Chapter 10
High Altitude *Ushnu* Platforms in the Department of Ayacucho Peru, Structure, Ancestors and Animating Essence

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Introduction

This study is based on a pilot project that was launched to test the validity of a series of hypothesis about the nature, structure, function and role of *ushnu* platforms in the Late Horizon Inka landscape of the Peruvian Andes. The theories to be tested were firstly whether *ushnu* platforms were constructed to a precise form that closely resembled the geological, geomorphological and hydrological characteristics of nearby mountains and the surrounding landscape. Secondly, whether the structures adhered to a system of interconnected 'sight lines' linking landscape features in remote and widely dispersed parts of the Inka Empire. Thirdly, whether children (*Capac Hucha*), were selected to be brought to the *ushnu*, and to be sacrificed there, and placed in, under, or in close proximity to the structure. A collaborative research project was organized involving the Universidad Nacional de San Cristobal de Huamanga and Royal Holloway of the University of London with British Academy funding. The project involved the exploratory excavation of two high altitude *ushnus* in the department of Ayacucho. In addition, the sampling of lake sequences in close proximity to these structures was to be completed in order to facilitate the contemporary landscape reconstruction of areas around the *ushnus*. Aspects of mutual visibility between *ushnus* and other landscape features were to be investigated using GIS facilities available at Royal Holloway.

The Inkas in the Andean Landscape

The economic organization of the Inka state was based on the recognition of the importance of vertical as well as horizontal distance and by applying to these principals of ecological complementarity (Murra, 1975, 1980). In a mountainous landscape with very pronounced topography, microenvironments vary dramatically with altitude. Potential catastrophic variations in climate as a result of the unpredictability and the effects of El Niño-Southern Oscillation events as well as the

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prevalence of tectonic instability means that the area constitutes a high risk setting for any social group foolish enough to link its survival to a single ecological niche and restricted resource base. As a result, successful social groups aim to achieve economic stability by seeking to maximize their access and rights to multiple micro environmental and supply niches. This was achieved in the Andes by settling related kin groups in the maximum number of resource areas and maintaining a balanced set of reciprocal kinship obligations to supply each other with the total package of resources available in all of the resource islands under control of the group as a whole. This resulted in communities, which linked central areas with distant peripheries in a single economic, political, social and religious system (Murra, 1980; Rostworowski, 1977, 1981). The ideological basis of the Andean societies provided them with a conceptual model, which allowed them to understand their world as made up of a patchwork of interdependent communities with interlinked responsibilities and obligations. This ideological structure was maintained by a system of pilgrimages and exchange mechanisms of sacred essence, which served to stabilize and maintain the structure of society in balance (Staller, this volume).

The religious elements of this system were rooted in the role the nobility and rulers played in maintaining stability and fertility by their perceived interaction with Sacred Places (*huacas*), mountain deities (*apus* and *wamanis*) and ancestors (*mallqui*).

Rulers (*kurakas*) successful management of the state and ethnic groups within it, derived from a system of public generosity. Redistribution of goods resulting from labour tax and tribute to the subjects of the state ensured their loyalty and in executing the rules of reciprocity it meant that the ruled had a duty to respond to the leader's calls upon them as a direct result of his generosity to them. By his temporary ownership of the items he redistributed he increased the value of the goods by imbibing them with aspects of his sacredness and power. The 'values' of gifts depended not just on the inherent value of the item but also on the status; social political as well as religious, of the giver (Staller, 2000–2002:76–78, 2006:462; Morris, 1978:320–321, 1979:25). In the Andean area the *kuraka*/ruler managed the redistribution of goods within a structure of multiple environmental niches and resource sources. The entitlement of the *kuraka*/ruler in the Andes was to labour tribute, not to goods but to services. For example, a *kuraka*/ruler could ask a weaver to weave to obtain textile but he would also have to provide him with the wool or cotton to end up with a finished product (Murra, 1980).

The Inka World and the Ceque System

The Inka Empire was named Tawantinsuyu, the land of the four quarters, Chinchasuyu, Cuntisuyu, Collasuyu and Antisuyu. It was seen as being divided into four parts along conceptual lines, which came together in Cuzco. Each quarter was

