, food, and even human sacrifice (Beorchia 1987, Reinhard 1985, 1992, 1998, Schobinger 1966). These sites typically lie on the peaks of mountains and on mountain passes above 6500m. These ceremonial practices and there attendant buildings predated Inka expansion, but were deliberately copied by the Inkas. This mimicry seems to be concentrated more in the southern reaches of the empire than in the north. Evidently high-altitude sites do exist near the study area in the Sierra de Cachi (Ceruti 1997, 1999, Díaz 1983:103, 1992:66, Vitry 1997). If this category of behavior holds up and reverse emulation can be documented it stands as another illustration of how the colonial process was full of engagements and negotiations.

In sum, based on research of Inka-period remains in the Northern Calchaquí Valley and surrounding regions it is possible to suggest a number of places where Hyslop's typology can be expanded. Hyslop's Type C, which includes all Inka buildings within indigenous towns and cities, is the most underdeveloped. I have offered here a number of further ways to characterize and refine this category in reference to a number

of sites from northwest Argentina. This exercise does not detract from Hyslop's original conception of mixed settlements and his emphasis on their importance. To this point, the following discussion of three of the main Inka-related sites in the Northern Calchaquí Valley remains true to his essential ideas about mixed settlements.

Potrero de Payogasta, Guitián and Cortaderas

In one form or another the three sites of Potrero de Payogasta, Guitián and Cortaderas contain elements that are indigenous to the Calchaquí area and others that are purely Inka, meaning these sites fall nicely in Hyslop's third category (Type C) of mixed Inka-local settlements. As I mention above, however, these sites are large and complex in character, which hinders easy interpretation and categorization. Instead of trying to label these pivotal sites according to either Hyslop's original typology or the expanded categories outlined above, I consider them unto themselves in order to show how rich in information these sites are for understanding how colonial encounters unfolded in the Northern Calchaquí Valley. These descriptions are brief as the sites are described in greater detail in other sections of this work.

Potrero de Payogasta: As the preceding chapters make clear, Potrero de Payogasta was a Regional Developments site that was later inhabited by the Inkas. This conclusion about the history of occupation at the site is based on a number of lines of evidence. First, Potrero de Payogasta contains a mix of Inka and some Santamariano architecture. Second, evidence encountered in excavations in 1990 of subsurface structures covered by Inka architecture supports the idea that this site may have been previously occupied. Third, a DR occupation is confirmed by radiocarbon information also recovered during excavations. It is highly likely, therefore, that this site was the setting for actual face-to-

face meetings between Inka and Santamariano groups at the onset of the Inka period. It does not appear that the settlement was abandoned prior to the arrival of the Inkas given the middle three dates that fall around the onset of the Inka period. Instead, the site was probably occupied by a Santamariano population when the Inkas first entered the area. As for the nature of their encounter, at this point it is only possible to speculate that the burnt layer between the earlier and later occupations suggests tentatively that there was either a catastrophic aspect to the encounter or that the Inkas leveled and cleared the site once they moved in. In either scenario the Inkas would have had to establish some control over the proceedings and over the indigenous groups in this immediate area. This type of colonial encounter reflects the coercive and sometimes violent relationships the Inkas entered into that was typical of a number of their encounters around the Andes. In the case of the Northern Calchaquí Valley, however, it seems that this brand of colonialism was isolated to the Potrero area and did not extend south into the heart of the valley.

Guitián: Although Guitián falls to the south of the research area as defined for this study, it was investigated and mapped preliminarily in 1992 by the Proyecto Arqueológico Calchaquí. It deserves mention here as a fine example of an integrated Inka-local settlement in the Northern Calchaquí Valley (Figure 10). Together with Puerta de La Paya, which lies across a small gully to the south, Guitián is identified above as a potential paired site; that is, Guitián would have been the Inka settlement lying just outside the indigenous town of Puerta de La Paya. This categorization is too simple given what is known about both of these sites. First, as is outlined in this thesis repeatedly, there is an Inka-styled sector within La Paya that has been identified as the

residence of an indigenous elite group or family, which means that Puerta de La Paya was more than just a Santamariano settlement. Second, Guitián is not a stand-alone Inka settlement consisting entirely of Inka-styled architecture, because there was a significant pre-Inka occupation at the site as seen in the conglomerate settlement of semi-subterranean enclosures that surround the Inka sector (D'Altroy *et al.* 2000:10). While somewhat smaller in size than Potrero de Payogasta, it is similar to that site in its layout and in its integration of indigenous and Inka features. Until more research is conducted at the site it is impossible to suggest whether or not encounters at Guitián were as potentially conflicted as they were at Potrero de Payogasta.

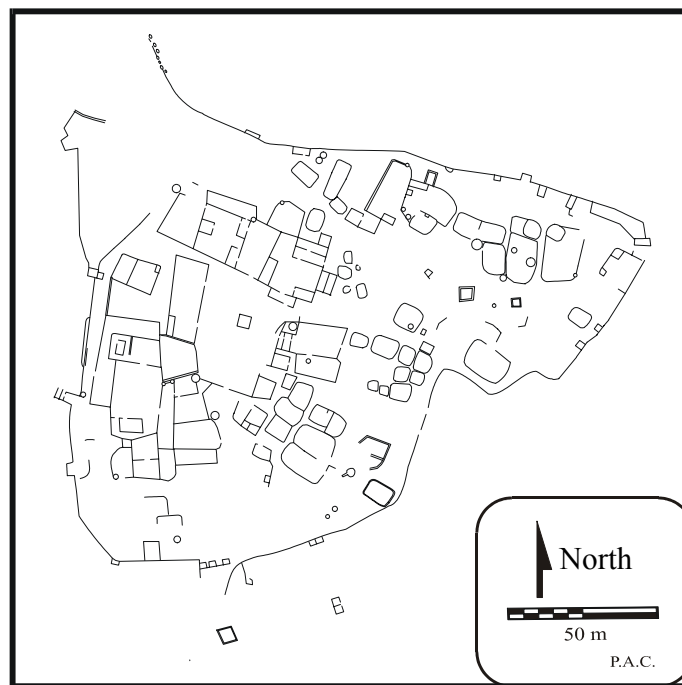


Figure 10: Plan of Guitián, Northern Calchaquí Valley

This site is located south of the study area defined for this project. It was mapped by the Proyecto Arqueológico Calchaquí in 1990.

Cortaderas: Cortaderas in the Potrero Valley is one of the more difficult settlements in the valley to interpret. As is described in Chapter 5, the entire settlement is

made up of four sectors covering 26 hectares, including a pre-Inka town surrounded by three Inka-period sectors (Figure 11). While it certainly fits in Hyslop's Type C category of mixed settlements, the intricacies of the entire settlement can be further analyzed for clues about colonial relations between the Inka and Santamariano groups. The next section, therefore, takes a closer look at Cortaderas Bajo for evidence of the dynamic nature of colonial interactions in the Inka period in the Northern Calchaquí Valley.

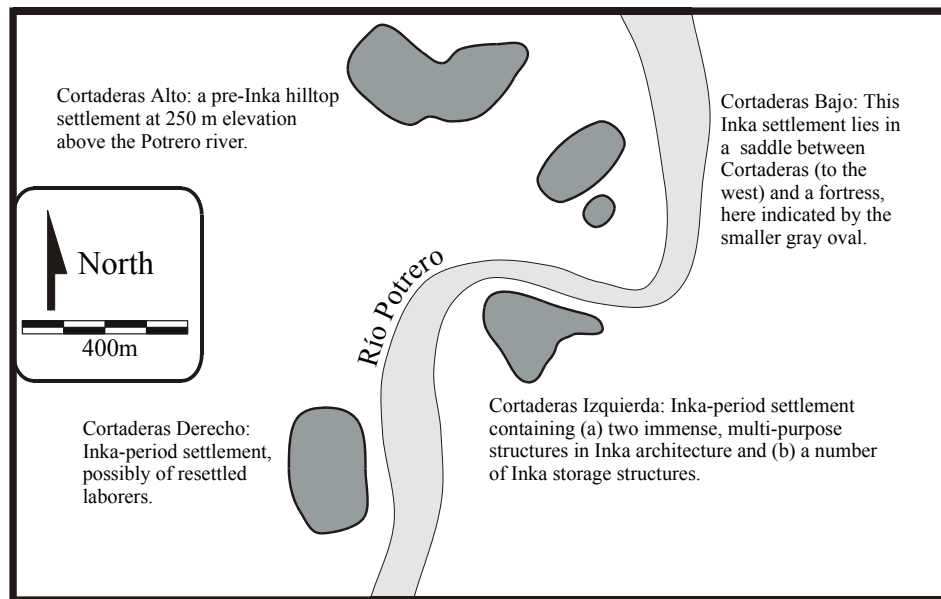


Figure 11: The Cortaderas settlement, Northern Calchaquí Valley

This Inka-period settlement, which lies along the Río Potrero, contains four discrete sectors, including Cortaderas Alto, Bajo, Izquierdo and Derecho. The fortress that stands on the small hill to the southeast of Cortaderas Bajo is considered part of the Bajo sector.

Architecture and Space at Cortaderas Bajo

In the preceding chapter patterns are outlined in the architectural data regarding the public and private nature of different areas of the study sites. The accessibility of different types of structures and the degree to which they were roofed or unroofed is considered. Another way to consider these same data is presented in Table 18, which shows how in one sense the building history of Cortaderas Bajo is uncommon. The basic

tallies presented in the table reveal across the study sites how infrequently structures were built entirely within other structures relative to Cortaderas Bajo. The unusually high number of structures built within structures at Cortaderas Bajo gives the site a sense of artificiality, because most of the views within the site are dominated by arrangements of freestanding structures. While this point supports the notion that the Inkas carefully planned spaces that were generally segregated relative to structures designed by the Calchaquies (and therefore controllable and exclusive), it remains to be seen why the Inkas built in this way.

Site	Is structure inside another structure?		Total
	No	Yes	
SC065	27 (46%)	32 (54%)	59 (100%)
all other sites combined	235 (94%)	16 (6%)	251 (100%)

Table 18: Occurrence of structures within structures at SC065 vs. all other sites

This table shows the frequencies as raw counts and percentages of structures built within structures. The chi-squared test of these data show that the difference between the occurrence of these architectural device with respect to the SC065 and the other sites is very significant ($\chi^2 = 5.978$, $df = 1$, $.02 > p > .01$).

Morris (1995) provides one possible explanation when he reminds us that complex societies like the Inka must regulate communication and interaction between their constituent groups in order to function. This regulation would have been especially important for the Inkas given the size of their empire and its patchwork makeup of diverse states, polities, tribes and communities. Morris takes on the difficult task of illustrating the ways in which stylistic variation was created within the Inka world symbolically reinforce relations and positions of power vis-à-vis the media of textiles, ceramics, metal, and architecture. Some of the valuable points that Morris makes concern the over-interpretation of ceramic materials in Inka archaeological studies and

the need to recognize that textiles were the likely medium-of-choice for expressing status and prestige in the Andes. Morris also points out that Inka architecture and site planning were symbolic of the state and the ideological and cosmological worlds it represented. The organization of space in Cuzco, in particular, served as a template that was recreated in name, dimension, and form in Inka settlements across the empire (see also Bauer 1998, Farrington 1998, Pärssinen 1992, Zuidema 1964). It was in these locations that the Inkas showed other societies their version of the essential order of power in the universe, which naturally placed the Inkas at the apex. These highly standardized places served in practice as locations for ceremonies in which Inka personnel hosted indigenous people-- especially non-Inka leaders-- with the hope of ensnaring them in reciprocal relations of obligation.

Morris's ideas generally reflect a theoretical trend in material culture studies that has greatly enriched archaeological explanations of past human life as more connections are being made between the built environment and basic social practices. Architecture and the places it defines are no longer conceived of as arenas where social life unfolds, but as active elements in the production and reproduction of human societies (e.g., Ashmore and Knapp 1999, Bender 1993, Rothschild 1990, Tilley 1994, Ucko and Layton 1999). It is in this tradition, then, that this section looks at how the Inkas manipulated the landscape around the settlement of Cortaderas in their attempts to gain power and to promote relations of inequality in the Northern Calchaquí Valley. Using computer-aided design (CAD) methods to reproduce models of Inka architecture in the valley, it is possible to explore the idea that the Inkas framed the gaze that people would have had of the area surrounding the Inka installation at Cortaderas Bajo in order to affect their

sensory experiences.(Footnote 4) Ultimately, the Inkas may have used this deliberate and symbolic scheme as way to justify their attempts to dominate the Northern Calchaquí Valley societies.

