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Original Study

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Over Rock and Under Stone: Carved Rocks and Subterranean Burials at Kipia, Ancash, AD 1000 – 1532

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Abstract: Research in the Andes has yielded evidence for a complex association between settlement sites and mortuary monuments, tied to concepts of death, ancestor veneration and water. The Huaylas-Inca and later Spanish colonial site of Kipia in the Cordillera Negra of the Ancash Highlands, North-Central Andes is a multi-faceted site, that contains a small settlement core, and a cosmological centre which includes carved rocks (*huancas*), niches and offerings. This, in turn backs onto a necropolis composed of a series of subterranean tombs (*pukullo*). In association, these features directly reference the surrounding agro-pastoralist landscape. In particular they evoke neighbouring lakes as possible foci of ethnogenesis or *pacarinas*. The relation between ceremonial sites and cemeteries is crucial to understanding Andean concepts of death and renewal. In this article, alongside a detailed description of the site, we provide a preliminary analysis of the contents of one of the *pukullo*. In turn, these results are placed within their landscape context to discuss issues related to sacrality, water and death.

Keywords: Ancash Highlands, Death, *Huaca*, Huanca, Late Prehispanic Period, *Pacarina*, *Pukullo*-type Subterranean Tomb, Water

I begun [...] by discussing boundaries. By now it will be clear that those boundaries are both real and metaphorical.
Richard Bradley, *An Archaeology of Natural Places* (2000, p. 158)

1 Introduction

Fieldwork conducted between 1999–2008 in the Cordillera Negra of Ancash Province, Peru, focussing on the late Prehispanic and early Spanish Colonial Period (AD 1000–1615) has revealed a complex hydrological landscape underpinning an agro-pastoralist economy (Lane, 2009). Among the dams, reservoirs, canals and terraces, are also the vestiges of ancient settlements, shrines and cemeteries (Lane, 2006a). From within this repertoire of sites – 99 surveyed in total – one stands out: the settlement-cosmological-mortuary site of Kipia (Puk 9). Located on a west-east running mountain ridge, between 3,150 and 3,400 m altitude, the site commands the Pamparomás area of the Chanclancayo Valley, and lies at the juncture between the lower-lying agricultural *kichwa* ecozone (2,000–3,500 m altitude) and the increasingly pastoralist *suni* and *puna* ecozones (3,500–5,200 m altitude) (Lane, 2011a).

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This physical conduit between ecozones and economic activities seems to have had its metaphysical counterpart as well. A series of large carved rocks on the site of Kipia focus attention on another carved, centrally located natural rock outcrop (*huanca*), hewn to resemble the surrounding natural landscape including its lakes and streams. It is likely that this rock also served as the physical presence of an ancestor or godly oracle (*huaca*). The sacrality and cosmological focus of this rock are highlighted by associated buried Prehispanic offerings, and the presence of a later, Christian chapel on the same platform.

Additionally, a Prehispanic cemetery, manifest as a number of communal subterranean tombs, seals the site to the east, and provides the necessary juxtaposition between the world of the living, and that of the dead. It is important to note that in the Prehispanic Andes, death was not a finite stage; the dead still interacted with the living dependent on the degree of vitality-in-death, known as *camac*, that the particular dead individual possessed (Taylor, 2000). *Camac* was a direct measure of an ancestor's or deity's oracular ability (Curatola Petrocchi & Ziólkowski, 2008)¹.

In this article, we describe the site of Kipia, its component parts, and what they tell us about the cosmological context in which late Prehispanic society found itself prior to the arrival of the Spaniards (AD 1532). In particular, we analyse the ties between landscape, water and death. In this regard, we interpret Kipia as a sanctuary, and probable pilgrimage site to a local manifestation of Llibiac² – the Andean lightning deity – that provides the nexus between nearby high-altitude lakes and mortuary monuments linked to concepts of death and renewal.

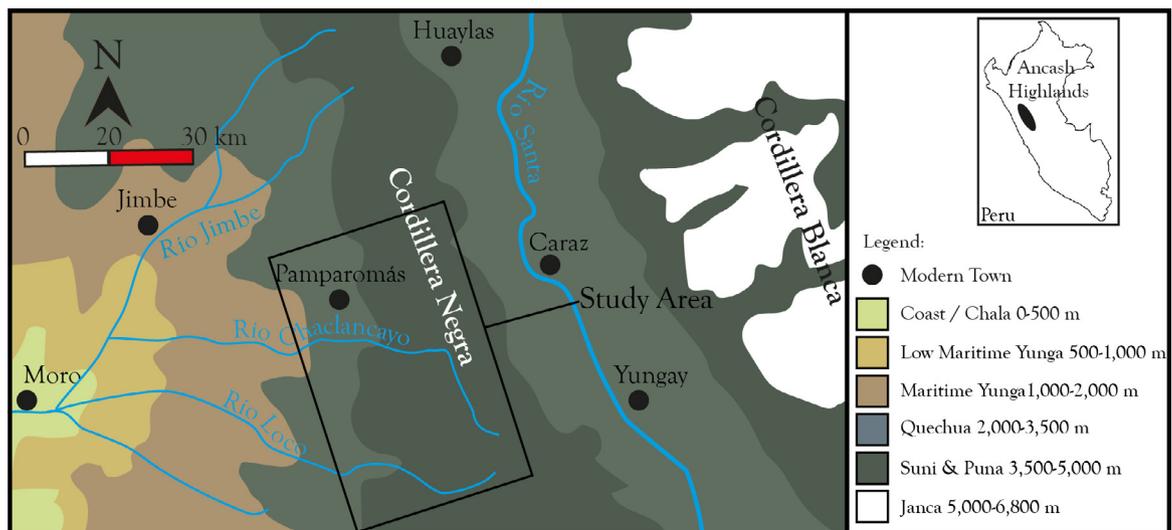


Figure 1. Map of study area.

2 The Physical Environment

Kipia (Puk 9) is located in the Pamparomás District of the Cordillera Negra of the north-central highlands of Peru (Figure 1). The site lies in a landscape characterized by steep vertical gradients, small highland plains and short narrow ravines fed by fast, seasonally active, high-energy streams. Kipia itself is located on the threshold between three ecozones (as defined by Pulgar Vidal, 1946). The lowest, the *kichwa*, is considered the last major, predominantly crop cultivation zone, important for bean, maize and potato agriculture. Set at between 2,000 and 3,500 m altitude, this is a rich agricultural zone of highly alkaline soils, infrequent

¹ Consult Lane (2011b) for a synthesis of the term *camac*, and how it relates to Andean religion and cosmology.

² Our guide in the region, Don Elpidio Jiménez, stated that Llibiac's counterpart in this region of the Ancash Highlands was known as Acushchucu/Akushchuqu.

ground frost and low diurnal temperature variation. Above lies the *suní* (3,500–4,000 m), a mixed-economy transitional area between the lower *kichwa* and the herding alpine tundra grasslands (*puna*) above. The *suní* is characterised by marked temperature fluctuations, incipient ground frost and shorter, more stunted tree and shrub cover. Finally, we have the *puna*, the highest ecozone before the snowline, although there is no permanent glacier across the Cordillera Negra (as opposed to the nearby Cordillera Blanca to the east). Traditionally the *puna* (4,000–5,200 m) is considered a major pastoralist area, mainly comprising grasslands, in a habitat of annual night frosts, extreme diurnal temperature fluctuations, and a lack of almost all cultivation.

This region of the Ancash highlands is also at the ecological boundary between the wet *puna* and the wetter, North Andean *prámo* ecozones (Custred, 1977). Therefore, this area has one of the highest levels of rainfall for the *puna* averaging between 500 and 1000 mm annually (INRENA, 2000). Nevertheless, rainfall does not necessarily equate with water availability, as the extreme vertical nature of the Andes at this juncture means that slope water run-off is concomitantly high. Yet, this amount of rainfall coupled with the local geology – andesite, a non-porous, yet brittle rock – favours the formation of natural water basins and the replenishing of underground aquifers. In turn, this has led to a prevalence of natural and artificial lakes across the unglaciated Cordillera Negra (Lane, 2009).

The site of Kipia is perched on a ridge immediately to the east of the modern town of Pamparomás, within a bowl-shaped, mid-valley area, which then narrows upwards into individual side-valleys that plough eastwards towards the summits of the Cordillera Negra. Strategically, the site dominates this portion of the valley with substantial view-sheds to the east and west. Kipia is located to the northeast of this bowl-shaped mid-valley, on a west-east running ridge that extends out from the Shunak Massif immediately to the east. The Shunak Massif rises to over 4,000 m and is the natural division between an important lake zone located entirely within the upland *puna*, and the *kichwa* and *suní* fields around, and below, the site of Kipia. The highest mountain in the area is Cerro Rico, located at the top of the Cordillera Negra with an altitude of 5004 m above sea level (Figure 2).