divided by 9 lines known as *ceques*, except Cuntisuyu, which held 14 *ceques*, making a total of 41 (Zuidema, 2002:238). These were in each of the four quarters hierarchically ranked in three sub-groups (Zuidema, 1964). At the centre of the Inka empire at Cuzco this *ceque* system was defined by a series of 328 *huacas* or shrines, places which held sacred essence.[1] These *huacas* were physical aspects of the landscape such as stones, springs, mountains and buildings, etc., representing shrines and deities. They and their individual significance and meaning where explained in a detailed mythology, such as for example some of the *huacas* being stones which had turned into warriors to help the Inkas defend Cuzco against the Chankas (an ethnic group located in Chinchasuyu (northwest of the Inka core territory). An individual *ayllu* or *panaka* (a Royal *ayllu*) was responsible for each set of *huacas* along the line of its designated *ceque*. These *ceques* and their associated *huacas* preformed multiple functions. They defined irrigation districts and the social groups responsible for these as well as their ranking. They constituted a calendrical system central to the demarcation of Inka social and ritual culture as well as its agricultural cycles. Its details were first noted by a Spanish administrator (Polo de Ondegardo) and recorded in detail by a 17th century Jesuit scholar Bernabé Cobo and other chroniclers confirmed its existence (Albornoz, 1989 [1581–1585]; Cobo, 1895 [1653]; Molina, 1989). It has been comprehensively analysed by Tom Zuidema (1964), John Rowe (1979) and more recently by others such as Bauer (1998), and Sherbondy (1986).

The Cuzco system is the only one of which we have detailed knowledge. The Inkas sought to extend the *ceque* lines beyond the horizon to the limits of their empire (Zuidema, 1982a:421). Cobo reported that each local region and community had a similar system in place to define the sacred landscape on a local level and scale (Albornoz, 1989 [1581–1585]; Cobo, 1895 [1653]). This conceptual framework therefore served as an interactive sacred network of shrines and lines along which sacred essence maintained coherence of the centre with its periphery.

These *ceques* or sightlines formulated a conceptual network extending throughout the Inka Empire, which served to co-ordinate planting, irrigation and state ritual with calendrics and astronomy (Zuidema, 1982a:419–458). We know that in Cuzco the *ceque* system centred on the Temple of the Sun (*Coricancha*) and on the *ushnu* and Sunturhuasi in the main plaza, Huacaypata.[2] These served as points from which astronomical observations could be made of the central sectors of both the eastern and western horizons. These observations allowed the Inkas to determine the most

[1] There were 41 *ceques*, an eight day Inka week means that $41 \times 8 = 328$; $365 - 328 = 37$, Pleiades could not be seen for 37 days at Cusco around the time of the conquest, it disappeared at the time harvesting finished and reappeared at the time planting commenced; in addition it should be noted that 12 sidereal lunar months of 27.3 day, $12 \times 27.3 = 328$.

[2] Huacaypata or the terrace of festivals (Vega, 1723:235) comprises the centrally placed principal plaza of Cuzco where some of the most important yearly celebrations would be acted out such as the solstice rituals, the harvest and planting celebrations, aspects of the young adults initiation rites, and the cleansing (*citua*) festival. At such times the mummified remains of former Inka rulers would gather in the plaza to participate and be part of the religious events unfolding.

important dates for their agricultural activities (Zuidema, 1989a:404, 406–407, 413). According to Pizarro (1978:91), the *ushnu* in the principal plaza of Cuzco functioned as a seat of the sun. Particular images and idols of the sun, which are likely to have constituted small gnomons were placed on these seats at certain times (Zuidema, 1989a).

There were three types of *ceques*, the first was local to the *huacas* being worshipped, the second concerns the sightlines, which cover a valley, the third was the *Capac Hucha* and the sightline connecting two distant points. Mountain passes connect horizon points to the centre and link the deeper valleys into the system (Zuidema, 1982a:431).

Capac Hucha Sacrifice

Cuzco was at the centre of Tawantinsuyu and the Inka universe. The fact that items came from Cuzco increased their value and the status for the recipient many times, certain sacrificial foods were distributed from Cuzco to all the major shrines in the land (Murra, 1980:122). This can also be seen in the manner that *Capac Hucha* sacrifices where distributed. Firstly, chosen 'perfect' children were sent to Cuzco where the *Capac Hucha* would be chosen from among them. Following elaborate rituals, they would return to where they came from (in an as straight a line as possible) where they were sacrificed, and their parents would gain greatly in status (Zuidema, 1989b:144–190).

The link of the *ushnu* with human, particularly child sacrifice, is made explicitly by Guaman Poma de Ayala (1980:236), Cieza de León (1947 [1553]:435) and Carabajal (1965 [1586]:218–219). C*apac* specifically *Capac Hucha* sacrifice is of crucial importance. Following this chronicler evidence child sacrifice was associated with the structure of the *ushnu*; and from the *ushnu*, in the case of Cuzco itself sacrificial victims were redistributed to the outlying quarters of the Inka state. These sacrificial children carried, along straight routes, with them the self-sacrifice of the Inka back to their communities of origin (Urbano and Duvoils, 1989), where the actual sacrifice was completed. They provided some of the most important links to maintain the stability and health of the state (Zuidema, 1989b:144–190; Hyslop, 1990:72).