The analysis presented below involving the exploration of virtual reconstructions of Inka architectural space falls under the rubric of phenomenological studies insofar as I am replicating the experience of encountering an Inka installation. As in a number of other phenomenological attempts to produce knowledge (Thomas 1993:27-29, Tilley 1994:11-14), implicit in this effort is a reliance on commonsense knowledge to appreciate what it must have been like for people in the past to visit and experience places like Cortaderas Bajo. There are a number of benefits to studying architecture using solid modeling techniques in this way, including understanding the structural and environmental context of site architecture, inspecting how areas of a structure were utilized, and developing models of how people and groups interacted with their surroundings (Peterson *et al.* 1995). On a more theoretical level, the benefits of computer modeling are more elusive, but no less rewarding, and include understanding the use of symbolism in spatial and architectural constructs.

In sum, the computer reconstructions of Inka architecture that appear in the remainder of this chapter enable an exploration of how the cultural landscape might have changed with the arrival of the Inkas in the Northern Calchaquí Valley. To initiate this process the Inkas concentrated their settlement apart from indigenous populations in the Potrero Valley. This lateral valley was more or less marginal to the interests of Santamariano groups given the paucity of DR-period settlements in the area. In an attempt to create this area anew, the Inkas constructed a complex of buildings at

Cortaderas Bajo that framed the user's views of the surrounding natural and cultural landscape in deliberately meaningful ways. It was through this constructed landscape, and through the manipulation within it of vision and sensory perception, that the Inkas attempted to establish their own version of order and hierarchy. Before turning to the data themselves a brief description of methods is offered in order to illustrate the visualization process in archaeology (Appendix 11 offers a fuller history of the techniques of CAD modeling for readers unfamiliar with their genesis and early applications).

The Methods of CAD Modeling

Methodologically, the process of preparing 3D computer graphics models of ancient architecture typically involves three steps: data collection, data conversion into graphic format, and the creation ('the mock up') of a 3D model. For the project at hand the 3D spatial data that were collected include points from the bases of walls, door jambs, corners, maximum wall heights, and from any other element or feature that distinguished a structure. These data were entered into a computer spreadsheet program (Excel) and converted into a graphic point file using a surface mapping program (Surfer). The graphics files were then opened in a commercial computer-aided design software program (form-Z) and rendered into 3D models.

It is crucial that any 3D computer reconstruction be true to the shape and dimensions of the structures under study. Wall thickness is easier to reproduce than wall heights, because thickness is preserved even down to the base of the walls. In the few cases where walls stand to their original height, these are also easy to reproduce in the computer model. However, because natural and cultural forces erode the stone walls,

recreating some wall heights and roof heights in this research have required careful calculation and estimation. In these instances a conservative estimate of the height based on the average height of extant whole walls is used. In the case of roof heights (i.e., from the top of the wall to the top of the roof), more conjectural estimates based on prior studies of Inka architecture are used (Gasparini and Margolies 1980, Kendall 1985, Lee 1997, Morris 1972, Niles 1992, 1999, Protzen and Batson 1993).

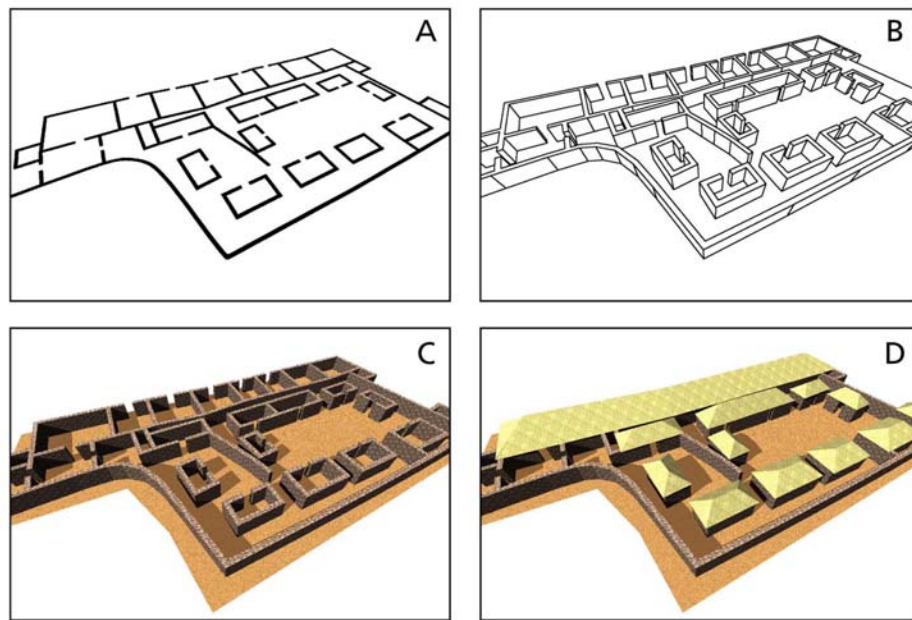


Figure 12: CAD modeling methods

These four images show the step-by-step process of creating three-dimensional architectural models using computer-aided design software. The structure depicted here is the Inka patio complex described in the text. All images were created in perspective view. Figure 12a shows the ground plan only; the line drawing in 12b shows walls only; 12c shows the walls rendered in color; and 12d shows the final rendering of walls and roofs in color.

Lastly, using the surface rendering package that is built into form-Z (i.e., the computer-aided design software used here), actual images of stone masonry and roofing that have been applied to the architecture models. This turns the monochrome solid

model into a vivid, color representation of the structure as it may have once looked. This series of steps in creating a 3D model is illustrated graphically in Figure 12.

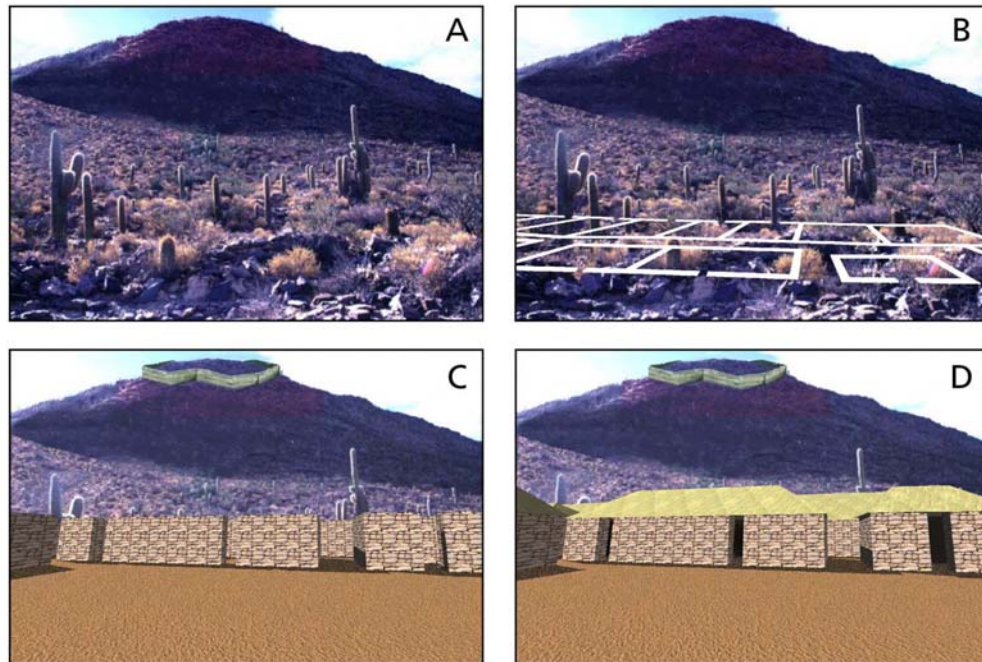


Figure 13: Constructing a gaze

These four images show the step-by-step process of creating a gaze from the perspective of a person standing in a structure. These four images show how the gaze was constructed looking west from inside the Cortaderas Bajo patio (further discussed in Figure 17). Figure 13a shows the view west today (note the wall foundations crossing at the bottom of the image); 13b shows the same image with the patio plan superimposed; 13c and 13d show the addition of the walls and roofs, respectively (the circuit wall surrounding the hilltop site of Cortaderas Alto is also included).

With the finished computer models in hand it is possible to explore them virtually. The viewer's eye, which is represented by the computer's virtual camera, can be positioned anywhere inside or outside of the model and the appropriate views captured as if on digital film. In the cases discussed below the view of the first person is used. This means that the virtual camera has been placed at the height of the eyes of an individual, or anywhere between 1-2m off the ground. Photographic images of the landscape as it looks today have also been inserted in the background of the model. For example, in

Figure 13 a 3D model of architecture has been superimposed over a photograph of the landscape that was taken from the same fixed point around which the model was created using the virtual camera. The result is a realistic reconstruction of the view someone might have had standing in the same location in the past. The subsequent effect is enlightening as the overall view offers an original sense of what it was like to stand amid the architecture in its original state. An example of this procedure appears in Figure 13, which shows a series of images that were generated during the preparation of Figure 17, which is discussed in detail below.

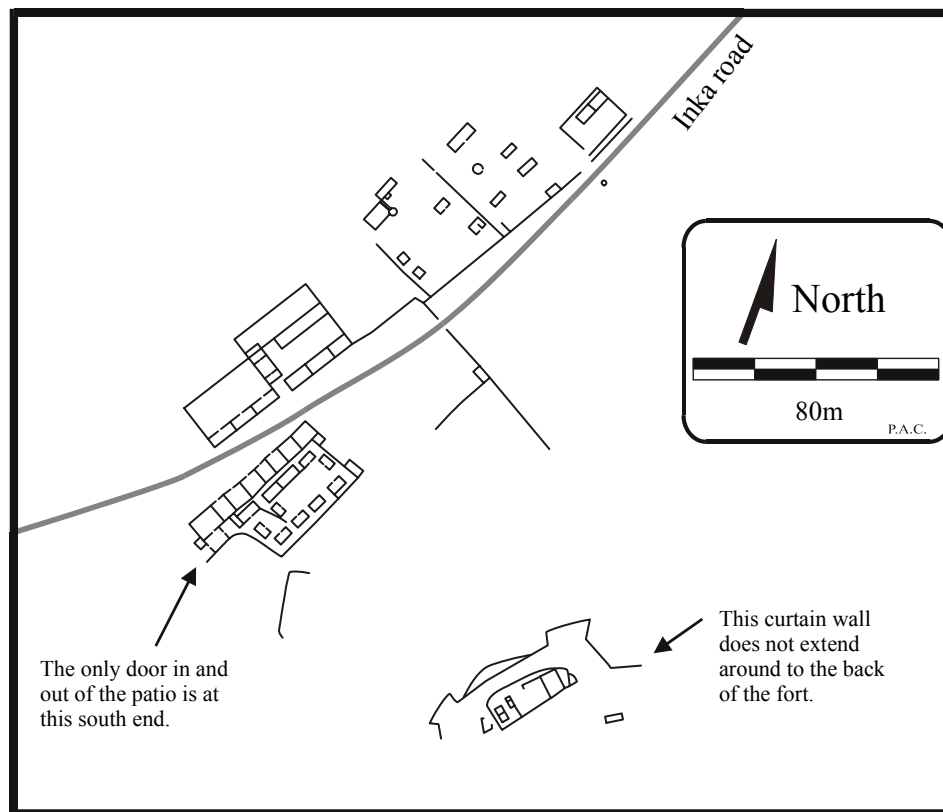


Figure 14: Plan of SC065 (Cortaderas Bajo), Northern Calchaquí Valley

This sector of Cortaderas is one of the few pure Inka settlements in the valley. The Inka road passes directly through the settlement. The patio complex in the lower left hand corner of the plan is discussed at length in this chapter. The fort at the bottom of the plan lies on a hill 30m above the rest of the Bajo structures.

CAD Modeling of Cortaderas Bajo

I suggest that one way in which personnel of the Inka state attempted to control valley societies was through the conscious manipulation of landscape and people's experience of that landscape. Turning specifically to Cortaderas Bajo in the Northern Calchaquí Valley, the point is made below that there is meaning in the way that the Inkas used architecture to construct and frame the Potrero Valley landscape so as to impact the experience of people who came to this settlement. To demonstrate this point the visual experience of being in one of the prominent Inka structures at Cortaderas has been recreated in a 3D computer model, which allows for an empathetic study of the internal layout and space of the buildings. In using this approach, then, an example of the Inkas attempting to directly control the sensory experience of potential state subjects has been uncovered.

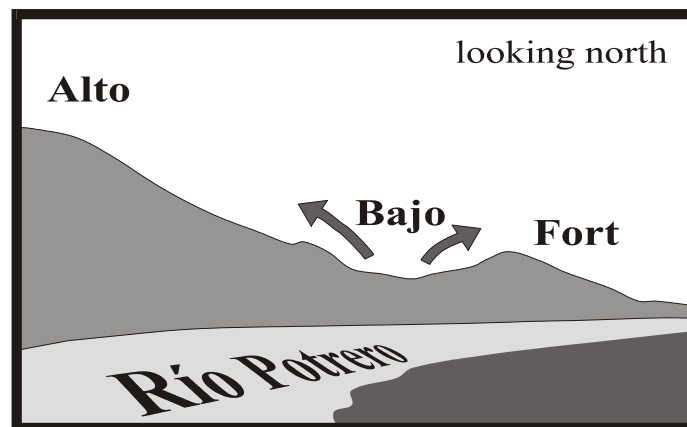


Figure 15: Schematic view of the saddle of Cortaderas Bajo

Looking north, this schematic view shows how Cortaderas Bajo sits in a low saddle of land between Cortaderas Alto and the fortress above Cortaderas Bajo. The Río Potrero flows right to left across the bottom of the image (lightest gray). The arrows indicate sight lines from Cortaderas Bajo looking up towards Cortaderas Alto and the fort.