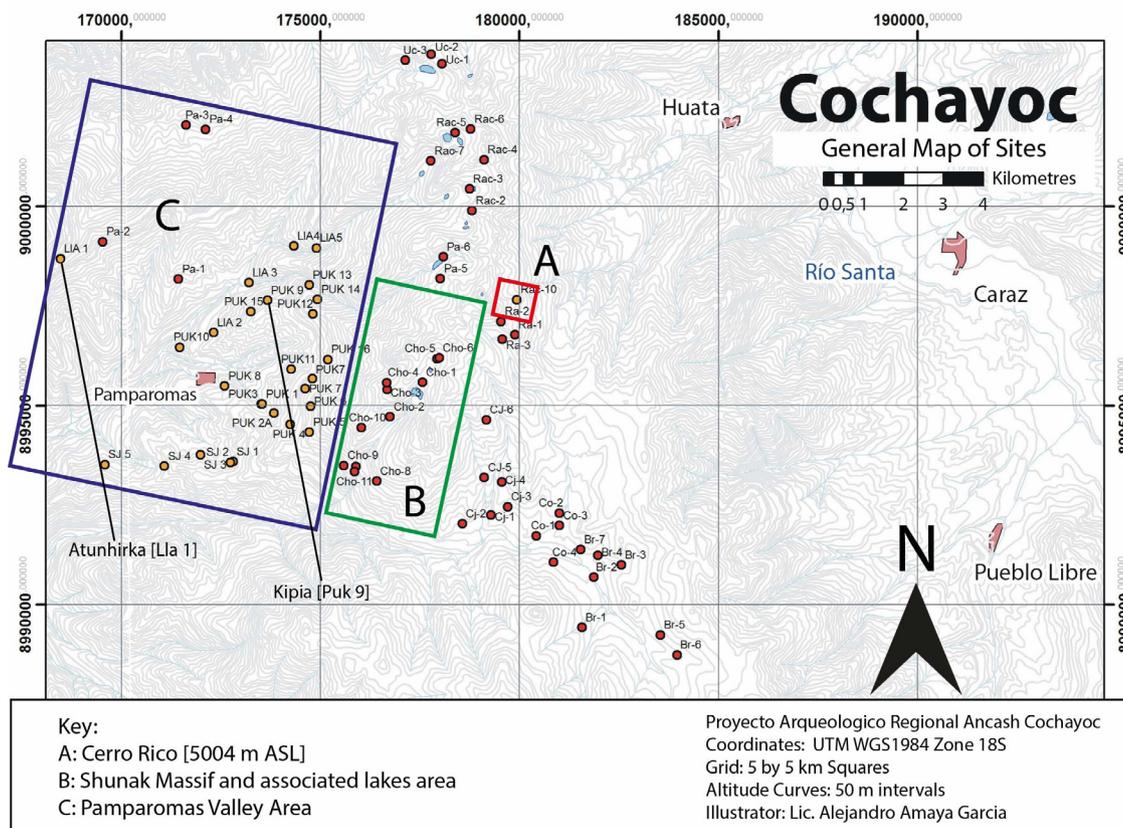


Figure 2. Detailed map of study area showing main sites and features.

Situated between 3,150 and 3,400 m, Kipia is in the upper bracket of the *kichwa* ecozone, thereby ably straddling two important ecozones, the *kichwa* and *suni*, while providing a crucial conduit to the higher *puna*. In effect, the site's location highlights the twin poles of the late Prehispanic economy: farming and herding, combined as it were, in its egregious South American manifestation – Andean agro-pastoralism (Brush, 1976; Lane, 2006b). Indeed, we contend that Kipia's position provides the socio-cosmological nexus for the area's agropastoralists, combining settlement, landscape veneration and the dead.

3 The Site of Kipia

Kipia is divided into four sectors spread across four low hills that constitute the ridge itself. These have been labelled A to D (Figure 3). Sector A comprises the westernmost area of the site, and includes habitational terraces along its western, northern and southern slopes. In total, we have detected at least 16 sub-rectangular structures of approximately 2.5 m wide and 3.5 m long in this sector. The divide between Sectors A and B was probably a naturally occurring undulation that was then altered through digging to create a banked and walled ditch, which physically separates A from B. The hill comprising Sector A extends roughly 150 m from east to west with a varying width of between 30 and 80 m. The core of Sector A comprises a series of artificial platforms with rectangular structures with an important Inca and Spanish Colonial occupation. We have interpreted Sector A as an Inca/Spanish Colonial settlement hub (Lane, 2011a).

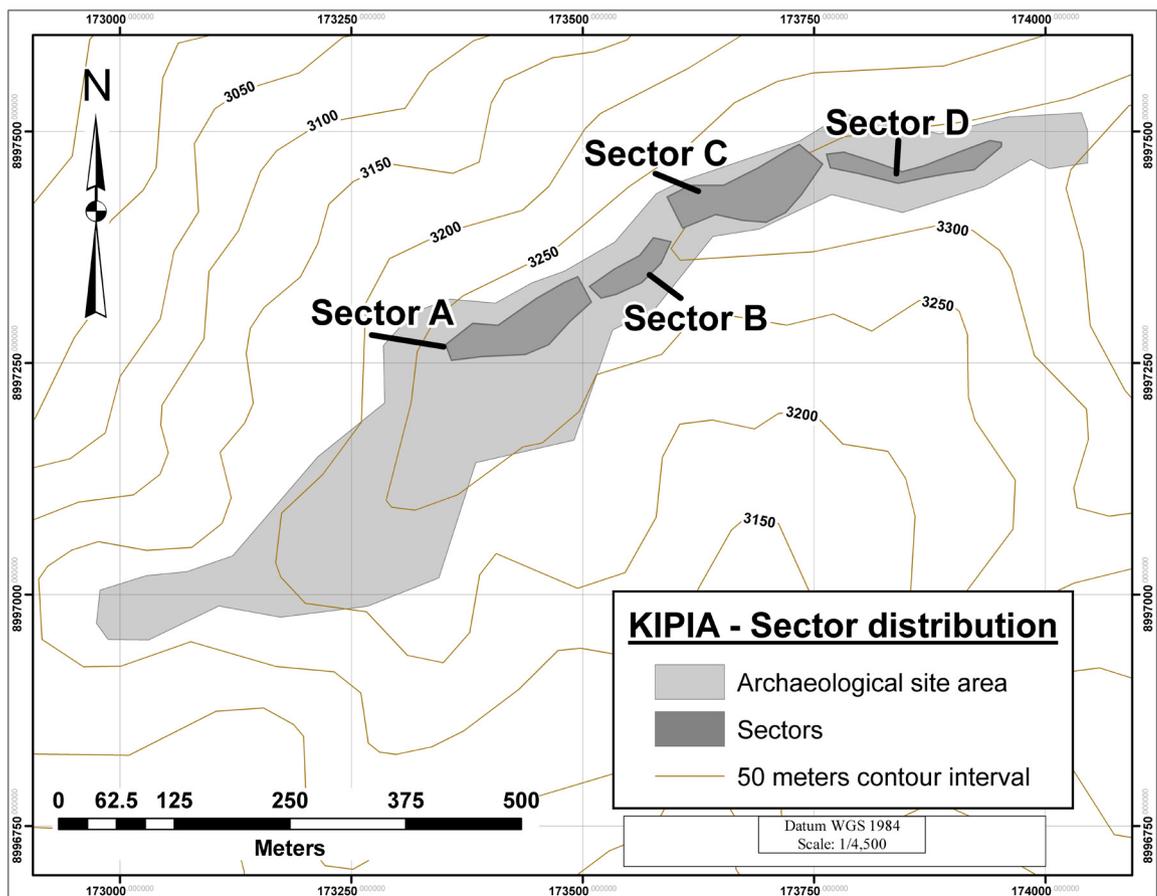


Figure 3. Site of Kipia showing sectorisation.

Sector B represents the cosmological core of the site (Figure 4). The sector includes a large, relatively flat natural terrace, interspersed with four natural rock outcrops (a further one is located on the eastern extremity of Sector A). Sector B has been heavily targeted by would-be looters. Approximately 40 m wide,

this terrace is also roughly 60 m in length. The rock outcrops have been extensively modified through carving and the digging out of small niches at their base. In total, we recorded 37 niches among the rock outcrops. In addition, the level surfaces of these rocks were also sculpted to render channels and small pits: many of these pits contained offerings. Possibly, these outcrops represent key focus points in ritual libation sessions (*sensu* Carrión Cachot, 1955).