An interesting element to note is that the *Capac Hucha* sacrifice as an expression of the Inka himself, when travelling could only be accompanied by the people whose territory he or she passed through. If this was not the case then the people travelling with the *Capac Hucha* could claim title to the land (Zuidema, 1982a:429). This indicates that even prior to being sacrificed the *Capac Hucha* was already perceived as being at one with the world of the ancestors, as it is the ancestral link with resources, which legitimizes a group's rights to them.

Capac Hucha has been translated as 'great sin' or 'sin of the Inka' (Rostworowski, 1977; Zuidema, 1964). Urbano and Duvoil argue that the meaning of *hucha* as sin is a colonial change to its original pre-conquest meaning. Molina equates the term

with *cachagues*, *cachaguaco* which has a meaning of messenger and confidant (Urbano and Duvoils, 1989:120–121, note 134). This translation of the *Capac Hucha* sacrifice would come close to the delegated self-sacrifice of the Inka as a ruler and deity in which the *Capac Hucha* represents the Inka himself moving from Cuzco to the location of sacrifice, clearly dressed and covered in special textiles demonstrating the embodiment of the Inka in a regional sacrificial context. Albornoz remarks on a further use of the term *capaccocha* he notes that all *huacas* have clothes made of the finest textiles which the population used to re-instate and re-dedicate *huacas* following their destruction by Spanish extirpators (Albornoz, 1989 [1581–1585]:196).[3]

'The practice of linking points of ancestral and cosmological importance with the capital of Tawantinsuyu through lines, conceptual or materialized in pilgrimages, was compelling in Inka society' (Van de Guchte, 1990:59). These pilgrimages included the journeys of *Capac Hucha* sacrifices from their home communities to the centre at Cuzco where they would be dived up and the ones selected for *Capac Hucha* would return to their home communities in as straight a line as possible to be sacrificed and become native ancestor deities including at *ushnu* platforms.

Ushnu Definitions

The term *ushnu* had a variety of complementary definitions: as throne of the Inka (Guaman Poma de Ayala, 1980 [1583–1615]:239, 357), as a site of '*capac hucha*' or human sacrifice (Guaman Poma de Ayala, 1980 [1583–1615]:236), as basin/post of stone or gold in the plaza's of towns, all with structures like towers built in beautiful stonework (such as at Vilcas, Pucára, Huanuco Viejo and Tiahuanaco)[4] where the Inka lords sat and drank to, and made many sacrifices to the sun (Albornoz, 1989 [1570–1584]:176) as a 'sitting' stone, or a boundary marker when it is a large 'sitting' stone ([1608]); walling an *ushnu* is mentioned in the Huarochirí manuscript (Salomon and Urioste, 1991:102); as a stone and first *huaca*, on the fifth *ceque* line in the Antisuyu sector (Cobo, 1897 [1653]:27) and on the thirteenth *ceque* line in the Cuntisuyu sector (Cobo, 1897 [1653]:45); a stone altar, which they called *Osno*, for their sacrifices (Anónima, 1968 [1580–1621]:157); there is also the reference by Anónima to its use as a pillar for solar observations (see below), and the observation of it representing stones arranged in the manner of a throne or platform, by Joan de Santa cruz Pachacuti Yamqui (1993 [1613]:200).

[3] The terms *capaccocha/capac hucha* according to Molina equates with *cachaguaes/cachaguaco* (Molina, 1989:120–121, note 134; Albornoz equates *ceque* with *cachauis*. Considering that Quechua was not a written language and the overlap and running on of words from one to the other as frequently occurred in 16th & 17th century Spanish (Rowe, 1979) the terms *cachaguaes* and *cachauis* are likely to be the same. On some level therefore *capac hucha* and *ceque* have a common strand (Zuidema, 1982a:431).

[4] Clearly, Albornoz is referring here to the platform type *ushnu* structure.

Cabello de Valboa when discussing Guayna Capac's construction activity in Tumibamba (sic) notes the construction of an *ushnu* in its plaza. He describes it as a seat of Huayna Capac where *chicha* was offered to the sun, and that it is also known by another name, namely Chuqui pillaca (Cabello Balboa, 1951 [1586]:365). This, following Diego Conzalez Holguin translates as '*llaca chuqui*' = *lança de Guerra emplumada* and '*pi*' = *en mi mano esta*. The wording *llaca chuquies* is used by Carabajal when he describes the Inka on the *ushnu* at Vilcas Huaman. He describes them as being large lances made of palm wood, which below the copper point had a tassel of bristles of peccary hair (1965 [1586], 218). The phrase could therefore be translated as a feathered war lance in my hand, or perhaps more accurately in the hand of a person involved in ritual activities.