To sustain this argument that the Inkas used architecture and the landscape to frame people's experiences in the Cortaderas Bajo sector of the site, it is important to note

that the Bajo area sits in a saddle of land between an Inka fortress on a small hill (the fortress is considered part of Cortaderas Bajo) and the ruins of the indigenous settlement of Cortaderas Alto on a larger hill (Figures 14 and 15). The Inka road that passes directly over this saddle divides Cortaderas Bajo into two parts. The computer model discussed here is a recreation of the patio complex that appears in the southwest corner of the site map. This set of connected structures that lies east of the road has a number of interesting features, including eight roughly identical structures that front the road and (behind these rooms) an open patio containing a number of freestanding smaller structures.

The computer model and rendered images, then, are based on this inner patio and provide a reconstruction of the visual experience of being within its walls. To understand the visual experience of this structure and the surrounding landscape it helps to manipulate the 3D computer graphics model using a step-by-step narrative. By doing this, I believe that the virtual experience better approximates the actual experience that the inhabitants and visitors might have had in the same place in the past. In the following paragraphs, then, a series of views and moments that a person might have had as they entered, used, and exited this patio space are presented.



Figure 16: View looking north from the Cortaderas Bajo patio

The arrow in the inset plan shows the direction the viewer is looking as they stand in the patio (i.e., where the computer's virtual camera was set to create this rendering). The image itself shows a number of interior patio structures, the patio wall, distant mountain peaks and the wide-open blue sky.

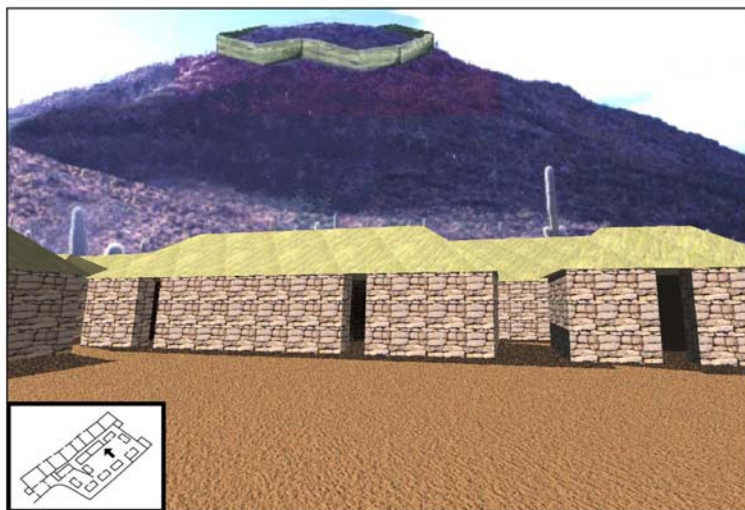


Figure 17: View looking west from the Cortaderas Bajo patio

The arrow in the inset plan shows the direction the viewer is looking as they stand in the patio (i.e., where the computer's virtual camera was set to create this rendering). The image itself shows a number of interior patio structures, the patio wall, and a large hill (Cortaderas Alto sits atop this hill). The circuit walls surrounding Cortaderas Alto have also been rendered in this image.

As a starting point, it is possible to imagine an encounter in the Cortaderas Bajo patio between people representing a Santamariano society and agents of the Inka state. As they entered this space at the invitation of the Inkas, perhaps for the first time, the Calchaquíes were immediately confronted with a number of views of the surrounding landscape. I argue that these views were intentionally accentuated. After entering from the south, the first view they had was to the north, and here they saw a small structure, the patio wall, a bit of the distant mountains, and the empty blue sky (Figure 16). Next, as they turned to the west, the view of the pre-Inka hilltop town of Cortaderas Alto dominated their gaze (Figure 17). Given the destruction of the circuit wall around the hilltop site of Cortaderas Alto, this would have been an unsettling sight especially if they had once called that settlement their home.

Looking towards the east, their gaze was dominated by the solid Inka fortress just above Cortaderas Bajo (Figure 18). While the core of this fort may be pre-Inka, it is clear that the Inkas enlarged it to its present shape, adding the angular outer walls that give the structure its imposing weight. Interestingly, this curtain-wall flanks the fort only on the side facing Cortaderas Bajo and Cortaderas Alto (i.e., on the west side). The inner structures of the fort remain open to the east, away from Cortaderas Bajo. While the builders of the later, Inka-period addition may have abandoned the task of erecting this wall before its completion, it may also be the case that they never intended to extend the wall to the far side of the fort. After all, there are no settlements on the far side, which means there were less people to impress and intimidate with this well-built fortification wall. In other words, this later Inka-period wall may have been more symbolic than functional.

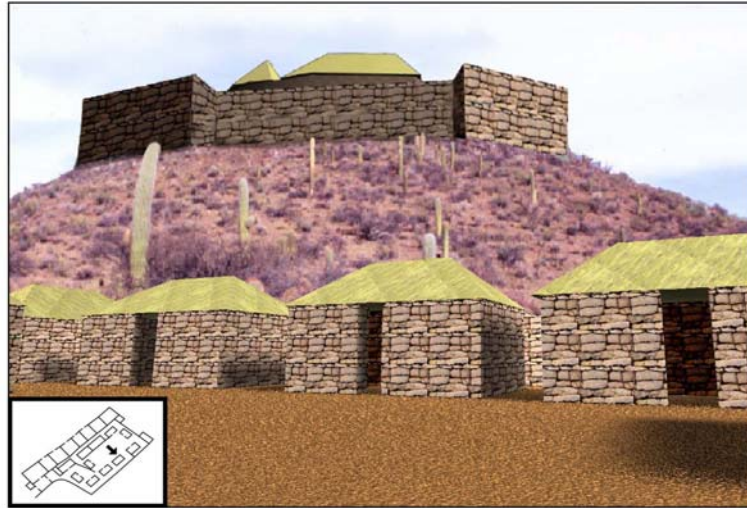


Figure 18: View looking east from the Cortaderas Bajo patio

The arrow in the inset plan shows the direction the viewer is looking as they stand in the patio (i.e., where the computer's virtual camera was set to create this rendering). The image itself shows a number of interior patio structures, the patio wall and the hilltop fort. The curtain wall surrounding the fort does not extend to the far side of the fort.

The sensation of witnessing these views from inside the patio may not have been the only intimidation directed at visitors to Cortaderas Bajo. In hospitality ceremonies conducted by the Inkas for indigenous leaders, visitors would have been typically honored with gifts of fine Inka textiles and gold and silver figurines and been subjected to the corporal effects of Inka beer and food. In short, the Inka hosts would have tried to alter the entire experience of their guests at Cortaderas Bajo. In order to complete the tour Figure 19 presents the view looking south-- that is, in the direction of the patio entrance, where visitors would have seen a number of structures, the patio wall and the open blue sky. This image towards the patio entrance raises the issue of how people would have exited from the patio and what the view would have been like once they emerged to the outside.



Figure 19: View looking south from the Cortaderas Bajo patio

The arrow in the inset plan shows the direction the viewer is looking as they stand in the patio (i.e., where the computer's virtual camera was set to create this rendering). The image itself shows a number of interior patio structures, the patio wall, distant mountain peaks and the wide-open blue sky. The only exit out of this patio can be seen at the left end of the patio wall behind the structure in the middle of the image.

To understand the significance of the route in and out of the patio at Cortaderas Bajo, it helps once again to think in terms of a narrative about the experience visitors must have had trying to exit this patio after participating in an Inka ceremony or feast. The path that leads from the open space in the patio to the patio's only exit follows a circuitous route that twists and turns past three structures and through a number of constricted passageways before finally emerging into open space (Figure 20). In two instances the path squeezes through 1.07m and 1.22m spaces and it even passes through a false exit in a current wall just before reaching the final exit at the most southern end of the patio complex. In short, this exit route is narrow, has very limited views to the outside, and would have given visitors a feeling of being restricted and even claustrophobic.

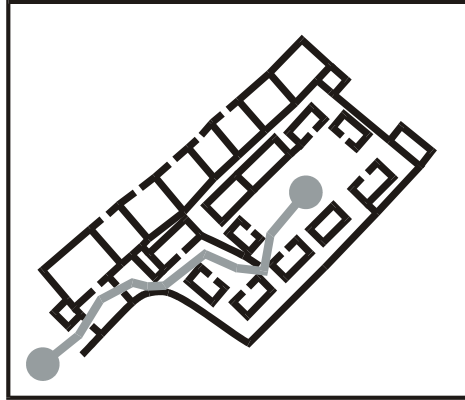


Figure 20: Plan of the patio complex at Cortaderas Bajo with access route

This close up of the patio complex shows (a) the route in and out of the patio and (b) the southern placement of the door to the outside. The entire structure is 55m long by 27m wide. North is towards the top of the plan (refer to Figure 14 for exact meter scale and north arrow).

I argue that this restriction was created by design as a way to prepare people leaving the patio for the moment when they actually emerged to the outside. To begin, it is curious to note the counterintuitive placement of this exit (see Figure 14, above). It is the only opening in and out of the patio compound and it faces south, away from the central plaza lying to the north, away from the fort lying to the east and away from the road passing by to the west. I argue that this door was not placed here coincidentally. Once visitors to the patio emerged through this exit, their panoramic view would have taken in a great deal of the landscape south of the site (Figures 21 and 22). While there is not much to take note of today, in the past the panoramic view from the exit took in a landscape intense with Inka activity: (1) immediately across the river lay an Inka settlement (Cortaderas Izquierdo) that contained two of the largest freestanding structures ever constructed in the Northern Calchaquí Valley; (2) to the left extended a row of Inka storehouses; (4) to the right along the river lay Inka-managed agricultural fields; (4) to the far right lay the likely residences and workshops of an enclave of indigenous workers

toiling under Inka leadership (Cortaderas Derecho); and (5) as many as three Inka roads trisected the horizon, branching out in three directions. I emphasize that this gaze of the colonized landscape would have been experienced differently by foreign and indigenous groups (Schama 1995:6-10). Or, using Jacobs' terms (1996:141), not only did this panoptic view of the surrounding landscape serve to provide a 'monarch-of-all-I-survey' experience for those supporting the Inkas, this same location provided experiences for non-Inka people of a fully constructed Inka landscape-- an experience that may have been overwhelming, especially coming on the heels of the similarly overwhelming experience that had just taken place inside the patio itself.

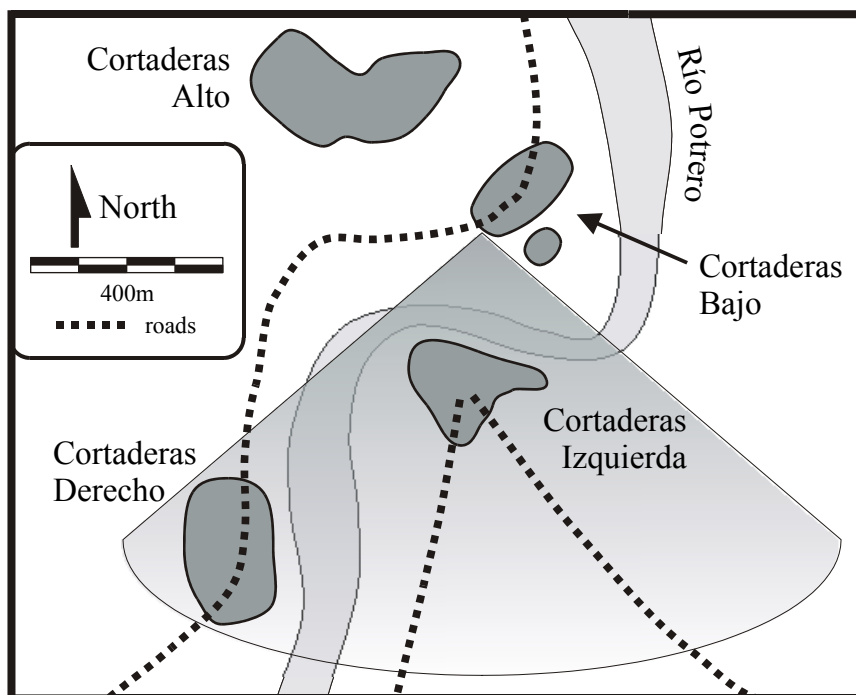


Figure 21: Viewshed from Cortaderas Bajo looking south

A viewshed is the field of vision that covers elements of a scene that are not obscured to the viewer by occluding features. In this illustration, the shaded cone indicates the viewshed from the perspective of the exit at the south end of the patio complex at Cortaderas Bajo. Features that fall in this viewshed include three roads, two settlements and a section of the Río Potrero. See Figure 22 for rendering of this panorama.