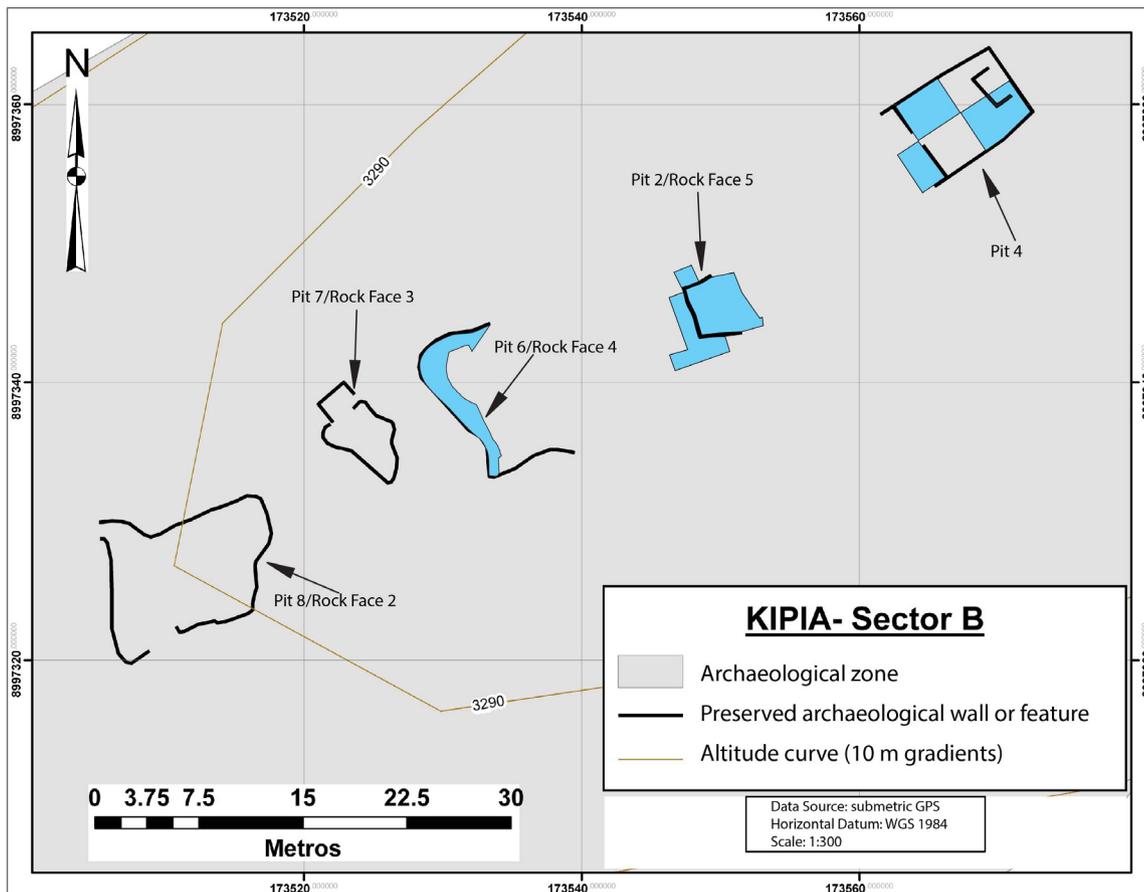


Figure 4. Detail of Sector B, showing the huaca-huanca (RF5) and the Spanish chapel (Pit 4).

Among the five outcrops registered at the site, attention seems to coalesce on Rock Face 5 [RF5]. RF5 is the easternmost rock outcrop of the group: we discuss its unique features in greater detail below. It juts out of the ground, and therefore presents both an ample horizontal and vertical face. Furthermore, the relatively flat area behind this rock has a later, intrusive, Spanish Colonial shrine/chapel in a classic case of sacred space appropriation. This further highlights RF5's centrality and importance within the site. While nowadays abandoned, the shrine was consecrated to the Spanish patron saint, Santiago. In the Andino-Christian pantheon, Santiago took the place previously occupied by Llibiac, the Andean god of lightning, camelids and herders (Hernández Lefranc, 2007). Veneration of Santiago in the Andes is usually associated with herder communities. Santiago is the patron saint Pamparomás, the nearby town.

Further to the east is a heavily overgrown low hill – Sector C – this sector along with Sector D is also known locally as *Corpus Rumi* (literally, ‘body of stone’), probably due to the high number of large natural rocks which are found throughout these two sectors. Sector C is roughly 40 m long by 20 m wide. The top of the hill is relatively flat and presents a number of sub-circular structures ($N > 12$). We have interpreted this sector as a potential local Huaylas settlement, possibly pre-dating and then probably contemporaneous, with the later Inca/Spanish Colonial occupation of Sector A. Further study is required to verify this.

The last sector – D – is located to the extreme east of the ridge as it links onto the mountain slope. This sector presents a series of rock outcrops under which have been excavated a series of subterranean tombs, identified for the region as *pukullo*-type tombs (Herrera & Lane, 2004). At least 12 *pukullo*-type tombs have been identified for this sector, with an additional one located in Sector C. The majority of these tombs are found along the north-eastern flank of this sector facing towards the Shunak Massif. These are communal tombs with the remains of more than one individual contained within. All these tombs have been looted, although they still contain human bones and fragmentary material culture such as ceramic, textiles, and gourd, among others. Of this number, one – T1 – was excavated and the results are presented below.

Table 1. C14 dates from the site of Kipia (PUK9), conducted at the CEZ Archäometrie gGmbH, Mannheim, Germany. Dates calibrated using Oxcal v4.1.7 Bronk Ramsey (2010); r:5 Atmospheric data from Reimer *et al.* (2009) INTCAL 2009.

Lab Nö.MAMS	Sample Nö.	Sector	Pit	Stratigraphic Unit[Cut]	C14 Date	±	δ13C	Cal 1 Sigmacal AD	Cal 2 Sigmacal AD
15861	Ca-8	B	2	34 [22]	489	22	-21,3	1421-1438	1412-1444
15862	Ca-21	A	3	28	469	23	-24,2	1428-1444	1416-1449
15863	Ca-22	A	3	28 [48]	976	22	-18,7	1021-1146	1016-1153
15864	Ca-23	A	3	34	394	23	-20,2	1448-1607	1442-1618
15865	Ca-25	B	2	72 [71]	802	22	-19,0	1222-1256	1193-1272
15866	Ca-27	B	4	13	358	18	-17,1	1472-1618	1459-1630
15867	Ca-28	B	6 (RF4)	20 [19]	482	19	-27,9	1424-1439	1415-1444
15868	Ca-29	B	4	13	359	20	-17,9	1470-1619	1456-1631

Throughout the four sectors there is a mixture of local (an Akillpo-derived style ceramic (Lanning, 1965), known locally as Wanuwallana), imported coastal (Chimu) and Inca ceramic indicating a Late Intermediate Period (AD 1000–1450), and Inca Late Horizon (LH) occupation (AD 1450–1532). Additionally, early Spanish Colonial (AD 1532–1615) ceramic, metal (utensils, musket balls, slag), and glass from excavations in Sector A, coupled with the small chapel in Sector B attests to substantial Spanish presence at this site. The building of a Spanish church at Kipia further reinforces the importance of this site to the early colony.

The material culture chronology for this site is supported by eight radiocarbon dates (Table 1) that span this period. Of the eight dates, two lie completely within the Late Intermediate Period (LIP), while the other six cover the early 15th to early 17th century, coalescing mostly around the LIP-LH transition (c. AD 1450). All together, they show a continuous occupation of this site from at least the 11th century through to 17th century, at which point the indigenous population was moved to the nearby town of Pamparomás, as part of the Spanish Colonial policy of *reducciones*, ‘reductions’ or population concentration, of local people in the Andes (Mumford, 2012). Also moved was the local cult to Santiago at the on-site shrine/chapel, which heralded the end to direct veneration at Kipia.

4 The *Huanca* of Kipia

Prehispanic (and Spanish Colonial) devotion at Kipia centred on Sector B, specifically on the central *huanca* Rock Face 5 (RF5). *Huancas* have been described as sacred, upright stones, either natural or purposefully set there. That aside, *huanca* represented alternatively ancestors or a deity-oracle – or *huaca* – thereby linking the people to their past, and thus to the landscape (Curatola Petrocchi & Ziólkowski, 2008, p. 3). Nevertheless, the concept of ancestor in the Andes is a very complex term describing a plethora of relationships between different types, or grades, of entities. If we understand Andean religion as a ranked, though fluid, pantheon then mummy bundles and effigies would have formed the lowest level of proximal ancestry to the community. These were generically known as *mallquis* or ancestors (Lane, 2011, p. 576). These *mallquis* rooted the *ayllu* (community) through bonds of real or imaginary corporate kinship, and thereby reciprocity (Rostworowski, 1988, p. 14). They were the progenitors of communities and the instigators of great historic deeds, including battles, and technological constructions, such as fields, terraces and canals

(Gose, 1992, pp. 488–489; Lau, 2015, p. 203). While it is important to note, that not all mummy bundles were *mallquis* or revered ancestors, they were:

“...honoured deceased who continue to have an active role in the social life of the community. [...] because they reciprocate something desirable for the descent group. They have the capacity to affect critical resources and general well-being: land and water, fertility in crops and animals, health and knowledge, social capital and legitimacy, success and luck” (Lau, 2016, pp. 168–169)