The Inka in one of the illustrations by Guaman Poma de Ayala, showing him on his *ushnu* (Fig. 10.1) (Guaman Poma de Ayala, 1980:370), and when he (Guaman Poma de Ayala, 1980:305, 313, 355), his '*segunda persona*', or his mummy (Guaman Poma de Ayala, 1980:350) are carried about on a litter are depicted under a canopy which is portrayed in a manner which appears to mimic feathers or leaves (Guaman Poma de Ayala, 1980:313, 355). The illustrations almost certainly are meant to represent feathers, as they look identical to representations of feathers elsewhere in this manuscript (Guaman Poma de Ayala, 1980:301), and appear to constitute a drawing convention for 'feathers'. There is also a parasol depicted with

Fig. 10.1 Inka on ushnu under feather canopy (from Guaman Poma de Ayala, 1980 [1583–1615]:370 *fol*. 160)

Fig. 10.2 Manco Capac with feather parasol (from Guaman Poma de Ayala, 1980 [1583–1615]:67 *fol*. 25)

the image of Manco Capac, the first Inka (Fig. 10.2) (Guaman Poma de Ayala, 1980:67). Parasols are further illustrated as being held over the heads of elite royal queens (Guaman Poma de Ayala, 1980:98, 112, 116, 118, 120), interestingly enough in all but one case they appear to be shown indoors (Fig. 10.3). The parasol too appears to represent an item where the canopy is made of feathers. There is a clear distinction being made between the ones associated with Inka elite and the illustration of a Christian principal and his wife where the parasols used appear to be made of a textile type of material (Guaman Poma de Ayala, 1980:710). Carabajal when describing the use the Inka makes of the *ushnu* at Vilcas notes that the Inka is under a large canopy called *achigua* (parasol according to Gonzalez Holguin, 1989 [1608]:13) made of bird feathers of 'a thousand colors', held up on poles made of gold. It was carried by 12 captains of ancient lineage (Carabajal, 1965 [1586]:218).

The covering with a textile or a piece of textile covered in feathers owned by a *huaca* may be seen as a metaphorical reference to the concept of movement of *huacas* and their associated sacred essence from one place to another. *Mitimae* communities are known to have put textiles over their principal *huacas*, particularly their *pacarinas*, in their home territory. This textile they then took to the new area where they were to be resettled. These textiles would there, in the new territory, be put over objects in the landscape which would by this action be transformed into the equivalent *huaca* as existed in the home territory (Albornoz, 1989 [1581–1585]:171, 180).

Fig. 10.3 Coya under feather parasol depicted indoors (from Guaman Poma de Ayala, 1980 [1583–1615]:118 *fol*. 49)

Thérèse Bouysse-Cassagne in her study of use made of feathers by the Inkas has demonstrated that they were conceptually linked to concepts of transformation and sacred essence (Bouysse-Cassagne, 1997:545–565). What would therefore be the symbolic meaning of shading the Inka from the sun when he is the son of the sun? or indeed the daughter of the moon (in the case of the Inka *coya*) from the moon. Is it perhaps more a reflection of what is under the parasol, as in containing the sacred essence, perhaps most clearly demonstrated by the fact the Inka queens are shown indoors with parasols being held over their heads (Guaman Poma de Ayala, 1980:98, 112, 116, 118, 120).

No feather constructed parasols or canopies are known from any archaeological context. This is not surprising if their association is strictly with the Inka and his *coya*, particularly as all known Inka and *coya* mummies (and their associated 'grave goods') are thought to have been destroyed by the Spaniards. *Capac hucha* sacrifices, where these have organic remains surviving do include a feather type helmet (Reinhard and Ceruti, 2000:Figure 46) not known from other Inka burial associations, which is almost exclusively coupled with the Inka and his captains in Guaman Poma's illustrations (Guaman Poma de Ayala, 1980:passim).

In a description which dates to 1551, Betanzos outlines the use the Inkas made of the *ushnu* platform or seat (Betanzos, 1987 [1551]:185–186).