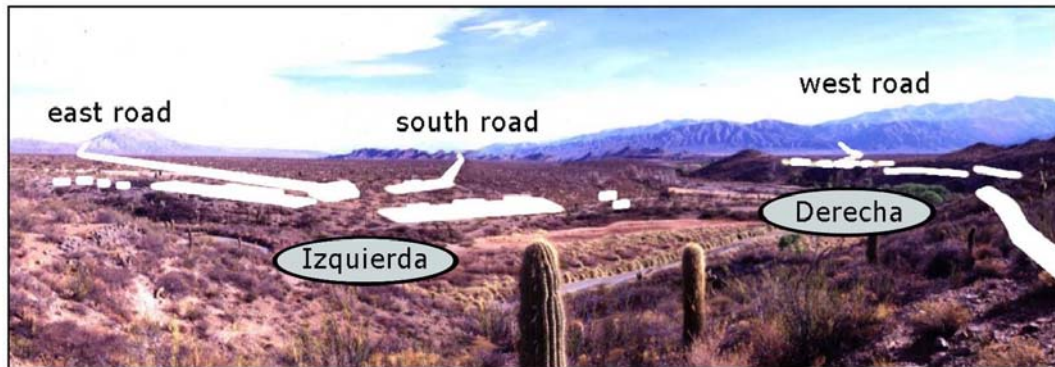


Figure 22: View looking south from the patio exit at Cortaderas Bajo

This image identifies the various features that appear in the viewshed described in Figure 21. It represents the intensity of Inka activity taking place at Cortaderas, which can be seen looking south from the patio exit at Cortaderas Bajo. To prepare the image the major features (i.e., sites and roads) of the constructed landscape were rendered and superimposed onto a photograph of the view of the same landscape taken today.

In sum, based on this reading of how people might have experienced Cortaderas Bajo, I contend that agents of the Inka state manipulated the sensory experience of people passing through their buildings in the Calchaquí Valley through the deliberate framing of their gaze at the landscape. The idea that groups in power somehow control the sensory experiences of subjugated people is by no means new. Based on this empathetic reconstruction of the patio and of the view from the patio exit, it is certainly possible to argue that the Inkas were manipulating the experience of their guests through a type of gaze-control that was focused around this particular place and that involved the conscious framing of the surrounding landscape. This manipulation of sight lines from the view point of this patio would have undoubtedly weighed heavily on the overall experience of any visitor.

By placing our contemporary perceptions in the eyes and body of a visitor to Cortaderas Bajo, it is therefore possible to experience what I call a 'disarming landscape moment'. The Inkas in turn would surely have tried to leverage such moments into

commitments of cooperation and pledges of support from indigenous community leaders. Of course, this account of the intentions of Inka strategies is largely one-sided and I reemphasize that imperialism overall is a messy endeavor-- given both the unpredictability of the responses of indigenous groups as well as the inconsistencies in the intents of the foreigners themselves (Jacobs 1996:13-19). If colonial encounters were potentially unpredictable, then it leaves open the distinct possibility that these particular attempts by the Inkas to manipulate and control perceptions at Cortaderas were, in the end, transparent. The chronicles imply, in fact, that the Inkas had to conquer the Calchaquí Valley twice after losing ground behind Thupa Inca Yupanki's first conquest of the area.

Through this exercise I have attempted to contribute to the dialogue on colonial expansion, which itself stands as one of the central problems in the anthropological study of pre-modern empires. In short, these reconstructions help support the notion that the Inkas were certainly interested in domination vis-à-vis cultural practices. Because ancient empires like the Inka explicitly used symbolism to achieve their expansionist goals, the implication being emphasized here is that expanding powers are just as likely to pursue cultural strategies as they are economic and political strategies. With this assertion I ultimately mean to complement and not contradict the greater corpus of Inka and ancient empires research, which typically seeks to explain how strategies of expansion tend towards resource exploitation, the manipulation of subject labor, and the co-option of indigenous political machinery.

Discussion

As this chapter makes clear, the vestiges of material culture in the study area suggest that a myriad of interactions existed between the colonial agents that came into contact in the Inka period in the Northern Calchaquí Valley. One means of sorting through these interactions is in reference to the three sectors that have been defined for this study: the Main Valley (and Cachi Adentro), La Poma, and the Potrero Valley. In sum, the Inkas associated with these areas differently: in the Main Valley and in Cachi Adentro there was much less of an Inka presence in comparison to the Potrero Valley, and La Poma saw more Inka activity than the Main Valley, but less than Potrero.

The Main Valley and Cachi Adentro

In the southern portion of the study area, where communities in the pre-Inka period were especially concentrated, Inka occupation of the indigenous towns is characterized by the presence of imperial style architecture in small, discrete sectors. The most notable example appears at the site of Guitián, which may have been the second half of a negotiated pair of sites that was established by the Inkas in order to maintain relations with Santamariano leaders living at Puerta de La Paya. The other clearly Inka-related site in the Main Valley proper is RC021, which consists of a string of eight qollqas and three residential structures. This small site, which stands alone along the margins of the Río Calchaquí, is interpreted as small storage depot that may have also been used as a tampu, which was built by indigenous groups under the direction of Inka agents. There is little evidence of Inka activities in the lateral valley of Cachi Adentro, although it would have been a busy place in the late prehispanic periods with agriculturists and pastoralists taking advantage of the fertile soils and direct access to

highland terrain. In sum, the southern end of the study area was densely populated by Santamariano societies whose autonomy persisted as they emulated Inka styles voluntarily and managed to maintain their high levels of subsistence productivity in the upper reaches of Cachi Adentro.

La Poma

There was only a minor Inka presence in La Poma compared to the Main Valley, although relationships involving negotiations were perhaps more prevalent here than in the Main Valley. One reason for this may be linked to the fact that indigenous groups in La Poma were not as isolated as their southern neighbors insofar as polities in La Poma maintained a number of interregional relations prior to the appearance of the Inkas. It is likely, then, that the Santamariano people living in La Poma were themselves familiar with the practice and tenets of interregional negotiations and alliance building that the Inkas employed aggressively in their own expansion. In such a scenario, the appearance in the Inka period of the paired sites of SL005 and Esquina Azul and the hybrid site of SL033 come as no surprise. As for why the Inkas may have been interested in this area at all, it is helpful to note that one of these sites (SL005) is located alongside the breadbasket of Trigal and the other (SL033) is located alongside the busy corridor of the Quebrada de Peñas Blancas, which connects the La Poma area to the western puna.

The Potrero Valley

Of the three sectors in the study area, the Potrero Valley witnessed the most colonial activity in the Inka period. First, there was a significant Inka presence at Cortaderas. Second, after possibly usurping the settlement from a Santamariano community, agents of the Inka state moved into Potrero de Payogasta and built a series of

typical imperial structures that stand out for their forms and techniques of construction, including qollqas, kanchas, and a kallanka. Third, moving further up the valley, the Inkas reused the abandoned site of RP005 and were influential in the design of the hybrid site of RP002. Fourth, the Inkas sponsored the construction of RP200, which sits alongside the Inka road as it enters the Northern Calchaquí Valley from Tastil. As Hyslop documents (1984:172-185), this stretch of road and the small sites beside it exemplify how the Inkas settled periodically in terrain that was entirely vacant. Compared to Cachi Adentro and Trigal in La Poma, the Potrero lands were poor in economic terms as they contained few exploitable natural resources, such as mines of highly valued minerals or rich lands for agriculture and grazing. The indigenous sites that do appear in the Potrero area were hilltop settlements located in strategic positions for defense and for control of routes in and out of the Valley.

At the time of the arrival of the Inkas, therefore, the Potrero Valley seems to have been a frontier landscape in the lives of Santamariano societies. Why did the Inkas establish themselves in such a marginal landscape? Were the Inkas forced to settle in this area, or did they do so by choice? It is possible to discard a number of answers. First, as suggested above, this northern area where the Inkas settled was partly devoid of rich mineral resources, so economic motivations can be partially discounted. Likewise, the agriculture lands near the main Inka sites were not abundantly fertile and water was scarce. In fact, the highest percentage of agriculture lands associated with the more permanent sources of water were (and are) located in the Main Valley to the south near the higher concentrations of indigenous populations. Second, while the Inkas could have controlled one of the northern routes in and out of the valley from their positions in

Potrero, there were many other routes that they could not have controlled from this location, so 'geostrategic' motivations can also be partly discounted.

Instead, the Inkas were perhaps interested in this marginal area because they sought an empty stage on which they hoped to create a distinct Inka landscape full of Inka-designed symbols and meanings. In order to do this in the Northern Calchaquí Valley the Inkas settled in an area in which the elements of the landscape were partly devoid of any associations with other traditions of power. By using this marginal area to build a landscape embedded with the Inka worldview they were trying to re-signify the place for its inhabitants and visitors. In this setting, then, populations who lived in this new landscape as well as visiting groups participating in special ceremonies saw for themselves a new type of environment with different meanings than they had ever experienced before. This can be seen especially at Cortaderas Bajo, where the Inkas sought to tightly control the experience of people who came to visit the settlement.

Having made all these preparations to gain control of Santamariano populations in the area, it remains unclear to what degree the Inkas' attempts were successful, because there are a number of preliminary reasons to suspect that in some sense the Inkas themselves were marginalized. First, the Inka settlements in the Potrero Valley are far enough away from the population centers in Cachi Adentro and La Poma that there simply may not have been all that many Santamariano groups in place to manipulate. Second, given the late date for the incorporation of northwest Argentina into the Inka empire, there simply may not have been enough time for the Inkas to effectively work their state magic. These suspicions would be ideal topics for future research.

After exploring the different types of interactions that were experienced by colonial agents in the Northern Calchaquí Valley in the Inka period it is useless to try to isolate one type of interaction within each of the three sectors that have been defined for this study, because the majority of the interactions appear throughout each area. The fact that colonial relations in the Northern Calchaquí Valley were varied, complex and messy supports the point made in the opening chapters of this work that colonial moments inevitably included intrigue and suspense in terms of a community's willingness to negotiate, resist, or support encroaching groups. It would be a mistake, therefore, to attribute the Inka presence in the area as the unilateral result of initiatives designed and implemented by the Inkas from the point of view of the heartland. It would also be a mistake to assume that Inka settlements in the Northern Calchaquí Valley were seats of domination over indigenous societies. Instead, this analysis of the material record from the inverted perspective of indigenous traditions, histories, and autonomy suggests that the intentions, designs, and efforts of the indigenous communities were also crucial in determining the nature of colonial contact.

Chapter 8 -- Inka Colonial Encounters in the Northern Calchaquí Valley

In this thesis I have tried to present new information about the Inka period in northwest Argentina in the context of current ideas about the wholeness of the colonial process. As outlined in Chapter 1, studies of the Inka empire often produce 'partial texts', or recreations of Inka encounters that portray the actions of potential colonial subjects as wholly contingent on the nature of the Inka advance in the first place. When they are considered, the actions of the people in the provinces are often seen as reactions. Such approaches have contributed important insights into scores of Inka encounters in the Andes, but they have not always captured the entirety of the two-sided moment. The contribution to Inka studies of this thesis, then, is meant to open our scholarly eyes to the other half of the story.

In my portrayals of Inka colonialism in northwest Argentina it would be a mistake, of course, to swing the explanatory pendulum too far in favor of the power of indigenous determination. In this final chapter I therefore try to focus evenhandedly on both sides of the colonial event. As a starting point I take as given that there was a particular point in time when the Inkas came over the figurative (and literal) hill into the Northern Calchaquí Valley. I also assume as academic the fact that the Inkas assumed a number of roles simultaneously during their first encounters with societies in the valley, including those of merchant, soldier, priest, and ally. The particular focus of this thesis is on what happened next. On the one hand, and to echo my colleagues working elsewhere in the Andes, I recognize that the Inkas would have carefully weighed their imperial needs against their assessment of the valley and its human and physical resources. Next,

depending on this assessment, the Inkas would have tried to impose their imperial economy, politics, culture and ideology-- in short, their imperial will on Calchaquí societies. But on the other hand, in the following discussion I allow that the history of colonialism also unfolded according to local attempts and determined efforts to preserve indigenous autonomy. It was in this dynamic context, then, that phenomena like persistence, emulation, hybridity occurred. While this balanced approach is not new in the context of comparative colonial studies, it is relatively novel in Inka studies and permits us to see Inka history in a more complete light.