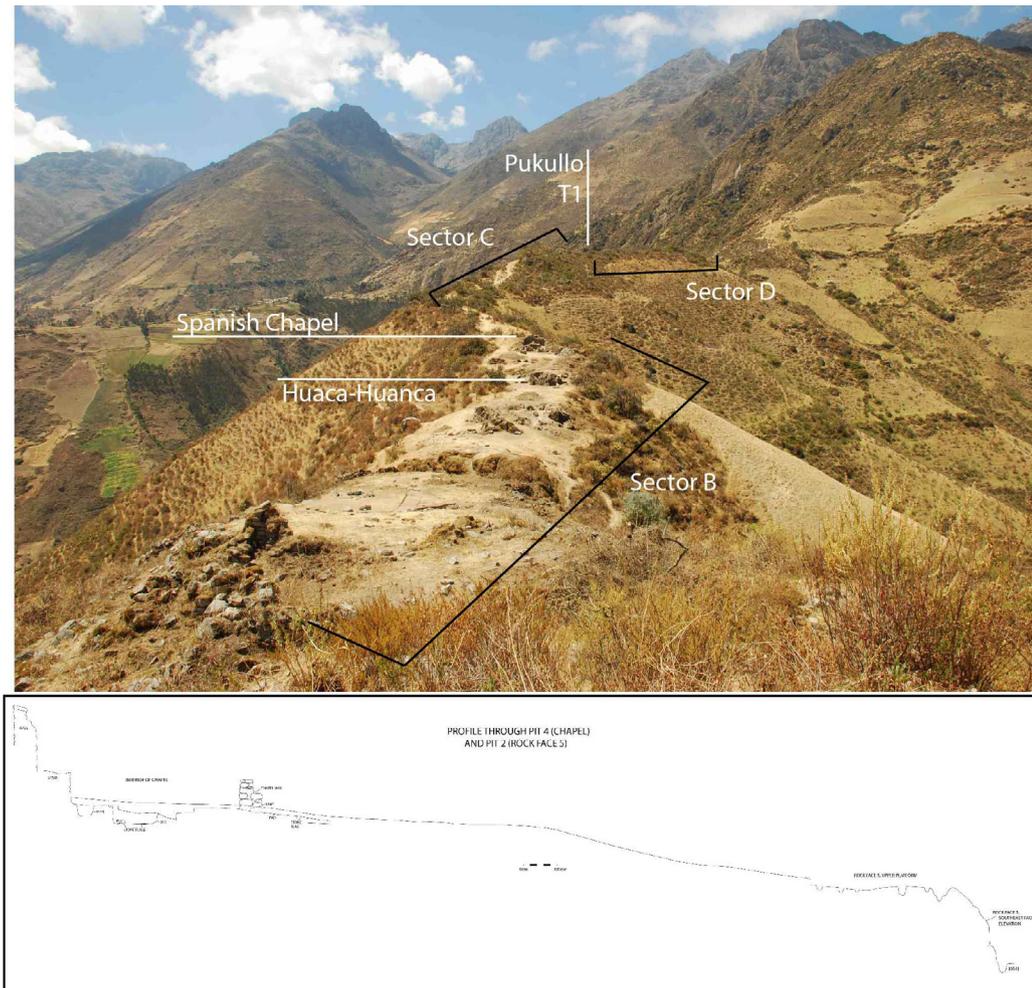


Figure 5. Top – detail of Sector B showing main features; Bottom – profile of Spanish chapel and Rock-Face 5 (RF5).

In turn, *huacas* were of a different order of magnitude encompassing the same aspects but at a much grander scale, as the creator-deities of larger conglomeration of groups. In this sense, Pariacaca served as a major lightning deity of the Central Andean highlands (Astuhuamán, 2008), an important reference for numerous highland groups, while also linked to the coastal cult of Pachacamac (Rostworowski, 1992). Catequil served a similar function in the northern highlands (Topic, Topic, & Cava, 2002). These major deities were also the creators of *pacarinas*. *Pacarinas* were places of worship that centred on ancestors and *huacas*, which also doubled-up as the origin point of lineages and communities. *Huacas* – as Maxima ancestors – were intimately linked to these community birthplaces (*pacarinas*), which could be caves, lakes, rivers, etc. (Albornoz, 1967 [1569]; Gose, 1993; MacCormack, 1993). We should nevertheless be careful when using the various terms ancestor (*mallqui*), *huaca* and *pacarina*. In the case of RF5 (discussed below) we hypothesis that this rock is a *huanca-huaca* given that the platform-terrace on which the rock face is

located is also the site of a church to a Spanish saint. This type of Christian imposition was reserved for *huacas*, rather than more local *mallqui*-ancestors (Díaz Araya, Galdames Rosas, & Muñoz Henríquez, 2012).

RF5 is a natural, compacted, gritty sandstone, which was heavily degraded in places by weathering and root action. The outcrop rises 4 m from the ground, with a width of 4.5 m. The top platform is roughly 2.4 m north to south by 2.4 from east to west. In the case of RF5 we have a vertical rock panel that faces southeast oriented at 65° from the north, while both this panel and the top platform are carved (Figure 5). The *frontis* presents a series of carved lines and pitted indentations, while along the base of the rock are three sculptured niches and other additional pitting in the area immediately before the rock face. The carved lines on the rock appear to represent the contours of three major mountains, as well as a pass that can be observed from this perspective along the Shunak Massif. Other features in the landscape are also referenced, such as a small field plateau to the south, and possibly the Uchpacancha side-valley to the east (Figure 6). This does not necessary mean that the *huanca* was directly venerating these mountains (especially given that Gose (2016) argues that veneration of mountains was a Spanish Colonial phenomenon and not an indigenous one), rather the implication would be that it was serving as a physical and metaphorical map of potential sacred sites (*sensu*, Brody, 1981).

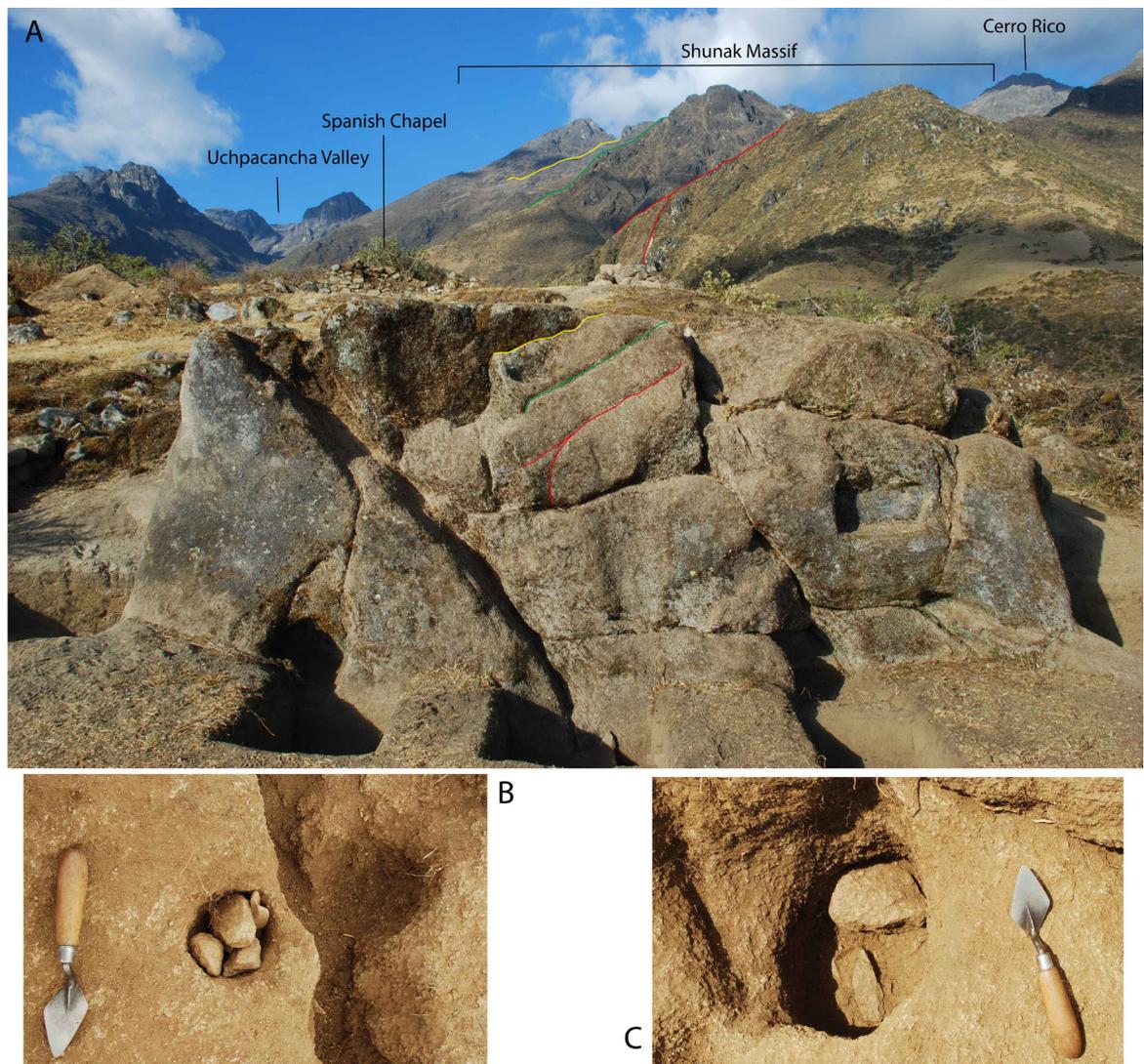


Figure 6. The huaca-huanca (RF5) of Kipia. A – detail of RF5 showing imitation of landscape features; B – carved offering pit containing andesite fragments, river-rolled pebbles and ceramic; C – offering pit containing andesite fragments.

Meanwhile, the upper platform of the rock was also modified by a series of carved channels and further pitted indentations that could well provide a metaphorical representation of lakes, rivers and ponds. In this respect, the pits and channels on the horizontal plane of RF5 might be physically (and metaphysically) referencing various bodies of water, located in the mountain area beyond the Shunak Massif (Figure 7). In addition, these small indentations and channels could have been used for libations, given that any liquid would have drained down the rock face itself. Some of the indentations (and the base niches) have offerings within them including burnt and unburnt *Spondylus (mulu)* shell, river-rolled stones and ceramic shards, lithic implements and andesite fragments (Figure 6 & 8). The use of river-rolled stones in offerings has been highlighted at other Andean sites, for instance at shrines to Catequil – incidentally another lightning deity – in Cajamarca (Topic, 2015, p. 376). As mentioned previously, andesite is the main geological rock

UPPER PLATFORM AREA OF PIT 2, ROCK FACE 5



Figure 7. Detail of top platform of RF5, note pitting and carved channels.

formation in the lakes area beyond the Shunak Massif. While it is true that andesite is found through the Cordillera Negra (Bodenlos & Straczek, 1957), we posit that its presence within offerings at this site is a means of locally linking the offerings with the mother-rock of the lakes. On the top platform, these offerings have been purposefully and carefully placed.



Figure 8. Fragments of *Spondylus* shell from RF5 offering niche, Stratigraphic Unit (S.U.) [22], deposit S.U. 23.