The Inka, Guayna Capac, travelled through Tawantinsuyu visiting all the *Curazgos*, pueblos and provinces, and before entering the principal towns or villages he dressed in their ethnic dress and had his hair arranged as theirs. "He entered their principal town where he came to the main plaza where they had a platform (*castillejo*)

with a small rock filled basin, which he climbed and where he sat down on his seat and reviewed all the people and they saw him. They brought him many llamas, which they sacrificed and they brought him much *chicha* (maize beer), which they put as a libation in the basin. He drank with them and they with him. Later he descended, danced, ate and sang with them and granted them many blessings. He got them to bring him all the poor, widows and orphans and he got them to tell him what they possessed and nobody would not tell the truth and he provided for them from the store houses which there are for this purpose in each village" [translation by the author].[5]

In 1552, Cristobal de Molina, as quoted by Morris and Thompson (1985:59), mentioned of these platforms, that 'in each town there was a large royal plaza, and in the middle of it was a square high platform with a very high staircase; the Inka and three of his lords ascended it to speak to the people, and see the army when they made their reviews and assemblies'.

Christobal de Molina (c.1570) describes the *Citua* ritual held in the main plaza of Huacaypata in Cuzco, during the month of August. *Citua* as presented by Molina is one of the most important celebrations in the Inka calendar as he devotes (in the edition used here) 24 pages to this month. April and November, which represent the next most detailed descriptions, get 16 and 12 pages respectively and four months merit less than a page each (June and January to March). Although he states that the *Capac Raymi* celebration (in November) constitutes the most important festival of the year. August was the month in which the rains started and diseases came to the land and served to appeal to the creator that during this year there would not be any. Molina states that this festival took place at the time of the conjunction of the moon (probably signifying the astronomical new moon in this context). For the duration of this celebration all foreigners and people with disabilities were made to leave Cuzco to a distance of two leagues. Four groups of one hundred warriors gathered at Huacaypata around the *ushnu*, here comprising a stone basin made of gold for libations of *chicha*. Each of these groups took to the four main roads leading out of Cuzco to one of the four quarters or *suyus* shouting to banish all evil, bad and polluted things. These cries were handed over to *ayllus* of *mitimaes* at regular intervals (around every two leagues) who carried the cries banishing the dirt and

[5] *ansi entraba en el pueblo principal della donde llegado que era a la plaza del le tenían hecho cierto asiento a manera de un castillejo alto y en do medio del castillejo una pileta llena de piedras y como llegase el Ynga al pueblo subíase en aquel castillejo y allí se sentaba en su silla y de allí veía a todos los de la plaza y ellos le veían a él y siendo allí traían delante de el muchos corderos y allí se lo degallaban delante y se lo ofrecían y luego le vaciaban delante mucha chicha en aquella pileta que allí estaba en sacrificio y él bebía con ellos y ellos con él y luego descendía de allí y bailaba y cantaba con ellos asidos de las manos a manera de quien anda en corro y comía con ellos y esto hecho dábales de lo que llevaba y hacíales mercedes y des que esto era hecho mandaba que le trajesen la quenta de las viudas que había y de los huérfanos que todos se lo trujesen delante y ansi mismo de los pobres y luego se informaba de lo que cada uno destos poseía y decíanle la verdad porque nadie le osaba decir mentira y del que era informado que era pobre dábale hacienda de los depósitos que en cada pueblo había para este beneficio.…* (Betanzos, 1987 [1551]:185–186)

evil to the main rivers, where they washed their weapons and clothes in the waters which drained it away to the sea, thus purifying the state (Molina, 1989:73–75). The next day the *ayllus* and *panacas* constituting the Cuzco Inkas gathered in Huacaypata around the *ushnu* together with the ancestral mummies and mummies of former Inkas and their attendants, they were placed following their genealogical order, status and moiety divisions. They danced, sang, ate and drank, and the ancestral mummies were also fed and provided drink. They gave thanks to the creator (*Viracocha*) the sun and thunder gods. The Inka drank with them, and the sun had a large golden drinking vessel placed in front of him into which the Inka served him *chicha*. The principal priest took this vessel and poured the drink in the *ushnu* from where it ran via a tube to the houses of the sun, creator and thunder gods (*Coricancha*). The priest consumed and drank the sacrificed foods and drink. At the end of this day, the deities and people returned to their temples and houses (75–79). The celebration took four days, the second day was for the creator, Sun and Thunder gods, the third day for the moon and earth (mother) and on the final day all the subject nations of the Inka came with their *huacas* in their national dress, and they and their priests came to do homage to the creator, Huanacauri, sun and thunder (*ibid.*:94). This ritual acted to unite all the Inka groups *ayllus* and subject nations, and in a rigid and synchronised manner this ritual yearly pilgrimage manifested and defined the social political space of the Inka state (Urbano and Duviols, 1989:74, note 48), and indeed confirmed it in its purified unity.