Overview of Inka Colonial Encounters in the Northern Calchaquí Valley

This section presents a brief overview of the colonial events and encounters in the Northern Calchaquí Valley that occurred around the time the Inkas appeared in northwest Argentina (ca. AD 1471). Following this overview I present a longer discussion that marshals many of the specific findings of this research around the major issues that are woven through this thesis. While this chapter does not repeat in great detail information about the earlier DR period, it does rely on synopses to make points about the persistence and transformation of DR-period life into the Inka period. Establishing such temporal continuity between moments in time and deeper historical trends is crucial, because life-changing processes operate concurrently at different time scales. This understanding of the nestedness of time draws generally from Braudel and archaeologically from Bailey's discussion of Time Perspectivism (see Chapter 4). In Braudel's terms, this account highlights the forces and events that played out in the valley's *l'histoire événementielle*, or medium-term time. These occurrences are perceptible archaeologically in the form of

events like the founding of a settlement, the accumulation of a trash heap, and the creation of a new style of ceramics.

As Chapter 5 makes clear, there were a number of affected actors in the colonial drama that unfolded in the transitional period between the Regional Developments (DR) and Inka periods. First, at one time or another a number of actual ethnic Inkas and loyal agents of the Inka state were located in the valley, specifically at SC065 and SC042. Second, some groups with loose ties to the Inkas were active at a number of smaller sites in the valley (e.g., RP200, SL005). Third, at least one site (SL033) was used by groups working independently of the Inkas that regularly moved in and out the area during the Inka period. On the Santamariano side of the encounter, the sociopolitical scene in the valley was incredibly dynamic by the time the Inkas arrived and as many as 15 contemporary village communities were vying for position and strength in the valley. Some of these indigenous populations were superficially affected by Inka activities (e.g., at RC127, RLP16), others were uprooted (Cortaderas Alto), and still more belie easy explanation, for instance those living and working at RP002 and RC021. As I explain in the following discussion these last sites were the locations for the types of Inka-period colonial encounters and negotiations that lie at the heart of this research.

Properly naming the myriad of societies living in the Calchaquí Valley in the pre-Inka period is difficult because prehispanic valley populations were wiped out or moved away in the Spanish Colonial period. According to ethnohistoric analyses discussed in Chapter 5 a group called the Pulares occupied the greatest portion of the study area in the Northern Calchaquí Valley before, during and after the Inka period. The documents mention that this group accepted Inka expansion and were thus given a privileged

position in the empire. There are currently no known documents that provide details about possible sociopolitical subdivisions within the larger realm of the Pulares. The records are also silent on the question of which ethnic groups moved into the valley with the Inkas, for example as agricultural colonists or craft producers.

The picture that emerges archaeologically of the pre-Inka landscape of the Northern Calchaquí Valley undercuts this image of a single Pular society occupying the area (archaeologists call DR-period societies in the Calchaquí Valleys collectively 'Santamariano', see Chapter 5). Archaeologists have documented significant fragmentation among the pre-Inka populations in the valley and have also noted tracts of vacant space in the landscape that may have buffered discrete polities. By now the names of some of their settlements might be familiar (Esquina Azul, Cortaderas Alto, Borgatta, Las Pailas, RC127), while others less so (Cachi, Corral del Algarrobal, Valdéz). The people that lived in these settlements were surely in contact with each other, conflicting and allying according to the political atmosphere of the time and according to the nature of their relations with other groups in or beyond the valley. Although it seems unlikely that a pan-valley authority in this atmosphere had established power over the whole valley, there are some indications that this pre-Inka patchwork collection of polities fell into three spatially discrete sectors of the valley. While two sectors (La Poma and the Potrero Valley) are clearly defined according to physical features in the landscape, the third sector (the Main Valley) lacks the same definition and only a few sites are available here to fully define the character of the area. Cachi Adentro, which is the largest lateral valley in the Northern Calchaquí Valley, lies to the west of the main trunk of the valley in

the foothills of the Sierra de Cachi. I describe each area briefly before turning to the discussion at the heart of this chapter.

Because of its agricultural potential, La Poma, which falls entirely within the study area, was cultivated aggressively in the late DR period, and its inhabitants also benefited from easy access to the high puna, providing them with ample herding and hunting opportunities. Two of the three sites studied in La Poma fall in the area known as Trigal, which consists of a massive alluvial deposit that was densely occupied in the DR period. While its dependable farm land located so close to the higher altitudes has always made Trigal an attractive place to live, as I discuss below it was minimally affected by the Inkas.

Like La Poma, the Potrero Valley, which also falls entirely within the study area, is well supplied by permanent water, enjoys easy access to high elevation herding territories, and is closely linked to neighboring valleys to the northeast. The Potrero Valley, however, lacks some of the rich natural resources encountered in La Poma: first, although the Río Potrero flows year-round, the valley does not receive as much water annually as La Poma; second, although there are herding areas nearby to the east and north, the valley does not have direct access to the endless territories of the western puna; third, although it has some lands for agriculture, it does not have the same, wide expanses that are available in La Poma. Pre-Inka habitation of the Potrero Valley was subsequently less intensive than what it was in La Poma. As is outlined in Chapter 5, however, the Potrero Valley was actively occupied by the Inka, for instance at sites like SC065 and SC042. The activities of the Inkas in this area in particular are one of main topics of the discussion in the next section.

Because the designation of the Main Valley serves as a catchall category for analysis in this research, and because the area so defined likely held little meaning for the people who lived in its footprint in the past, there is a good chance that a number of independent prehispanic polities thrived within its boundaries. Likewise, it is possible that what I am calling the Main Valley actually transected polities that once extended beyond the study area. Proyecto Arqueológico Calchaquí researchers, for example, have identified one possible polity in the Main Valley centered at the site of Valdéz (D'Altroy *et al.* 2000:6-7). There is also tentative evidence that two pre-Inka polities existed at the far eastern edge of the Main Valley near the modern settlement of Puil and the Quebrada del Río Mollar (see Chapter 5). Next, across from the Puil and Río Mollar communities lies Cachi Adentro, where one researcher is investigating the idea that there are two possible polities centered at the sites of Borgatta and Corral del Algarrobal (DeMarrais 1997), and a third that was likely located at the immense site of Las Pailas. All in all, therefore, there may have been as many as seven or eight independent Santamariano villages in the Main Valley at the end of the pre-Inka period.

The DR period in the area was a dynamic and rapidly changing period, and the societies that met the Inkas in the closing moments of the DR period were enmeshed in a politically complex world in which community leaders would have been veteran military thinkers as well as seasoned negotiators from centuries of regional conflicts and alliance building. This was the scene, then, into which the Inkas arrived in the middle of the 15th century. As the following discussion makes clear, unlike the colonial interactions that developed at large, Inka imperial installations like Tumipampa, Pumpu, and Huánuco Pampa, to a large degree the subsequent negotiations that transpired at the Calchaquí

settlements took place more on local terms. Compared to the meetings that must have taken place at these more well-known Inka centers, the face to face interactions in the Calchaquí were smaller in scale, but were not insignificant in the grand scheme of things. After all, under the right conditions, the inhabitants of these Calchaquí sites would have produced the types of goods and supplied the valuable labor that the Inkas were perpetually seeking. In my research I have therefore tried to look closely at encounters from the perspective of these local societies. Not only does this research angle provide insights into the history of the Calchaquí Valley itself, it also affords a deep understanding of Inka colonial encounters.

Discussion of Inka Colonial Encounters in the Northern Calchaquí Valley

Precocity and Persistence: Santamariano Life as Dynamic and Durable

The patchwork image of the pre-Inka sociopolitical landscape outlined above evokes a reoccurring theme found throughout this thesis that I am referring to as the non-monolithic nature of pre-Inka life in the Northern Calchaquí. A quick illustration of this comes from the ceramic data recovered from ¹⁴C-dated contexts that, from case to case, show weak correlations between type, form, temper, and surface finish. While I bring in a number of other lines of evidence below, the overarching point is simply that the material culture that Santamariano people were using and exchanging in these later periods was incredibly diverse. I take this pattern of variation (or this non-pattern) as a reflection of the equally complex life of the people living in the area at the time of Inka contact. In this section I elaborate on this picture of indigenous societies as entirely dynamic and diverse and argue that it fits nicely with similar conceptions of subject societies that have been documented in social anthropological studies of modern

colonialism. I further consider how the more durable elements of this life persisted into the later period in spite of the threat of Inka colonialism. In short, agents of the Inka state did not encounter a string of monolithic and isolated societies in the Northern Calchaquí Valley, each one prepared to submit to the empire. Instead, these societies were always changing and full of active communities and individuals interested in maneuvering for their own good. It was this history, then, that seemingly prepared them to likewise maneuver with confidence through their encounters with the Inkas.

Before marshaling the evidence that illustrates this point, there are two methodological hazards to reconsider that are intrinsic to this type of pluralistic argument. First, the complexities of the Santamariano material culture obviously create problems in the archaeological identification of Inka traits, because many characteristics of Inka material culture appear in pre-Inka times. For example, while the data from this thesis confirm a predilection for rectified structures on the part of Inka-period builders in the Northern Calchaquí Valley, they also reveal that rectified structures appeared with some regularity in the DR period as more than half of the structures recorded by this study from that period are rectified. Second, in terms of wall binder technique, while this thesis shows that there is an increased chance that the absence of core-fill in a structure means it was constructed in the Inka period, by no means is this rule absolute, because a number of walls at DR-period sites like RC78-83 and SC066 are pirka walls. Third, there are a handful of Inka-like ceramic traits that were part of the ceramic vocabulary of Santamariano societies before the Inkas expanded into the area. In particular, while the use of red slip does increase through time to the point that it is twice as likely to be seen in the Inka period versus the DR period, by no means are red-slipped wares exclusive to

the Inka period. Because the pre-Inka archaeological record includes these Inka-like material elements in the DR period, many of the sites that were actually selected for study for their Inka characteristics are now seen for the most part to date to the DR period (e.g., RC78-83, SC066, RC127, RLP16).

The second repercussion of the complexity and durability of indigenous history is that the Inka-ness of the Inka period is easily obscured. This can be seen, for instance, in the way that most of the Inka sites investigated for this study end up demonstrating a majority of Santamariano characteristics (e.g., SL033, RC021, RP002, SC042). Obviously there are some Inka sites that have more substantial remains (e.g., SC042, SC065), but even their archaeological deposits are thin relative to valley averages. Another way to further appreciate how the culture signatures of Santamariano societies persisted into the Inka period is to consider the example of the short-lived Inka habit of building structure walls without core-fill. Although the penchant for this masonry technique was promoted heavily by Inka-related groups at sites like SC065, when compared to the non-Inka majority of construction in the valley from the Inka period this Inka-preferred technology was overshadowed by the centuries-old masonry habit of using core-fill to hold structure walls together. These points are well supported by the findings presented in Chapter 6 that show that the Inka activities that did occur in the Inka period were negligible to the point of leaving only ephemeral remains at the study sites.

Interregionalism

The physical imprint of different Inka-like traits in the material remains of pre-Inka life opens up the possibility that this pre-Inka life also included some of the dynamic cultural and social phenomena that the Inkas are thought to have introduced writ large.

For instance, long before the appearance of the Inkas there is evidence of strong traditions of interregionalism, particular types of hospitality events representing a history of dynamic sociopolitics, and specialized and developed uses of the landscape. I consider here the first of these-- that is, the precocity of wide-ranging networks that linked the valley to areas across the South Andes. While these networks were surely supported by basic economic forces, such as the demand and supply of goods that were differentially available throughout the region, they would have also been motivated by social and political forces such as the desire to connect and perhaps intermarry with different societies. These networks of relations between South Andean societies were so strong before the Inkas attempted to introduce their own systems of exchange and dependence that their effects are thought to have been felt down to the most mundane and common aspects of people's lives (Krapovickas 1984, Pollard 1984). I consider here the clearest evidence for interregionalism in the study area, which comes from the DR-period sites RC78-83 and SC066.

The data that support the DR-period designation of RC78-83 include the classic Santamariano urn burial discussed in Chapter 5, the presence of Santamariano architectural features (i.e., upright stones, irregularly shaped structures, consistently thicker walls), and the overall plan of the site, which is dominated by large patios with smaller enclosures built against the inside walls. The location of Trigal along the extreme northern boundary of the Santamariano cultural sphere afforded the inhabitants of RC78-83 ample opportunity to interact with groups that lay beyond the valley to the north. These extra-valley connections are reflected at the site in a number of material ways. First, decorated ceramic pieces were recovered that have clear connections to the

Quebradas de Toro and Humahuaca. Second, the defensive wall surrounding the site, which has four semi-circular turrets spaced evenly along the defensive wall, is more similar to circuit walls in the Quebrada de Toro (e.g., Puerta de Zenta) than to walls in the Northern Calchaquí Valley. Third, there is a high occurrence of camelid-based activities at RC78-83 as reflected in the densities of camelid bones and the presence of corrals at the site. This abundance of camelid remains reflects consumption as well as an involvement in the transportation and exchange of cargo via caravans. One element of the built environment of RC78-83 reconfirms this idea that the people who once lived at this site supported herds of animals that may have been used in long-distance caravans. Namely, a well-built corral lies within meters of the central plaza of the site, just to the west of the settlement's circuit wall. That RC78-83 was connected to other societies outside of the valley does not mean that they were not more familiar with and loyal to their Santamariano neighbors located to the south in the Main Valley. In fact, most of their behaviors reflect their Santamariano origins. The point is that this mobility and the maintenance of extra-valley connections by La Poma groups exemplify a predilection for interregionalism on the part of local societies long before the Inkas appeared trying to sell themselves as uniquely cosmopolitan.