Given the excellent acoustics in front of RF5 – useful for oracular utterances – it would seem that this rock face was likely the main point of devotion at the site. It is probable, that in turn this *huanca-huaca* was oriented towards the local *pacarina*. The *pacarina* was an essential element in the transformational process or renewal and rebirth of life in the Andes (Albornoz, 1967 [1569]; Gose, 1993). A *pacarina* was described as ‘...the destination of the deceased, also described ...[as] a community’s place of origin...’ (MacCormack, 1991, p. 428). As such the *pacarina* often defined the community it represented, the *pacarina* itself was symbolised by a large water source, either a lake, river or even mountain. In the Prehispanic animated landscape, *pacarinas* were places of worship centred around the veneration of creator deities, ancestors, and as such were a venerational focus for communities (Bray, 2015). It was these *huacas* and *mallquis* in their role as ancestors that were intimately linked with these community birthplaces. This type of link between *mallqui*, *huaca* and *pacarina* has been acknowledged across the Andes (e.g. Astuhamán, 2008; Glowacki & Malpass, 2003; Topic et al., 2002).

The Shunak Massif and neighbouring peaks such as Cerro Rico (5004 m), as well as the lakes related closely to it, dominate this section of the Cordillera Negra, and they are set in an area of natural and artificial lakes further highlighting the link between mountains and water, that pervades past and present Andean beliefs (e.g. Gose, 1994). Many of these lakes are found doubled-up with names that evoke deep-time concepts of Andean duality such as male/female; higher/lower, etc. (Moore, 1995).

While Kipia is not the largest site in the area, it does dominate the landscape, and is also the most complex in terms of chronology (with important LIP, LH and Spanish Colonial occupations). Internally, it is also one of the more complete sites, given its intricate juxtaposition between settlement, worship and cemetery. In this set-up, Kipia could well have functioned as a microcosm of the wider landscape, and thus provided a direct connection to nearby *pacarinas* and related lakes. Furthermore, Andean religion and religious expression was very externalised (as opposed to Christianity which is substantially internalised

in buildings). In this respect RF5 could have functioned as the outside arena for rituals tying local people through their local *huanca-huaca* to the nearby lakes and mountains. It is possible that this involved short, local pilgrimages to, and from, the higher areas, thereby periodically restoring the link between the site and other spaces and places through ceremony. Indeed, similar short processions or pilgrimages are conducted in the Central Andes, directly evoking Prehispanic rituals, such as the Festival of the Crosses celebrated in May (Mayer de Millones & Millones, 2003).

Interestingly, until recently the local statue of Santiago, which now resides in Pamparomás but was possibly originally from Kipia, was brought back to the site as part of the patron saint's veneration around his name-day (22nd–24th July). Used as a guarantee of rains and plentiful herds, Santiago's processional move from the town to Kipia itself probably referenced an earlier Prehispanic tradition, albeit one linked more fully to the encompassing environs and landscape. Furthermore, local sources recounted that originally at the site, two saints were venerated: Santiago and San Lorenzo. Sometime in the past, San Lorenzo was 'exiled' to Cosma in the adjacent valley to the north, while Santiago 'came down' to Pamparomás after appearing in local people's dreams requesting this move. The fact that Kipia might have been holy to two saints is not surprising given the afore-mentioned duality at the heart of Andean religiosity. If this duality is borne out in further study, it is likely then, that at Kipia varied aspects of Llibiac or his local homologue (Andean deities tended to be multi-faceted) were venerated, and with the coming of Christianity these various aspects became in turn different saints.

The subsequent separation, and removal, of San Lorenzo and Santiago probably followed Spanish attempts to erase as many vestiges and connections as possible between the indigenous population, their religion and the spaces and places sacred to them. In so doing, Spanish actions reveal the cosmological charge that this site enjoyed in the local Prehispanic imagination. This cosmological importance was not only underscored by veneration at RF5 but also through the placing of numerous subterranean tombs within the site, especially in Sector D.

5 Communal Subterranean Tombs at Kipia

Communal burial chambers are a widespread archaeological phenomenon in the Central Andes, both temporally and spatially (e.g. Dillehay, 1995; Gerdau-Radonic, 2007; Gerdau-Radonic & Herrera, 2010; Isbell, 1997; MacCurdy, 1923; Nystrom, Buikstra, & Muscutt, 2010; Pomeroy, Stock, Zakrzewski, & Lahr, 2010; Rydén, 1947, 1957; Valdez, Bettcher, & Valdez, 2002; von Hagen, 2005). They extend from what is now northern Peru to Bolivia and while they are perhaps best known in the highlands, coastal examples have also been described dating from at least the Early Intermediate Period (e.g. Gerdau-Radonic, 2007). It is a curious paradox that while these structures are so widespread and frequently still clearly visible, very little is known about their use in the past (Gerdau-Radonic & Herrera, 2010). Part of the problem lies in how few have been systematically excavated, as well as the fact that many of these structures have been thoroughly looted in the past, further complicating the context of any remains uncovered.

Nevertheless, it is well known that these tombs varied in shape, size and structure throughout the Andes (Valdez et al., 2002). Three main types of tombs have been identified for the Ancash region (Herrera & Lane, 2004), above-ground structures known as *chullpas*, cave or cave-shelters known as *machayes*, and finally fully subterranean tombs known as *pukullos*. Human interaction with the human remains within the tomb was a significant aspect of a veneration and consultation of ancestors (Valdez et al., 2002). It has been suggested that individual *allyus* (corporate social groups) were associated with the different communal tombs (Isbell, 1997).

Furthermore, the desiccated mummy remains were seen as the dry counterpart to the wet *pacarina*, another dual juxtaposition that pervaded the Andes. In this sense, the dead in their tombs were perceived as seeds that helped guarantee rebirth (Gose, 1993). Following from this, the belief was that the dead would travel through underground water channels back to the *pacarina* in a life-reaffirming journey that guaranteed the continued existence of life (Gose, 1993; MacCormack, 1991). In this process, the 'wetness' in the body returned to its origin point, the *pacarina*, thereby leaving behind a desiccated body. Desiccated

bodies (with special ones denoting revered ancestors known as *mallquis*) were ceremonially paraded to bring on the rains (Gose, 1993, pp. 495–496), an affirmation, if any was needed, of the relationship between the dry dead in their dry mortuary chambers and the *pacarina* as the repository of everlasting water and the renewal of life.

Here we report on the results of excavations undertaken at a communal subterranean tomb in Sector D of Kipia. Tomb 1 [T1] was excavated and recorded in 2008, and due to the relatively remote location of the tomb and time constraints, excavations of the structure and analyses of the human remains were only partially completed. Nonetheless, the results offer important insight into how and when the tomb was used, the age and sex profiles of individuals found, and an approximation of the number of individuals. We also gained insights into the burial rites associated with use of the tombs, and how and when the structure and its contents may have been looted.

T1 is part of a group of at least 13 subterranean tombs located in Sector C and D of the site. The tomb was formed in a natural cavity below a rock outcrop, and is therefore considered a *pukullo* (Figure 9). A small entrance had been constructed from stone and mortar. The internal roof may have been modified to alter the size and shape of the tomb, given that the natural rock is extremely soft and friable. The original entrance is on the north side of the *pukullo*: a short, low rectangular corridor connects the outside to the internal chamber. Inside is a small chamber measuring 1.55 m by 1.75 m with a maximum height of 0.70 m. The chamber was full of human remains and assorted archaeological material.

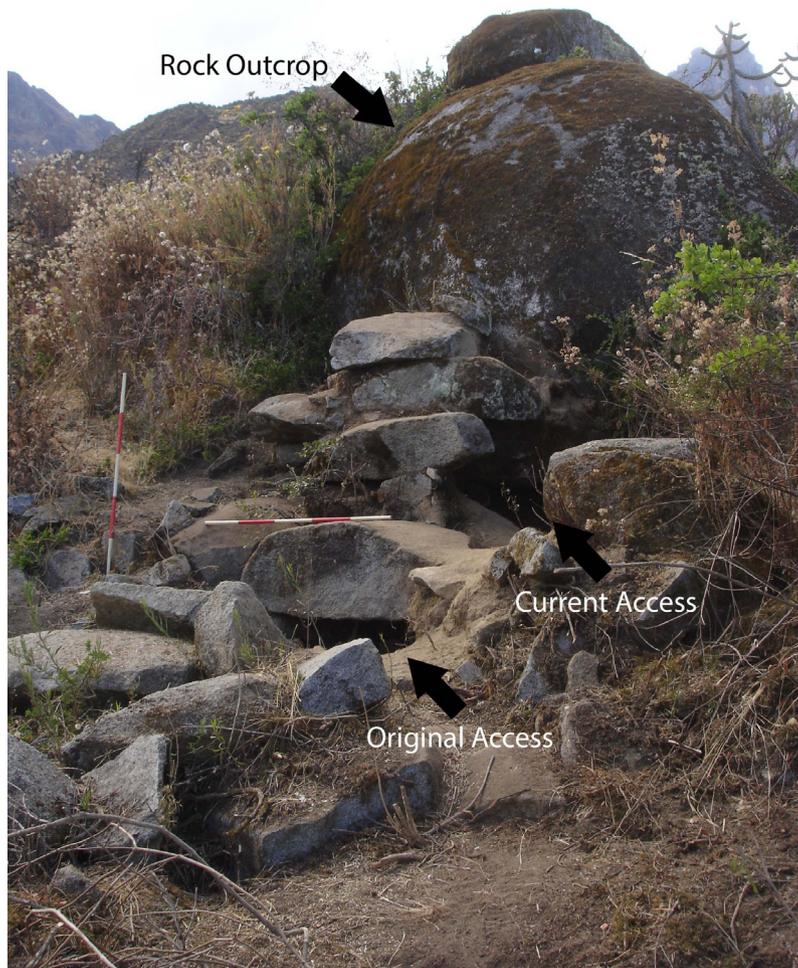


Figure 9. Exterior of Tomb 1 looking south east, showing original entrance and current access to the tomb. Scale = 1m.