Like the *Citua* runs *Capac Hucha* routes (as distinct from the location where the sacrifice was completed) were required to reach their limit at rivers or the sea (Duviols, 1976:21; Heffernan, 1996:27).

That the *ushnu* played a role in observations of sky phenomena and horizon observations for the purpose of the time keeping of the calendar is clear from a reference to this practice by the anonymous chronicler. He states:

> The place taking the sun to enter the central two pillars was another pillar in the middle of the plaza, a pillar of well dressed stone, one estado high, in the middle of the plaza, in a place for that purpose was singled out, that they called *Osno*, and they measured the sun between the two pillars, and when it was exactly there, it was the time for sowing in the valleys of Cuzco and around. (translation by Zuidema, 1982b, with revision by Patricia J. Lyon) (Anonymous Chronicler, 1906 [1581–1585]:151; as quoted by Dearborn and Schreiber, 1989:61)

The Huarochiri manuscript refers to an *ushnu*. When Llocllay Huancupa (a *huaca*) disappeared the people grieved and searched for him. They went to the place where Lanti Chumpi (a local woman) had first discovered him and built him a step-pyramid (Salomon and Urioste, 1991:102). In the explanatory footnote (Salomon and Urioste, 1991:102, note 479) *'husnocta pircaspa'* is translated as literally meaning 'walling an *ushnu*'.

Cieza de León links the *ushnu* of Vilcashuaman with child sacrifice (1947 [1553]:435) and Felipe Guaman Poma de Ayala says of *ushnus*, that the Inkas had in their dominion lands reserved for sacrifices named '*usno*' (ceremonial structure) which was always for *Capac Hucha* (human sacrifice) to the sun and to feed the huacas (using libations) (Guaman Poma de Ayala, 1980 [1583–1615]:236).

Carabajal notes that at the *ushnu* in Vilcas Huaman unblemished and flawless children, selected for their beauty were sacrificed in pairs, well prepared and adorned in beautiful clothes. They were offered to *Ticsi Viracocha*, the creator god, to the sun, the earth mother and a white llama was sacrificed to the thunder deity (Carabajal, 1965 [1586]:219). Pachacuti Inka arranged the sacrifices to the *huacas*, temples of the sun and Coricancha and the throne and seat of the Inka, named '*usno*', in every '*uamani*' (Inka administrative district) (idem 239). He refers to the *ushnu* as the throne of the Inka (Guaman Poma de Ayala, 1980 [1583–1615]:357). He also infers a level of political power inherent in the *ushnu* in a description of Don Francisco de Toledo, the Spanish Viceroy, on a visit to Vilcas Huamán. Toledo climbed the *ushnu*, and is said to have thus been received as the Inka himself by all the local nobility (Guaman Poma de Ayala, 1980 [1583–1615]:413). Francisco de Toledo in this gesture can be said to have assumed the Inka's power from his position on the structure.

The power that the seat or *ushnu*, engendered is illustrated in this description. In position on the *ushnu* the Inka became the conduit through which the three levels of *hanan pacha*, *kay pacha* and *uku pacha* were linked. In this position he in some sense embodied the link itself, and became one with the conduit, sharing in its spiritual power (Isbell, 1978:286).

The *ushnu* as an administrative tool enabled the Inka or his representative when in position on the *ushnu* to formulate the will of the state, sanctioned by the deities of the cosmos and the ancestors of the world below to mobilize the people. Through the ruler or his representative the sacred essence flowed as the maize beer flowed through the basin down into the world of the ancestors.

There are two interpretations current of what constituted an *ushnu*, the first is that it consisted of a masonry construction in the shape of a platform or truncated pyramid (Morris and Thompson, 1985:58–59). The *ushnu* itself would have been regarded as a *huaca* of considerable importance, which conceptually was linked to mountain worship (Kolata, 1993:109–111; Meddens, 1997). The second view sees the *ushnu* essentially as a basin or fountain associated with a gnomon, which acts as an axis mundi linking earthly ancestors and *huacas* with the deities of the cosmos (Zuidema, 1989a). Zuidema (1989a, 1989c) interprets the *ushnu* concept as signifying any *axis-mundi*-like vertical conduit, symbolically linking the heavens with the earth and underworld, earthly ancestors and *huacas* with the deities of the cosmos.