The next site to consider is SC066, which is one of the two study sites that lie in the Quebrada del Río Mollar at the eastern margin of the Main Valley. Specifically, this site lies on the edge of the vast plain of Tin-Tin, which is on the outside edge of the range of low mountains bordering the Calchaquí Valley on the east. SC066 contains two large corrals and one small enclosure, which was likely used for shelter and domestic purposes. According to the chronological data presented in Chapter 4 the site was established in the

DR period and then possibly reused in the Inka period. The affiliation data recovered at this site do not contradict these findings. The ceramic types are strictly Santamariano with no exotic types present, and the architectural details evoke Santamariano building traditions. The use of the site as a corral and possible staging area for travelers crossing Tin Tin and the foothills between the Calchaquí and Lerma Valleys does not suggest any particularly affiliated group, although the plan of the site is extremely similar to sites built by Santamariano groups in the Lerma Valley.

I argue in Chapter 5, therefore, that the builders and original occupants of SC066 belonged to a Santamariano society that possibly maintained relations with groups in the Lerma Valley. According to Lorandi's and her colleagues' ethnohistorical analyses (Lorandi 1988, Lorandi and Boixadós 1987-88, Lorandi and Bunter 1990), the inhabitants of the Lerma Valley were closely connected to groups in the study area, so this archaeological evidence makes sense. There is also the likelihood that the site was used in the Inka period, although not necessarily by Inkas or Inka-related groups. Because of its location along a major eastern route in and out of the valley, therefore, SC066 speaks to a certain amount of interregionalism in the earlier period, which saw the movement of people and things over great distance. Again, this point about interregionalism is one of the central themes introduced in Chapter 1 and that appears repeatedly in this research. To reiterate, I suggest that indigenous societies were already intimately familiar with the economy and habit of long distance trade and the migrations of communities across the region. This point is significant insofar as it offsets claims that the Inkas were able to manipulate indigenous societies based on their own monopoly of these types of activities and the introduction of them as novel into the lives of indigenous communities.

Sociopolitical Dynamics

Another characteristic of what it meant to be Santamariano concerns the experience local societies had in negotiating dynamic sociopolitical situations. Returning to RC78-83, a number of aspects of this settlement reflect the type of historical turbulence that would have sharpened the skills local leaders would later use in their interactions with the Inkas. First, both halves of RC78-83 show a concern for defense (RC083 because of its isolated position on a cliff ledge and RC078 because of its well-made defensive wall). Second, the only gate in the site's perimeter wall was blocked by a midden with reverse stratigraphy that was rapidly formed out of the remains of the settlement itself. One possibility is that the inhabitants of one of the other Trigal sites (El Candado or Esquina Azul) pillaged this site, jettisoning the trash through the gate. Examples like this of the rise and fall of valley polities, and of the constantly shifting political scene support the notion that the indigenous groups that later encountered the Inkas were themselves, plural, diverse and experienced at negotiating their own fates.

The classic DR-period site RC127 also illustrates that Santamariano societies must have had long-term experiences in maneuvering through a constantly shifting political landscape. To review, the affiliation data from RC127 clearly support this DR-period assessment: the ceramics from excavations at the site fall exclusively into Santamariano categories, the few Inka-period sherds that were found lay on the surface, and the irregularly-shaped structures and cellular planning is consistently indigenous. Similar to the people living at RC78-83, the inhabitants of RC127 were also concerned for their safety. The site sits on a hill between the foot of the steep mountains that rise to the west and the edge of fertile alluvial fan that runs out from the site towards the east.

Not only does the site's location perched on a hill provide it with some security, a tremendously thick circuit wall protects the site on all sides.

Despite its secluded position, RC127 would have been well provisioned by the permanent water of the nearby Río Palermo and by the rich agricultural lands spread out below the site. In fact, a massive network of canals, many of which are ancient, still distributes water to every corner of the Palermo area. There are also three well-built corrals facing the mountains at the western tip of the RC127, which would have allowed the community's drovers easy access to high-elevation grazing areas. Interestingly, the excavations performed at RC127 revealed some of the higher percentages of feasting paraphernalia seen across the study area. Internally, the site contains five plazas that can be accessed easily from a number of directions, suggesting that many of the site's inhabitants could participate in whatever activities were taking place in these plazas. The largest of these plazas also rests on the highest point inside the site and is in plain view from nearly every corner of the village. These ceramic and spatial data support the notion that participation in ceremonies may not have been restricted to a few individuals at this community.

In sum, the Santamariano inhabitants of RC127 were deeply interested in communal security and maintained direct access to rich agricultural lands to the east and herding areas to the west. A good percentage of them shared in open community events, perhaps participating in large ceremonies. This depiction of an active ceremonial life in the DR period allows that a model of Inka colonial manipulation and dominance (whereby the Inkas obliged indigenous leaders through gifts and feasting) may not have been deployed in one-sided ways to automatically ensnare Santamariano people in webs

of Inka debt. Instead, evidence from sites like RC127 now suggests that indigenous people, who could draw easily from rich local resources, may have been just as adroit at the political games typically associated with the Inkas.

Persistence

Looking now towards the Inka period, the precocity of the cultural and social phenomena seen at pre-Inka sites like RC78-83 and RC127 portends their persistence into the Inka period. In other words, not only is it possible to see Inka-like traits extend back in time, there are also a number of indelible, DR-period traits that extend forward into the Inka period. A quick illustration of this comes from the ceramic data discussed in Chapter 7 that show that Santamariano societies in the valley may have resisted Inka advances vis-à-vis the persistent practice of indigenous ceremonial activities into the Inka period. In fact, by the heyday of the Inka period no single community in the valley-- whether it included actually Inkas, people working on behalf of the Inkas, or people living in independent local communities-- had a monopoly on feasting as a political maneuver in this late prehispanic period. This would mean, then, that when the Inkas did establish themselves in the valley, they did not monopolize serving and feasting as might be expected. The appearance of the Inkas may well have been likened to the arrival of any other foreign group that had crisscrossed the area in the centuries before the Inka period. The idea here is that this and other lines of evidence that are discussed below reveal that some of the sociopolitical systems and relations that defined who these groups were and how they related continued uninterrupted in the face of Inka colonialism. Two examples of such locally-directed institutions that persisted into the Inka period come from RLP16 (concerning agriculture) and SL033 (concerning animal husbandry).

According to the chronological and affiliation data presented in Chapters 4 and 5, RLP16 was occupied in the DR period and was reused in the Inka period. In short, while the ceramic material recovered in the excavations falls squarely into Santamariano categories, and while many of the surface enclosures are also consistent with Santamariano building traditions, there is evidence in some of the surface architecture for rebuilding and repair in the Inka period. A number of large trash mounds and well-built platforms at the site suggest that the DR-period occupation was spread over the long term. The large circuit wall that surrounds the site also suggest some permanency of life here, as does the site's association with the agricultural terraces north of the site and with the massive agricultural facility of Las Pailas to the west. Although the deteriorated state of the ceramic material recovered at the site make it difficult to ascertain with certainty the agricultural orientation of RLP16, lithic artifacts were recovered that suggesting the presence of composite tools used in agriculture. A handful of grinding stones were also noted on the surface of this site, which further supports the idea that RLP16 was involved in agricultural production.

As for the nature of the reuse of the site in the Inka period, it seems likely that Inka-period activities were performed by Santamariano groups working independently. Based on the absolute lack of Inka ceramics at the site as well as the paucity of Inka material culture in this lateral valley I also argue, by extension, that the breadbasket that was Cachi Adentro remained under the control of Santamariano polities in the Inka period. In fact, given their isolated and well-defended position in this valley, the RLP16 inhabitants would have enjoyed a good deal of latitude in conducting these agriculture activities despite the presence of the Inkas in the Potrero Valley.

In considering Inka-period agricultural activities in general across the entire valley, there is one other observation to make that I strongly believe is crucial in understanding to what degree the Inkas coaxed their way into valley life. Before the Inkas arrived in the valley three of the outstanding agricultural centers in the area were located at Las Pailas in Cachi Adentro, Palermo in the Main Valley, and Trigal in La Poma. All three areas were intensively farmed and exhibited advanced systems of irrigation. Interestingly, in the following period the Inkas did not establish much of a presence in any of these areas as they were completely absent from Las Pailas and were only marginally present at Palermo and Trigal. In other areas of the empire, for instance in central Peru, this hands-off approach would be interpreted as an example of indirect or hegemonic rule. In the case at hand, I argue that this is an example of a different scenario in which the Inkas are moving onto less productive lands (in this case in Potrero) while hoping and planning to gain entrance into these richer breadbaskets given the right circumstances.

The second site to consider in regard to persistence is the La Poma site SL033, which is located in a well-traveled lateral valley (Quebrada de Las Peñas Blancas) connecting the Northern Calchaquí Valley with the western puna. Establishing the timing of any human activity in this Quebrada is difficult since it has been used and occupied constantly since the beginning of prehistory. According to the chronological data presented in Chapter 4, however, I argue that SL033 was established in the Inka period by indigenous groups that did not necessarily maintain loyalties to the Inkas-- that is, aside from some late-period architecture and ceramic remains, everything about this site speaks of Santamariano influences. Only a limited number of activities could have

been conducted at SL033 and it is unlikely that the site was permanently occupied. It is possible to discount agricultural use, because planting would have been difficult in this rocky and narrow quebrada. There are also no storage structures that might have held grain or other food stuffs, and there are few or no permanent residences at the site as the four structures that might be interpreted as residential are too small to be habitable for any great length of time. There are also no trash mounds to speak of and the excavated cultural deposits were extremely thin, suggesting light occupation. Instead, the site contains a series of open corrals or patios that could have easily been used to pen and secure large herds of animals that were brought to the area seasonally to graze in the mountains, or that were perhaps part of caravans passing through the quebrada. This site is interpreted, therefore, as a type of non-Inka tampu that would have served a number of functions associated with camelid herding and the transportation of material in and out of the Northern Calchaquí Valley. SL033 exemplifies, then, the persistence into the Inka period of indigenous exchange networks and interregional systems of interaction that typified pre-Inka life at sites like RC78-83.

For a number of reasons the significance of persistence for studying Inka colonialism is not at all minor. First, although they were surely constrained in different ways by the Inkas, indigenous societies retained some power to sustain and shape their own lives up to and beyond contact with the Inka state. Seen in this way, it is likely that the presence of the Inkas was a subtle interlude in the persistent and durable history of Santamariano life in the valley. Second, it is possible now to argue for a certain degree of corroboration between this image of persistence and the ethnohistorical evidence suggesting that the Pular groups in the area allied themselves with the Inkas to create a

privileged position in the empire. Third, indigenous persistence explains quite clearly now why there are so few pure Inka artifacts in the study area. It would seem, in other words, that the Inkas had a hard time penetrating areas like Cachi Adentro and were forced to set up camp in less ideal locations like the Potrero Valley. These types of findings tend to undermine archaeological approaches that look exclusively for Inka sites, contexts, and material cultural, and thus afford a perspective from the local level where life was informed by hundreds of years of local history. In short, most of the settlements in the study area would have been places where people lived and persisted in their diverse daily activities-- where they met their neighbors from near and far, where they stored their possessions, managed subsistence industries, and otherwise behaved in all the peculiar ways that humans do.

Inka Imperial Success in the Potrero Valley

Having made the case for indigenous persistence in the Calchaquí, I now offer this significant qualification. The point of this discussion has not been to argue that the Inkas were tentative in their handling of the Santamariano populations in the Northern Calchaquí Valley or that they failed in their efforts throughout. Instead, there are clear indications that the Inkas were aggressive in their attempts to interject themselves in the valley and, in places like the Potrero Valley, they succeeded. So, it is not surprising that there is evidence for coercive relations in this important valley at sites like Cortaderas Bajo, where the Inkas sought to manipulate their relations with Santamariano groups, leveraging an advantage they felt they held in the area. These manipulations, which are described in detail in Chapter 7, may have ultimately caused the possible conflicts that came to pass at Potrero de Payogasta, where the Inkas took over most of the

Santamariano settlement. In this section I discuss clear evidence for Inka domination in the Potrero Valley as well as examples of Inka activities that were less-coercive at the smaller settlements of RP200 and RC021.