The eastern half of the tomb was excavated to natural level, while the western half was not excavated. Excavation proceeded following natural stratigraphy where possible. However, since the deposits were very heavily disturbed, only a thin layer of original stratigraphy was preserved at the base of the tomb. The deposit had a maximum depth of approximately 0.50 m, therefore arbitrary levels were employed for much of the excavation to allow a level of documentation of the level at which material was being recovered. The excavated area was also divided informally into thirds, again to give more control over approximately where material originated from within the tomb.

The deposit was largely composed of a dense concentration of human skeletal remains mixed with a very loose material consisting primarily of eroded stone from the tomb's roof. The concentration of bone decreased as the depth of deposit increased. The tomb had clearly been heavily disturbed with no articulation observed between any of the bones. Heavy disturbance was also indicated by the representation of body parts in the tomb as detailed below. All material was fine sieved with a 4 mm gauge. Fragments of artefacts recovered included ceramic, gourd (with and without pyrographed decoration), metal, a small number of small beads, cactus-spine needles and small fragments of textile and twine. Insect larva cases were also recovered. A large, circular flat stone resting on the sterile level may have been a base on which some of the mummy bundles were placed (c.f. Gerda-Radonic, 2007, Figure 22).

6 Analysis of Human Remains

6.1 Materials and Methods

Human remains were analysed on site, and approximately half of the material removed was examined during this field season (i.e., c. 25% of the total contents of the tomb). The analysed remains derived mainly from the upper levels of the tomb, principally the surface, Level 1 and Level 2. The surface material from both the excavated and unexcavated half of the tomb was analysed in its entirety. Individual bones ('specimens') were identified to skeletal element and side of the body where possible, if not to general class of bone (cranium, long bone, vertebra, metacarpal/metatarsal), or otherwise they were recorded as 'unidentified'.

6.1.1 Number of Individuals

The minimum number of individuals (MNI) was estimated from the minimum number of elements (MNE) for each bone. Bone fragments were separated by side of the body where appropriate and approximate age was taken into account (infant/juvenile/subadult/adult, assessed by overall size and epiphyseal fusion). Knüsel and Outram's (2004) zonation method was used, whereby each of the major skeletal elements is divided into a number of zones, and for each specimen a zone is recorded as present if at least 50% complete. This assists in producing a more accurate MNI estimate by aiding the identification of fragments which must come from different individuals if they share at least one zone. Conversely, if two fragments share no zones, it is assumed that they may come from the same individual so are not counted separately.

Where it is possible to match right and left elements from the same individual, a more accurate estimate of the original total number of individuals can be calculated using the Most Likely Number of Individuals method or the Lincoln Index (Adams & Konigsberg, 2004). However, pair matching was not attempted here due to the level of fragmentation of the material and time constraints.

An MNI for non-adults was also estimated using age estimates from long bone measurements (see below) to exclude the possibility that different elements represented a single individual due to incompatible differences in size. This possibility might not be identified using zonation due to the broad age categories employed in this analysis. Where different elements give similar age estimates based on their length, or the same elements from different sides have very similar lengths, it is possible that they derive from a single individual, so to maintain a conservative estimate such elements were considered to represent an MNI of 1.

6.1.2 Age Distribution

In order to gain an indication of the age profile of the tomb's occupants, the age of non-adults was estimated using dental formation and eruption (following Gaither, 2004; Ubelaker, 1989) and bone lengths. For foetal and newborn material, the standards of Scheuer *et al.* (1980) were used to estimate age at death from long bone lengths. In older non-adults, age estimates from long bone lengths become less accurate due to the accumulating effects of differences in growth tempo and final body size compared with modern reference populations from which growth reference data derive. However, Gaither (2004) gives data on the relationship between age estimated from dental development and eruption and long bone lengths in two Peruvian coastal archaeological populations (Puruchuco and El Brujo), allowing for a more population-specific estimate of age from bone lengths for children and adolescents. There is some error in age estimation from dental data, but dental development and eruption tends to be less affected by adverse environmental conditions than growth in long bone length (Brickley, 2004). Gaither's (2004) method, while associated with limitations, nonetheless offers a reasonable estimate of age based on long bone length for this population.

6.1.3 Sex Distribution

Sex can only be identified with confidence for adult skeletal remains (Scheuer & Black, 2000), usually based on pelvic and cranial morphology (e.g. Buikstra & Ubelaker, 1994). To maximise reliability, it is usual to assess a number of criteria before making a final assessment (Buikstra & Ubelaker, 1994). In commingled, fragmented material this is often not possible and sex estimation was therefore conducted cautiously. For the pelvis, the five criteria recommended Buikstra and Ubelaker (1994) were scored and other sexually dimorphic traits (e.g. Schwartz, 1995) were taken into account in producing a final assessment. Confident sex assessment (i.e. male or female) was only made where at least 3 of the 5 Buikstra and Ubelaker traits could be assessed, otherwise sex assessment was indicated as possible male or female (?male or ?female) if the available characteristics suggested a particular sex.

6.1.4 Burial Practices and Taphonomy

The percentage of the total identified specimens comprised by each skeletal element (percent number of identified specimens or %NISP, calculated as number of bones of a specific type as a percentage of the total number of identified specimens) was calculated to investigate the representation of different skeletal elements in the sample. As some elements are more susceptible to taphonomic destruction (e.g. Lyman, 1994; Willey, Galloway, & Snyder, 1997), while others (e.g. small bones of the hands and feet) are more likely to be missing through various taphonomic processes, %NISP can give insight into burial practices and exposure to animal scavenging which may have influenced assemblage composition (e.g., Haglund, Reay, & Swindler, 1989; Lyman, 1994; O'Shea & Bridges, 1989; Robb, 2016). Any evidence of gnawing, burning, or cut-marks was also recorded to further characterise the taphonomy of the assemblage.

6.1.5 Pathology, Developmental Anomalies and Cultural Modifications of the Skeleton

Pathological lesions and developmental anomalies were recorded by digital photography and detailed description, and differential diagnosis was attempted where appropriate. However, secure diagnoses are particularly problematic in commingled remains as the full distribution of lesions within the body cannot be documented (Aufderheide & Rodríguez-Martín, 1998; Rogers & Waldron, 1989; Rogers, Waldron, Dieppe, & Watt, 1987).

7 Results from Tomb 1 [T1]

A total of 1,606 specimens were identified, with a further approximately 800 fragments recorded as unidentified. The precise number was not recorded since many very small fragments were recovered during fine sieving of the material, and thus the number of unidentified fragments was merely estimated.

7.1 Number of Individuals

Based on skeletal part representation, the MNI is 20 adults (from the left femur, left scapula and right humerus) and 6 non-adults (also based on the left femur: Figure 10). However, age estimates based on bone lengths suggest an MNI for non-adults of 12 (see below). It is difficult to speculate on the total number of individuals present in the tomb, given that excavation and analysis were both incomplete. Considering the tomb’s size this would seem to be a fairly large number, and given the commingled material the MNI might not increase any further as the sample increases, despite the fact that only a sample was analysed.

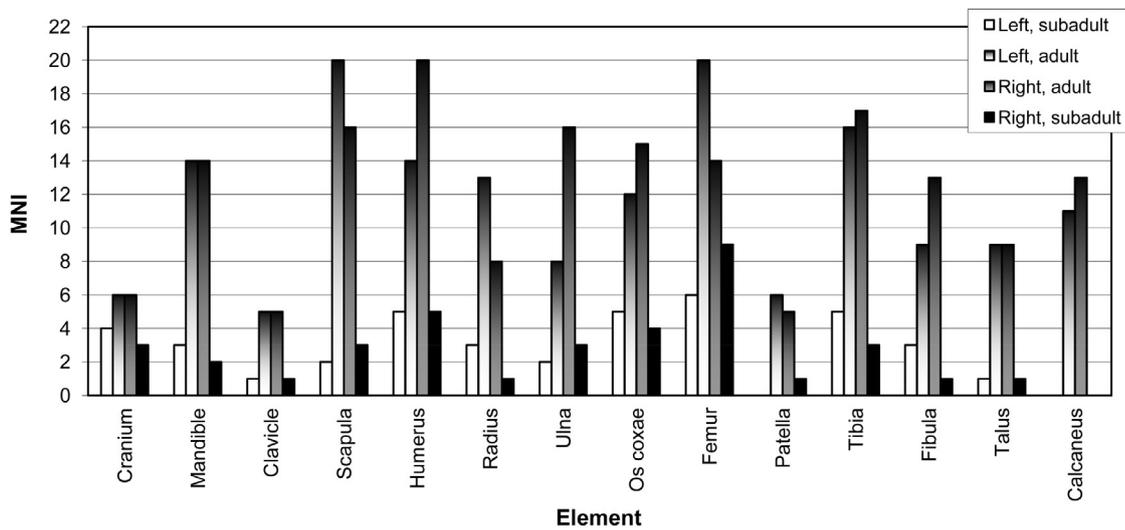


Figure 10. Minimum number of individuals (MNI) by skeletal element for the analysed portion of human skeletal remains from Kipia Tomb 1.

7.2 Age Distribution

Table 2 gives the age distribution of the sample based on dental development and eruption. The possible adults (?Adult) were individuals who had incomplete dental arcades preventing full age assessment, but for whom the teeth present and their level of wear suggested adult age could be confidently assumed.