In the chronicle sources, essentially Betanzos's and Molina's versions agree with each other on the role of the *ushnu* as serving as a place for libations, although Betanzos links the platform with a basin. Betanzos, Albornoz, Cabello Valboa, Guaman Poma de Ayala, Carabajal and Santacruz Pachacuti Yamqui all include the presence of a stone platform in the definition of what constitutes an *ushnu*. It should be noted that none of the descriptions of the concept are contradictory. Importantly, Betanzos' is not describing the *ushnu* in Huacaypata in his description. He describes what happens in the provinces when the Inka, the son of the sun travels. The Inka embodies the sacred essence coming from the centre and coming from the *apu*. On the *ushnu* he *metaphorically and symbolically* replicates the libations acted out at Huacaypata on the *ushnu* located there. He completes the link between ancestors

apus and subjects. The people are linked into these connections by their sacrifices and the Inka generates obligations to him personally and his state by his public generosity to the people as expressed in his gifts to the 'poor widows and orphans' (Betanzos, 1987 [1551]:185–186).

Excavated *Ushnu* Examples

A small number of *ushnus* has been excavated or sampled and of these fewer still have been published. These include Pumpu which is situated in the central highlands on the Pampa de Junin at an altitude of c. 4,080 masl. The *ushnu* at Pumpu is located a little off-center in the principal plaza of the site. It measures 25.50 m × 20.50 m at the base and has an average height of 2.10 m. Its longitudinal axis is on a near north - south orientation, and it has a single staircase, which is 9 m wide and faces east (Matos, 1994:214–217). In its construction fill was used which was not local to the site (Matos, 1994:217). This fill includes river pebbles measuring between 0.10 and 0.15 m in diameter and weighing between 150 and 350 gr. (Matos, 1994:219). This provided the structure with good drainage characteristics.

The Inka city of Huanuco Pampa is situated some 150 km NE of the modern city of Huanuco in the department of the same name on a high plain at c. 3,800 masl. The *ushnu* at Huanuco Pampa, is also located centrally in the principal plaza and like the one at Pumpu is surrounded by open space. It measures 48 × 32 m at the base, and its height is c. 3.5 m. This platform is on a near east – west alignment, and its staircase faces south. The structure appears to have an earth and rock fill (Morris and Thompson, 1985:59).

The *ushnu* at Abancay, with the name of Usno-Moq'o measures 20.60 × 19.95 at the base and has a height of 7.5 m. It appears to have been built in isolation from other Inka structural remains, although this perception may be due to a lack of archaeological work in its vicinity rather than being a true reflection of reality. Its longitudinal axis is on a north-west by south-east orientation. Earlier unpublished excavations here apparently uncovered pottery and human remains, copper and gold pendants, a *conopa*, *spondylus* shell and stone agricultural tools. The follow up excavations by Oberti did not expose any artifactual material (Oberti, 1997:19).

The *ushnu* of el Shinkal de Quimivil is situated in the Hualfín valley in north-west Argentina. It measures c. 16 × 16 m and comprises a single platform approximately 2 m in height. On its north side it has a seat, and a staircase ascends it from its western side. Its longitudinal axis is on a north – south orientation. Its fill comprises soil and rubble, which alternatingly came from the Shinkal Mountain and the nearby river Simbolar. The Inkas constructed a pebble stone floor or *cocha*, some 80 cm below the current surface of the structure. Other concentrations of rubble, difficult to interpret were present. Possible evidence for *Capac Hucha* sacrifice was represented by human vertebrae and two molars, a bronze *tumi* and other fragmentary adornments, and Thorny Oyster or *Spondylus* shell. The structure had been reused

in colonial times for localised ritual activity or possibly a *pachamanca* (Raffino et al., 1997:22–37).

Fieldwork and Results

Ushnu Pata

The fieldwork completed as part of the work for this paper comprised test excavations in two separate *ushnus* in the department of Ayacucho in Southern Peru.

The first, Ushnu Pata is located on a low saddle forming the western margin of an ancient lakebed, at 13°23′57.3 S by 74°14′53.0″ W and at an altitude of 3,664 masl (Fig. 10.4). To the west, the valley drops away and continues. Some 300 m to the north is the Inka site of Inka Pirqa Pata at 13°23′46.04 South by 74°14′43.7″ West and at an altitude of 3,700 masl. Ushnu Pata comprises a single platform measuring 15.30 m in length by 12.80 m in width. The platform is c. 1.4 m high and the walls are c. 0.65 m wide and constructed out of finely fitting polygonal ashlar stonework (Fig. 10.5). The stones average about 0.30 m across. The principal axis of the platform is on a NNE orientation of 44° off north. Along the south wall is a single step abutting the platform, providing access to the top (Fig. 10.6). It is located on a low rise or hill, separating two parts of the valley. A lower lying flat area comprising an extensive former lake-bed is located to the east of the platform. The valley gradually falls away to the west and opens up to lower lying agricultural fields and terrace systems.