Cortaderas Bajo is described throughout this thesis as one of the more complex sites investigated by this study. According to the chronology and affiliation data presented in Chapters 4 and 5, SC065 was occupied if not by actual Inkas than by agents working on their behalf. The architecture and planning of SC065 are some of the purest examples of Inka material culture documented in the Northern Calchaquí Valley-- there are no upright stones in the basal courses of the walls, the great majority of the structures are rectangular, and the walls are predominantly very thin. The site shares similarities (although at a smaller scale) with other well-known Inka sites in the South Andes, for instance Chuquiago de Suipacha in southern Bolivia and Hualfin, Shincal, and Watungasta in Catamarca. As discussed in Chapter 6, several researchers have identified SC065 as an Inka tampu, a fortress that housed a garrison of the Inka army, and a strategic outpost from which the Inkas surveyed and controlled the Calchaquí Valley. Excavations conducted by members of the Proyecto Arqueológico Calchaquí also revealed features in one structure at the site that suggest that some of the buildings were used by the Inka state to house travelers and to store material or food (Acuto 1994, D'Altroy *et al.* 2000:10).

To understand Inka colonialism at this location, it is helpful first to consider SC065 in the context of the greater network of settlements that existed at Cortaderas. Altogether, there are four settlements at Cortaderas spread over 26 hectares. In addition to Cortaderas Bajo, there is an indigenous, pre-Inka fortified town set atop a 250m-tall

hill (Cortaderas Alto), an Inka-period community that was possibly home to re-settled Inka laborers (Cortaderas Derecho), and an Inka industrial sector with a series of storage structures, corrals and two immense multi-purpose enclosures (Cortaderas Izquierdo). The likely occupational sequence of these four settlements begins in the DR period, when a population of Santamariano people settled at Cortaderas Alto. Based on excavations conducted at the site in 1995 that revealed a household burial with multiple interments, it seems likely that Cortaderas Alto was occupied for a number of generations before the Inka appeared in the valley. The defensive posture of the site's inhabitants, therefore, was most likely a response to threats posed by regional societies in the DR period and not by the Inkas.

It is not clear exactly when Cortaderas Alto was abandoned; however, there is some evidence that it was occupied into the beginning of the Inka period. First, four structures lie at the northwest end of the site that are identical in form and construction to the Inka buildings at SC065 and not at all like the rest of the structures at Cortaderas Alto. Second, the 1995 excavations also revealed that one of the two plazas at the site was created late in the occupational sequence of the settlement, since the remains of houses that were leveled in the plaza's construction were found beneath the fill used to create the plaza surface. This plaza is unique in the context of the site in that its layout and a small enclosure in the middle of the plaza also evoke Inka-period influences. The layout is Inka-like insofar as there are four distinct points of access into the plaza distributed roughly in the four cardinal directions, which is a standard signature of Inka planning. Located in the center of the plaza is a small rectangular structure made from large stones that enclose an even larger boulder standing on end. Excavations would

clarify whether this enclosure is a rustic version of an Inka shrine or sanctuary of the type documented throughout the central Andes. For the time being, these pieces of evidence support the basic idea that Cortaderas Alto was occupied at least briefly into the Inka period.

In 1995 investigators on the Proyecto Arqueológico Calchaquí also noted a number of sharp breaches in the fortification wall that surrounds Cortaderas Alto, which are distinct from the wider openings in the wall indicative of decades of erosion and collapse. Assuming that these breaches suggest an instance of conflict in the prehistory of the settlement, that same conflict may mark the end of the Santamariano occupation of the site, because many of the breaches were never repaired. This abandonment scenario is conjectural and needs further investigation before it can be accepted with any assurance. What remains certain, however, is the interesting fact that the abandonment of Cortaderas Alto corresponds with the apparent founding of Cortaderas Derecho, which lies below Cortaderas Alto to the south on the west bank of the Río Potrero. Acuto (2002) has recovered evidence for a short-lived, intensive occupation by non-Inka agricultural workers during the Inka period at this site and, until the geographical and ethnic origins of these workers are determined, for instance through osteological or artifact analysis, it is tempting to think that they came from Cortaderas Alto after being forced from the hill by the Inkas. Alternatively, the site may have been a settlement for labor colonists, or mitmaqkuna, who were brought to the valley by the Inkas. While Lorandi (1983, 1991) finds a good deal of evidence in the historical documents for the movement of mitmaqkuna into the South Andes, and even describes one account that places Peruvian groups from the province of the Canas in the Calchaquí, for the moment

there is no archaeological evidence in the Northern Calchaquí Valley for this Inka practice.

In terms of the origins of the inhabitants of the other Cortaderas sectors, as is argued throughout this thesis, Cortaderas Bajo was most likely an Inka administrative center occupied by Inkas and Inka-related personnel. Not only does the site contain some of the most consistent examples of Inka architecture in the valley, it is also bisected by the Inka road. There is also a clear mix of secluded residential structures and accessible public buildings that suggest a typical seat of Inka colonial administration. Cortaderas Izquierdo, then, would have served to store and supply resources for the area and to generally support the activities taking place at SC065 and Cortaderas Derecho. Finally, the nature of Inka colonialism at SC065 is best exemplified by the information presented in detail in Chapter 7, where it is argued that one way in which personnel of the Inka state attempted to control valley societies was through the conscious manipulation of the sensory experiences people had at the site. According to an analysis of 3D computer models of one of the structures at SC065, the Inkas apparently used architecture to construct and frame the Potrero Valley landscape in such a way as to apply coercive pressure in their relations with Santamariano groups. The structure in question is a large open patio that contains twelve freestanding buildings, and it was here that the Inkas tried to leverage a strategic or symbolical advantage they felt they held in the area.

The next Potrero site to review that demonstrates the success of the Inkas in this corner of the study area is Potrero de Payogasta (SC042), which lies 7km north of SC065. Like SC065, Potrero de Payogasta is closely associated with the Inkas and speaks volumes of their colonial activities in the valley. As this thesis argues, SC042 was

initially a Regional Developments site that was later inhabited by the Inkas. This assessment about the timing of occupation is based on a number of lines of evidence: first, a pair of radiocarbon dates were recovered from excavations at Potrero de Payogasta in 1990 that predate the Inkas by as much as 200 years; second, the 1990 excavations revealed structures covered in a burnt layer and built over by Inka architecture; and third, the site contains a mix of Inka and Santamariano architecture. It is likely, then, that SC042 was the setting for actual face-to-face meetings between Inka and Santamariano groups at the onset of the Inka period. As for the nature of their encounter, it is possible to speculate that the burnt layer between the earlier and later occupations suggests that there was either a violent aspect to the encounter or that the Inkas leveled and cleared the site after they had moved in peacefully. In either scenario, the Inkas would have had to establish control over the interactions and the indigenous groups themselves that lived at the site and in the area. The best comparative example from elsewhere in northwest Argentina of this type of coercive encounter can be found at Los Amarillos in the Quebrada de Humahuaca, where Nielsen (1995) has documented similar types of interactions. While these types of colonial encounter evoke many of the coercive and violent relationships the Inkas entered into in other regions in the Andes, in the case of the Northern Calchaquí Valley it seems that this brand of colonialism was isolated to the Potrero Valley and did not extend south into the heart of the valley or north into the La Poma area.

On a much smaller scale is also possible to see the Inkas at work at RP200, which is located near the headwaters of the Río Potrero 7km north of SC042. According to the chronological data presented in Chapter 4 this small site was occupied in the Inka period.

While the few ceramic data available are silent regarding the possible affiliations of the site's inhabitants, the architecture suggests Inka origins (see Chapter 5). The site, which consists of a ring of four small enclosures and a nearby corral, was the likely home to a small family in the Inka period that tended the nearby agricultural fields and maintained the intake point of the irrigation canal that lies just below the site. This canal, which hugs the steep banks of the river until it reaches the surface of the first river terrace nearly 1000m downstream, feeds a number of large agricultural fields. Unfortunately, excavations at RP200 recovered minor amounts of artifacts from paper-thin deposits. Because of the residential nature of this site, this shallowness is interrupted to mean that RP200 was not occupied for any great length of time. In short, then, this small site was established during the Inka period in a valley that was generally overtaken by the Inkas. It was inhabited by an indigenous or resettled group for the purpose of managing the nearby canal and its intake that supplied water to fields and settlements downstream. This site could have served secondarily as a way-station for travelers as they moved in and out of the valley along the nearby Inka road. All these features of RP200 (the corral, the canal, the way-station) reflect the basic types of activities that the Inkas are known to have promoted and sponsored in areas they controlled. In this regard, RP200 is a small, but classic Inka outpost.

If there is one important feature missing from RP200 it is a collection of Inka storage structures. Such structures, however, exist quite clearly at the Inka-related site of RC021, which lies on the banks of the Río Calchaquí at the mouth of the Río Potrero. According to the chronological data presented in Chapter 4, RC021 was occupied exclusively in the Inka period. While the affiliation data presented in Chapter 5 mostly

confirm this date, they are also somewhat equivocal. First, while the exotic ceramic fragments found at the site come in traditional Inka forms, they are entirely void of Inka surface designs. Second, the architectural data are likewise a mix of Inka and non-Inka traits. The walls, for instance, do not have upright stones and the size, roundness, and alignment of the majority of structures suggest an Inka installation of qollqas. However, the walls average nearly 1m in width and are uniformly core-filled, which are typical of Santamariano builders.

The three test-pit excavations performed at this site revealed extremely thin cultural deposits, which supports the idea that this site was occupied for a short period of time in the Inka period. There is no central place or plaza at the site and all eleven structures are small enough to assume that they were roofed at one point. These points can be read to mean that there was little interest at this site for public activities. The ceramic data support this observation, because there is a low occurrence of open ceramic vessels and a high occurrence of closed-mouthed forms. These patterns are consistent with the architectural signs that this site was predominantly a storage facility. While the structures may have been used to hold agricultural products coming off the fields that line the natural terraces up and down the river, it is also likely that they may have been used to store materials that were being transported through the valley. This idea is supported by the presence of exotic ceramic vessels at the site. In sum, I argue that the inhabitants of RC021, who would have lived in the three rectangular structures flanking the eight qollqas, were wrapped up in Inka activities in the valley, but were not themselves Inkas. In this scenario, they may have been a small community of workers placed on the river in

order to cultivate, produce and supply food resources to traveling Inkas or to Inka groups living in the nearby Potrero Valley.

Between Persistence and Domination: Emulation and Hybridity

Having now made the case for both indigenous persistence and outright Inka success in the Calchaquí, I now offer a further qualification. The point of the discussion thus far has not been to reduce Inka colonial encounters in the Northern Calchaquí Valley into the binary categories of persistence and domination. Instead, because the impact of colonialism is filtered through processes like emulation and hybridization, the ultimate goal of this research has been to understand how and why the different interest groups interacted in the manner that they did. Conceiving of colonial interactions along these more variegated lines expands the discussion beyond the binary scenario of dominant foreigners encountering resistant indigenes, and such is the logic behind the discussion presented in this section. Broadly speaking, some interactions in the study area were more conflicted compared to others that were more cooperative, and there is a great deal of subtlety in each of the categories as well. On the conflicted side were the relationships that are discussed above involving outright conflict, resistance, and persistence. On the cooperative side were the relationships of emulation and hybridization, both of which imply some sort of negotiation. These are briefly reconsidered here.

Emulation

Emulation can be seen archaeologically in the way that some Santamariano communities mimicked Inka material culture traditions. In particular this can be seen at Puerta de La Paya, where Santamariano communities mimicked Inka architecture in the construction of the Casa Morada and duplicated Inka ceramics in the production of the

Inka Paya ceramic style. As a reminder, La Paya and its neighbor Guitián are two important Inka-period archaeological sites lying south of the study area, which have been discussed throughout this thesis. These settlements were at the center of a Santamariano polity that ruled over much of the central valley. The Casa Morada is striking insofar as it is an Inka-styled kallanka built in the middle of a large Santamariano site. González (1982:327) describes it as the home of an indigenous lord or chief that ruled over this settlement and the surrounding area during the Inka period.

The presence of Puerta de La Paya and Guitián just south of the study area evokes the discussion presented in Chapter 2 about the likely location of the border between the reputed Inka provinces of Chicoana and Quire-Quire in Argentina. According to historical documents at least two indigenous societies that interacted with the Inkas lived in the area of the Calchaquí Valley. While a more northern group (the Pulares) accepted Inka rule, a group living in the central valley (the Calchaquíes) resisted their advances. González (1982) makes the observation that Inkas, who divided the Northern and Southern Calchaquí Valleys into separate provinces (Chicoana to the north, Quire-Quire to the south), may have done so in an effort to keep these indigenous societies apart. The boundary between these societies would have likely passed through the modern town of Seclantás, which lies south of La Paya.

The same historical accounts speak of conflict between these valley societies, which provides some historical context to the defensive architecture protecting many of the pre-Inka sites recorded by this project (e.g., RLP16, RC127, SC065, RC78-83). It is possible, then, that Pular communities in the north of the valley were accustomed to protecting themselves against attacks from other groups in the valley (e.g., the

Calchaquíes), and that these same fortifications fell into disuse when the Pulares allied with the Inkas. In any case, regardless of the location of the border between these societies and the nature of their relations, a distinct conclusion can be drawn from these historical accounts. Namely, the claim that independent societies in the valley interacted differently with the Inkas supports a central notion of this work that even potential subject societies that were similar in the eyes of foreigners acted according to their own designs in their encounters with the Inkas and, in so doing, managed to create different destinies for themselves.