Table 2. Dental age estimates for analysed individuals from Tomb 1 at Kipia.

Age (following Ubelaker, 1989; Gaither, 2004)	Maxillae	Mandibles
18 months (±6 months)	1	0
2 years (±8 months) to 3 years (±12 months)	0	1
3 years (±12 months)	1	2
4 years (±12 months)	1	1
10 years (±30 months)	1	0
?Adult	2	2
Adult	2	11

Age estimates for non-adults based on long bone lengths indicate a wider range of age at death than the dental remains. Table 3 lists each element from a non-adult for which total length could be measured (or estimated to the nearest mm with confidence), and the age range this corresponds to most closely based on Gaither's (2004) data (ages in years) or Scheuer *et al.* (1980) (ages in foetal weeks). The total non-adult MNI of 12 individuals based on long bone dimensions is greater than the 6 estimated above using the zonation method.

Table 3. Age estimates of non-adults analysed from Kipia Tomb 1 based on long bone lengths. Ages in years estimated from Gaither (2004) and ages in foetal weeks based on Scheuer *et al.* (1980). Due to increased variability in the relationship between age and long bone lengths at puberty and smaller samples of adolescent individuals in archaeological reference samples than at younger ages, it was not possible to be more specific regarding the age estimate for the 'adolescent'.

Element	Side	Age estimate	MNI
Femur	R	27.0 foetal weeks	1
Tibia	L	27.2 foetal weeks	
Ulna	L	29.6 foetal weeks	
Humerus	R	34.1 foetal weeks	1
Femur	L	36.7 foetal weeks	2
Ulna	L	36.7 foetal weeks	
Ulna	R	37.2 foetal weeks	
Ulna	R	37.7 foetal weeks	
Humerus	R	0-0.5 years (38.3 foetal weeks)	
Radius	L	0-0.5 years (40.6 foetal weeks)	
Tibia	R	0.5-1 year	1
Femur	R	1 year	1
Fibula	L	2 years	2
Ulna	L	2 years	
Femur	R	2 years	
Femur	R	2 years	
Radius	L	3 years	1
Tibia	R	5 years	1
Fibula	L	9-10 years	1
Fibula	R	9-10 years	
Humerus	R	10 years	1
Radius	L	Adolescent	1
Radius	R	Adolescent	

The tomb included at least 1 foetus of approximately 27 foetal weeks of age, another of approximately 34 foetal weeks, and at least 2 (but probably more) newborns. The tomb also included individuals spread through the age range from 1 year to adolescence. Mortality profiles for populations in modern developing countries indicate that child mortality is highest soon after birth and in the first 2 years of life, declining to around age 5 years (Save the Children, 2001; WHO, 2005). Thus, the age profile of children in Tomb 1 could be broadly consistent with a natural death population, although the sample is very small and combined with its commingled nature the data must be interpreted cautiously.

7.3 Sex Distribution

There is no evidence for a sex bias in the adults, although sex could be estimated for relatively few individuals. Sex could only be estimated for a small number of pelvic remains, but there are at least 7 (possible) females and 4 (possible) males (Table 4). Only 3 crania or cranial fragments could be assessed for sexually dimorphic traits: 2 were scored as possible males while a third was scored as possible female, but only based on a single trait.

Table 4. Number of individuals of each sex among adult skeletal material from Kipia Tomb 1, based on pelvic morphology.

Side	Female	?Female	Indeterminate	?Male	Male
Left	2	4	3	4	0
Right	0	7	5	1	1

7.4 Burial Practices and Taphonomy

In interpreting %NISP, it is important to take into account the number of times each element occurs in the body (each person has 1 mandible, 10 metacarpals, 12 thoracic vertebrae, 14 phalanges in each hand and foot etc.). With this in mind, %NISP data (Figure 11) indicate that elements like small bones of the hands and feet and metacarpals are underrepresented compared with, for example, the long bones. As the material was fine sieved, recovery bias cannot account for this observation. This may indicate secondary deposition of the bones in the tomb, during which smaller elements like hand or foot bones may be less likely to be collected from the primary deposition location than long bones (e.g. Gerdau-Radonic & Herrera, 2010; O'Shea & Bridges, 1989), or perhaps if remains were repeatedly removed to participate in ceremonies as is widely documented in the Andean region (Kaulicke, 1997), and then replaced. However, the same elements are known to be some of the first lost due to animal scavenging or in the normal decomposition process (Haglund, 1997; Haglund et al., 1989; Robb, 2016), and as particularly small bones may have filtered down to the lower layers which were less extensively analysed, so it is not possible to distinguish between these mechanisms in this case.

Crania were also under-represented in the overall sample, although this is illustrated more clearly by the MNI data. Only a single cranium was found relatively intact, which may reflect post-depositional human disturbance. This is also suggested by the relative lack of teeth – if it was simply the case that crania were highly fragmented but not underrepresented, a large number of loose teeth would be found since they are readily identifiable and generally preserve well due to their density. Element density may also partly explain the representation of different elements: less dense elements such as vertebrae are also heavily underrepresented. As scavengers tend to attack vertebrae last (Haglund et al., 1989), this may implicate the role of other processes such as secondary deposition or natural decomposition (Robb, 2016). Similarly, the relatively high number of long bone fragments that could not be identified to element attests a significant level of post-depositional disturbance and bone fragmentation in T1.

Twenty identified specimens or 1.3% of identified material showed evidence of gnawing, of which one case was by a dog and the remainder were by rodents. This could well be significantly post-depositional, as a consequence of unwrapping mummies during the Spanish Period, and/or scavenging. There was no patterning as to which elements were affected (data not shown). Seventy-five percent of gnawed bones were collected from the surface, which is intuitive as these would be most accessible to animals. Four specimens came from the first level and one from Level 2. This indicates a degree of animal disturbance. However, the degree of evidence for scavenging does not suggest that it is extensive enough to fully account for the underrepresentation of small hand and foot bones, although it cannot be excluded as a contributory factor. A cut mark was recorded on a partial subadult/adult right fibula found on the surface. This could relate to destruction of the mummy bundle by looters.

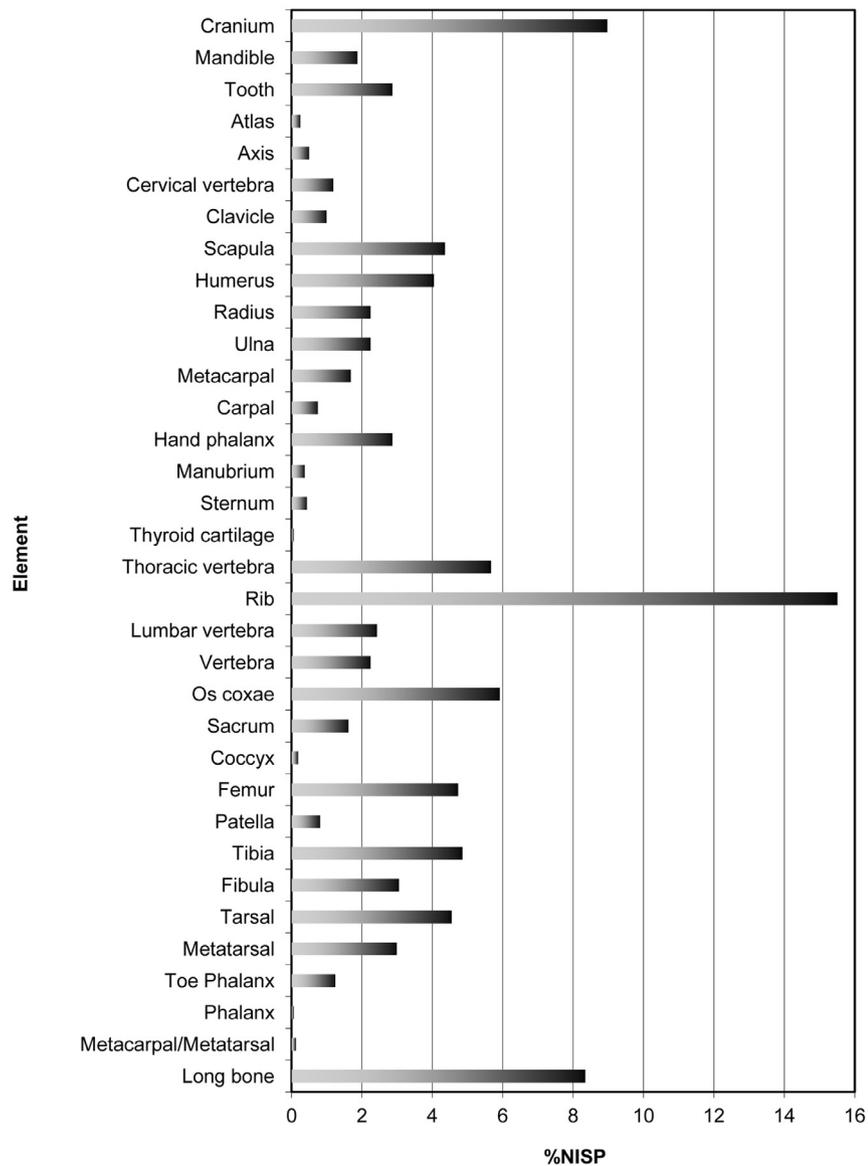


Figure 11. Percent number of identified specimens (%NISP) according to element.