Hybridity

Inka and Santamariano groups in the valley also entered into relationship of negotiation wherein mutual interests would have been pursued that resulted in the hybridization of cultural forms. Historically in moments of colonial contact as well as transmigration, material culture can change shape and form, but not always towards the foreign or dominant standard. Instead, things can change into something entirely new. This type of interaction is especially evident in the paired sites discussed in Chapter 7, including study site SL005 (outside Esquina Azul). The basic point about this type of site is that, at such a great distance from the heartland, there is little reason to suspect that the Inkas did not engage the collaborating leaders of some groups as cohorts, thus entering into relationships that were beneficial to all parties. In the Northern Calchaquí Valley this cooperation accelerated to a point where the differences between Inka and Santamariano material culture blurred. An example of this negotiated relation can be seen at SL005, while hybridization can be seen especially at the enigmatic site RP002. These are considered in order.

The La Poma site SL005 lies less than 2km west of RC78-83 on the edge of the same terrace overlooking the Trigal fields from the north. Like its neighbor, SL005 would have benefited from its proximity to Trigal and the production of food stuffs that came off its verdant fields. The layout of SL005, which includes a number of modest rectangular enclosures, larger open patios, and a handful of qollqas, suggests the settlement supported a residential community. According to the chronological data presented in Chapter 4 this site was occupied in the Inka period. While the ceramic data collected at the site offer little information about the affiliation of the site's inhabitants, the architectural data suggest a connection with the Inkas (e.g., no upright stones in the base of the structure walls and more than half the structures are rectangular). The settlement's plan, which includes small rectangular kallankas arranged around two plazas, also supports this Inka association.

While I argue that SL005 was inhabited by people who were related to the Inka state, in Chapter 5 I make the case that these individuals were not actual ethnic Inkas. This argument is based on the lack of Inka ceramics at the site, the smallness of the settlement, and the fact that the planning and execution of the Inka-like architecture is a far cry from the architecture and masonry seen, for instance, at SC065. Instead, the existence of SL005 depended on the inhabitants living within the walls of Esquina Azul proper, which is the massive Santamariano settlement located nearby. In turn, the SL005 inhabitants may have provided food and lodging for agents traveling on behalf of the empire or for actual Inkas.

In Chapter 7 this paired arrangement of SL005 and Esquina Azul is presented as an example of colonial negotiation and cooperation. However, it is difficult to recreate

archaeologically the exact circumstances by which the Inkas were able to place a small community here in order to interact with the community that lived in the larger indigenous settlement. Considering the Inka-related nature of SL005 and considering traditional models that assume that the Inkas would have been keen on feasting indigenous people, there are low occurrences of ceramic evidence for feasting at SL005. It is possible that such remains might be found within the main settlement itself, which would indicate that the Inkas assumed the role of guests as they attempted to ensnare the people of Esquina Azul into a web of obligation with their gifts. If this were the case (and excavations in Esquina Azul would bear this out one way or another), then it is possible to suggest that the tables might have been turned in the other direction, meaning that it was locals with all their locally-based resources-- and not the Inkas-- that were trying to manipulate the encounter.

The next site to review (RP002) reflects the material expression of hybridity that results from a negotiated relationship like the one seen at Trigal. According to the chronological data presented in Chapter 4, RP002 was occupied in the DR and Inka periods. Unfortunately, the affiliation data from Chapter 5 are equivocal and do not immediately support the site's chronology one way or another. Among the few ceramic remains recovered, the identifiable types are Santamariano, with no Inka or exotic types present. In turn, the architecture and planning data reflect both indigenous and Inka influences. The Santamariano features include buildings that are irregularly shaped and open patios with internal auxiliary structures. The Inka-related features include a neat row of small platforms placed in the middle of the central patio, a pair of larger platforms standing on opposite sides of the site's main access, and a structure consisting of a small

stone platform placed on a larger earthen mound. These multiple platforms and their alignments relative to the Inka road suggest Inka planning, which is why I argue in Chapter 5 that this DR-period site saw substantial activity and rebuilding in the Inka period.

The mixing of Calchaquí groups and Inka agents at RP002 went beyond the syncretistic incorporation of one by the other and created hybrid cultural forms that blended and fused aspects of their different traditions. There is no evidence that this cultural mixing at RP002 occurred under duress; in fact, the site's plan and layout suggest a high degree of community gathering and collective activity. The site is located at the top of a natural amphitheater in the hillside and this depression is accentuated by the site's structures, which lie in a U-shape on the ridge surrounding the center of the site. All of this would have created a dramatic entrance to the settlement and an ideal, large space to gather in the center of the natural amphitheater. There are no fortification walls enclosing the site and the hill is too small to afford protection. In sum, the colonial interactions that took place here were potentially peaceful and possibly mutually determined.

Conclusion

Of the three valley sectors investigated by this project, then, the Potrero Valley area witnessed the most significant Inka colonial activity. First, after forcing an indigenous community to abandon Cortaderas Alto, the Inkas established a significant presence at Cortaderas. Second, further upstream the Inkas possibly usurped the settlement of Potrero de Payogasta from a Santamariano community and built a series of typical imperial structures including qollqas, kanchas, an usnu, and a kallanka. Third, the

Inkas and their personnel reused the abandoned site of RP005 and influenced the design of the hybrid site of RP002. They also sponsored the construction of RP200, which sits alongside the Inka road as it enters the Northern Calchaquí Valley from Tastil. Relative to what was taking place in the Main Valley and La Poma, Inka activity in the Potrero Valley took place among what amounts to a minor indigenous presence. In fact, many of the Inka-related sites in the Potrero Valley were established on lands that were partially or wholly devoid of pre-Inka occupation.

As is outlined in Chapter 7, the Inkas may have been interested in this marginal area because they sought an empty stage on which to create a distinct Inka landscape full of Inka-designed symbols and meanings. By using this marginal area to build a place imbued with the Inka worldview they may have been trying re-signify the place for its inhabitants and visitors. Indigenous or foreign populations who were settled in this new landscape by the Inkas, as well as visiting groups participating in special ceremonies, could have seen for themselves a new type of environment with different meanings than they had ever experienced before. This can be seen in particular at Cortaderas Bajo where the Inkas sought to tightly control the experience of people who came to visit their settlement.

In spite of their building campaign in the Potrero area, the degree to which Inka gained control of Santamariano populations elsewhere in the study area seems somewhat minor, because there are a number of preliminary reasons to suspect that the Inkas were themselves in some sense marginalized. First, the Inka settlements in the Potrero Valley are far enough away from the population centers in Cachi Adentro, Puerta de La Paya, and La Poma that there simply may not have been enough Santamariano groups at hand

to actually manipulate. Second, given the late date for the incorporation of northwest Argentina into the Inka empire, there simply may not have been enough time for the Inkas to effectively work their state magic. The presence of the hybrid site of RP002 as well as the low-profile reuse of the abandoned site of RP005 suggest that at some level the Inkas were proceeding opportunistically in the area-- that is, without a master plan-- and that their fate was tied closely to the indigenous groups that they were trying to overcome.

Moving south out of the Potrero Valley, if there is one overarching conclusion to be drawn about Inka colonialism in the Main Valley it is that there is, in fact, no clear pattern to the way that indigenous and Inka agents interacted from community to community. For instance, while the Inka occupation of some indigenous towns like Guitián is characterized by the presence of imperial style architecture in small, discrete sectors, the absence of Inka settlements in Cachi Adentro is striking. Another Inka-related site in the Main Valley proper is RC021, which consists of a string of eight qollqas and three residential structures. This small site, which is being interpreted as small storage depot used as a tampu built by indigenous groups under the direction of Inka agents, exemplifies Inka control of at least a portion of the population in the area. But this control was apparently limited given contradictory evidence for the persistence of local systems of trade and economy seen at sites like SC066, where Santamariano communities were perhaps able to sustain their relations with Lerma Valley populations into the Inka period. This lack of consistency is surprising insofar as the Inkas, who were surely attracted to the labor potential and agricultural resources of heavily populated areas like Cachi Adentro, seemed unable to gain secure footholds from place to place.

Again, this uneven pattern of engagement is most apparent in the lack of evidence of Inka activities in Cachi Adentro itself, which would have been busy in the late prehispanic periods with agriculturists and pastoralists taking advantage of the fertile soils and direct access to highland terrain.

In sum, then, as this thesis makes clear, the archaeological record in the entire study area suggests that a myriad of interactions existed between the colonial agents that eventually came into contact in the Inka period in the Northern Calchaquí Valley. In some sense, this point reinforces the ideas that, paradoxically, most activities that occur in the space of an empire are, in fact, not imperial. This is especially the case in the eclectic Inka empire and among people like the Calchaquíes who lived far from the heartland. Consequently, in trying to understand how indigenous people and communities interacted with colonial forces, it is not just a matter of matching up their behaviors with idealized concepts of what the imperial agents would have demanded of them. Instead, it is essential to recognize that these potential subjects, who lived in relative obscurity in terms of the grand imperial plan, often acted according to very specific self-interests, habits and designs that were all their own.

All of this reinforces the point made in the opening chapters of this thesis that, in their attempts to understand the nature of ancient colonial encounters, archaeologists too often concentrate on imperial sites and artifacts in the peripheries at the expense of understanding what was taking place contemporaneously among purely indigenous communities living outside the imperial network. This problem of tunnel vision comes from failing to recognize that imperialism, especially in a distant place like the Northern Calchaquí Valley, is not a quotidian force for all people in all contexts. For example,

instead of asking why are Inka activities so poorly represented in the archaeological record in the Northern Calchaquí Valley, it seems more instructive to ask why Santamariano material culture from the DR period is so persistent. The fact that colonial relations in the Northern Calchaquí Valley were varied, complex and messy supports another point made in the opening chapters of this work that colonial moments inevitably included intrigue and suspense in terms of a community's willingness to negotiate, resist, or support encroaching groups. It would be a mistake, therefore, to attribute the Inka presence in the area as the unilateral result of initiatives designed and implemented by the Inkas from the point of view of the heartland. It would also be a mistake to take for granted that an Inka settlement in the Northern Calchaquí Valley was a seat of domination over indigenous societies. Instead, this analysis of the material record from the inverted perspective of indigenous histories suggests that the intentions, designs, and efforts of the Calchaquí communities were also crucial in determining the nature of colonial contact.

Looking beyond the Andes, the colonial puzzle in the Calchaquí Valley as outlined in this thesis is consistent with the messiness of colonialism known comparatively in contemporary times. In this wider context it would be a mistake, then, to strictly interpret encounters under the variegated forces of colonialism as the one-sided result of imperial design. In the case of the Calchaquí Valley it is easy to imagine that the Inkas would have struggled to gain control of the area as they faced independent groups posing distinct challenges at every turn. In recognizing that colonial encounters unfolded in the Calchaquí according to a patchwork logic, which truly involved the interests of all the actors that were participating in the drama, it is possible to finally

imagine that, because their histories were persistent and durable, indigenous societies experienced the events of the Inka period in the fullest terms of their own complex social lives.

FOOTNOTES

No.1 For site-specific treatments of PdeLP see (Ambrosetti 1902, 1908, González and Díaz 1992), for Las Pailas see (Tarragó 1977), for Pucará de Palermo see (Ardissonne 1940), for Cortaderas see (Acuto 1999, 2002), for PdeP see (Difrieri 1948, Earle 1994, Schávelzon and Magadan 1992, Williams et al. i.p.), and for El Cacalar in La Poma see (Carrión 1997). Synthetic archaeological treatments of the valley include (Baldini 1981-82, Carrión 1995, Cigliano 1960, Pollard 1983, Tarragó 1978, Tarragó and de Lorenzi 1976), the Late period (Pollard 1983), the Inka period (de Lorenzi and Díaz 1977, Hyslop and Díaz 1983). Synthetic ethnohistoric treatments of the valley include (González 1983, Lorandi and Boixadós 1987-88, Lorandi and Bunter 1990, Raffino 1983). For discussion of valley-wide ceramic traditions see (Calderari 1991, Calderari and Williams 1991, Dillenius 1909), for bronze see (Pollard 1981, Rodríguez Orrego 1979), and for comparative overview in the context of NOA see (Calderari and Williams 1991, Weber 1978).

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No.3 I am grateful to David Lentz at the New York Botanical Gardens for allowing me to use his microscopes and for his instruction in how to identify some of the botanical materials.

No.4 This analysis was originally prepared with Félix Acuto and presented at a number of conferences in 1999 and 2000. The ideas were later included in an article published with British Archaeological Reports, Oxford (Gifford and Acuto 2002).