7.5 Pathology, Developmental Anomalies and Cultural Modification of the Skeleton

Relatively few pathological lesions or developmental anomalies were observed. Five long bones were markedly bowed, which might indicate rickets (Aufderheide & Rodríguez-Martín, 1998). Interestingly, Gerdau-Radonic and Herrera (2010) also reported the common occurrence of bowed lower limb long bones among remains from a communal grave structure at Keushu in the nearby Cordillera Blanca. Other pathological lesions included small numbers of degenerative joint processes affecting vertebrae and lower limbs, one example of trauma (vertebral crush fracture, healed), and low rates of dental caries with 4.6% of teeth being affected.

Although the contents of T1 at Kipia were only partly excavated and analysed, the results offer important insight into the archaeological use of this communal subterranean tomb. They suggest that at least 20 adults and 12 non-adults were interred in the tomb. The adults included individuals of both sexes, and the non-adults ranged in age at death from foetal to adolescent. Taphonomic evidence may indicate

secondary deposition of mummy bundles, and shows evidence of human and animal disturbance of the skeletal remains.

The tomb has been heavily disturbed which limits the potential for interpreting original burial position or the manner in which new individuals were added to the tomb (as for example in Gerdau-Radonic, 2007), or the nature of grave goods and offerings. However, there was evidence for textile, twine, worked metal, ceramic, gourd and beads in the burial context and a possible stone base was found on which a mummy bundle may have been placed. Potentially then at least some remains were originally deposited as mummy bundles. As the tomb is too small to accommodate the projected number of mummy bundles at one time, it is possible that as remains decayed they were moved aside or partially removed elsewhere as new material was added. We also cannot exclude the possibility that remains were gathered from elsewhere (perhaps a primary deposition location, or gathered up following looting and scattering in later periods) and subsequently deposited in T1, although the presence of small non-adult bones and some smaller bones of adult skeletons, as well as very small cultural items including cactus spine needles would argue against this interpretation.

The material correlates would indicate that the tomb was in use during the LIP. No LH material was found in this context, although we surmise that use would have continued during this period. We would expect T1 to have been abandoned during the early Spanish Colonial Period (AD 1532–1615). Nevertheless, local sources told us that until as recently as the 1950s and 1960s the skulls from certain tombs were removed before the rainy season for use in shamanic rituals to summon the rains. This practice only went out of vogue following a new wave of US-inspired Christian evangelist churches that made headway in the highlands during the latter half of the 20th Century, especially during and after the 1970s, which frowned on these practices (Amat & Pérez, 2008). The practice of taking out skulls for local ceremonies directly references the Prehispanic Andean practices described above.

8 Discussion

Graves and cemeteries have always been liminal places and spaces, in the context of Kipia though this liminality takes on a wider connotation that encompassed the surrounding landscape. In the Prehispanic Andes the landscape was innately animated (Lane, 2011b), and Kipia is positioned at the centre of its particular physical environment. In this sense, Kipia was not just a repository for the dead, but more widely a place of communion between the living and the departed, epitomised in the inter-related opposing characteristics of ‘dryness’, inherent to the *pukullo*-type tombs, and ‘wetness’, associated to the central *huaca-huanca* (RF5), and the other carved rock-faces.

The ‘wetness’ of RF5 is identifiable in the carving and pitting of rock, and its possible use for libations (see above), as well as in the morphology of the offerings deposited in the pits and niches associated to RF5 and the other rock-faces. Among these offerings were fragments of *Spondylus* otherwise known locally as *mullu*. In the Prehispanic Andes, *Spondylus* was closely associated to the Pacific Ocean – seen as an Andean maximal *pacarina* – from where it originates, and was extensively used in invocations for rain (Gorriti Manchego, 2000). Trade in *Spondylus* was a deep-time, pan-Andean practice, as were the rituals associated to its use (Blower, 1996). Aside from *Spondylus*, there were also coarsely cut andesite stones, river pebbles, and ceramic fragments smoothed by water action. As stated, these last two types of artefacts were transformed by water, further highlighting the ritual connection of this site with water.

The andesite rock deposits are also very interesting. As mentioned above, the underlying geology of the high-altitude lakes is almost entirely composed of andesite. By placing andesite rock in this context, there is palpable linkage between Kipia and the lakes. The movement of water and rocks in ritual pilgrimages has been recorded for the central Andean area (Gose, 1993; Salomon, 1998). In this particular case, the presence of andesite could mean an attempt to “bring down the lakes” to the site as part of rituals associated to water and its availability through the intermediary of the *huaca-huanca* of RF5. In this sense, it is possible that Kipia was a crucial cosmological nexus along a pilgrimage route connecting these communities to the lakes, mountains and water located up-slope.

In this respect, the *pukullo*-type tombs represent a pivotal piece in this site's cosmological set-up. First of all, it is important to note that only *pukullo*-type tombs are represented at Kipia. This is not the case with other mortuary sites in the study area which are usually a combination of *machay* (rock-shelter) or *chulpa* (free-standing) type tombs. In fact, at other funerary sites in the area, *pukullo*-type tombs are rare. Given that only *pukullo*-type tombs are present at Kipia, the suggestion is that there might have been an attempt at recreating a more direct relationship between the desiccated bodies, their *camac* or vitality, and the imagined underground links to the *pacarina* and its life-giving waters, hence the reliance on *pukullo*-type tombs.

In this scenario, some of the bodies might well have been venerated oracular ancestors (*mallquis*) materialised as desiccated mummies in *pukullo*-type tombs. These, together with the Huaylas manifestation of Llibiac – the lightning deity of rain and herds – incarnate in the *huaca-huanca* (RF5) could have provided a local proxy that linked the site and its environs to the mountains and lakes both physically and metaphorically. In this case, Kipia would have combined the 'dry' dead and the 'wet' rock as a counterpart to the *pacarina* in its dual role as life-giver and final repository of the dead, although life and death were not immutable or exclusive in the Andean context; rather both states of being, bridged an ever-changing relationship predicated by a sublimely animated landscape.

9 Conclusion

The true significance of T1 and its sister *pukullo*-type tombs at Kipia is how they relate to the physical and cosmological importance of Kipia. As stated previously, Kipia is not the biggest site in the area but it is the most complex and strategically placed to dominate its environment. Located high in the Pamparomás Valley it commands access to both the Chorrillos area to the southeast, as well as the Uchpacancha side-valley to the northwest. Furthermore, it is located within walking distance of the large Huaylas settlement site of Atunhirka (Lla 1) immediately to the north. Atunhirka is on the crossroads between the Chaclancayo and Cosma Valley. Given the Late Horizon (AD 1450–1532) component present at the site, it would not be unreasonable to suppose that the Inca high road leading to the northwest of the administrative site of Intiaurán [Co2] might have come through, or near to, Kipia before crossing over to the Cosma Valley (Lane, 2006a).

Nevertheless, more important than its physical, strategic significance, was its role as a local *huaca* dedicated to the lightning deity in which overt manifestations of life and death cohabited. In turn, Kipia linked into a network of other larger potentially sacred sites, such as the lakes, including Pacarinacocha. The invisible threads that tied these local places together would eventually have coalesced around veneration of the maximal lightning deity *pacarina* in ancient Ancash, Conococha located to the extreme south of the Callejon de Huaylas (Duviols, 2003).

Excavated, comparative highland Late Intermediate Period (AD 1000–1450) tombs are limited, but they all suggest a similar pattern of including both adults and non-adults in communal burial structures, for instance in the tombs studied by Gerdau-Radonic and Herrera (2010). The number of individuals contained in these structures is also variable. The reasons for this variability is as yet unknown, and it will only be through a much greater understanding of the use and social significance of communal burial practices, that an answer might suggest itself. A necessary, first step towards this, is documenting the temporal and geographic variation in the use of these structures. In this sense, the results from Kipia T1 make an important addition to the small dataset available which includes a reduced number of publications, especially for the Ancash highlands (e.g. Gerdau-Radonic & Herrera, 2010; Ibarra Ascencios, 2017). Furthermore, a common problem with all the human remains in these structures is that in none of these examples was it possible to discern the original placement and sequence of deposition for the human skeletal remains, this is a problem compounded by the heavily disturbed nature of these contexts.

In synthesis, this study makes a valuable contribution to the very limited literature on the use of communal burial structures in the Andes that is based on excavation and detailed osteological analysis. While the results are necessarily preliminary given that the material could not be completely excavated

and analysed, it is clear that this tomb was used for individuals of both sexes and a range of ages from foetal onwards, and likely accommodated over 30 individuals. While colonial and modern disturbance undoubtedly impact on the information that can be gained from such excavations, as Gerda-Radonic and Herrera (2010) argue, they still offer important insights into the use and social significance of such sites, and further detailed analyses can only serve to help us understand temporal and geographical variations or commonalities in the meaning and usage of these tombs.

At Kipia, the first definitive break with the past would have come with Spanish occupation of the site. It is likely that this continued until shortly after the edicts of Viceroy Toledo in 1580 (Mumford, 2012). The spaces for unused cist tombs in the shrine-sanctuary suggest that the use of the site by the Spaniards was not long enough to warrant burials within the enclosure of the chapel-sanctuary. It is probable that the decline in the Andean indigenous population in the period following Spanish colonization (Cook, 1981), would have precipitated the abandonment of the site. This allied with the Spanish need for people to disassociate themselves from a Prehispanic cult site, resulted in the complete abandonment of Kipia, and the dispersion of the population to neighbouring villages towards the end of the Sixteenth and beginning of the Seventeenth Century. Left behind was but a memory of misplaced worship, and more modern superstitions in which local myth conflates the site with antediluvian pagans (*gentiles*), an evil wind (*wayra*), and the unsettled dead (*espíritus*).

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