Two test pits were excavated here. The first (trench 1 measuring 2 × 2 m) was located in front of the access step on the south side of the platform. The second (Trench 2) measuring 4 × 1 m was in the north-west corner, exposing both the interior of the structure and the area on the outside and in front of the platform wall. The central sector of the platform showed evidence of looting activity in the form of a rounded depression and what looked like an old spoil heap surrounding it. A large feature comprising a depression was located which appeared to constitute a quarry site for parts of the interior fill is located to the southwest side of the *ushnu*. This cut was oval in shape and measured c. 16 × 10 m by 1 m in depth (Fig. 10.6).

Much of the surrounding horizon profile comprised relatively near and rounded mountain topography. To the NNW however a distant denticulated horizon providing a markedly punctuated profile along which multiple mountain peaks are visible is present (Fig. 10.7) similar in aspect to that surrounding the whole of the site of Inka Pirqa.

The sequences in both test trenches below the level of the topsoil comprise repeated layers of mid grey dense soft rocky material followed by dark brown and black layers. This basic group of fills was repeated various times in the same order constituting the fill of the platform, and overlay the natural subsoil under the monument (Fig. 10.8).

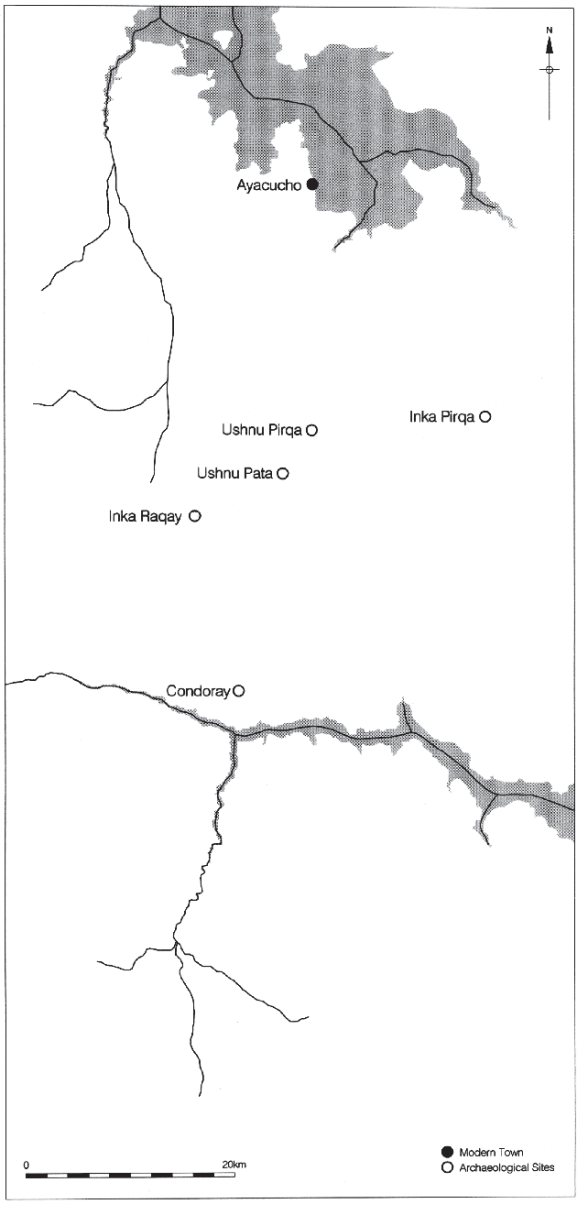

Fig. 10.4 Site location map

The single access step to the top of the platform is located off center, on the south side of the short southeast wall of the platform. This access step abuts the ashlar wall rather than being keyed into it. Even though it facilitates access, it being only a single step it still leaves a significant rise of 0.8 m to reach the top level of the platform. The only find from the excavations here comprised a single small and un-diagnostic pottery body sherd.

Fig. 10.5 Polygonal ashlar wall of the Ushnu Pata platform

The platform was constructed by levelling the summit of the hill, followed by construction of the cut stone wall. This wall was built on top of the ground surface, without first cutting foundation trenches. The fills were subsequently placed inside the walled platform structure in relatively level horizontal layers as observed across the full extent of the test trenches, and by implication across the full extent of the platform. The layers comprised dark, predominantly sandy silts, interspaced with light compacted pebbly material, possibly crushed diatomite[6] probably quarried from the cut situated to the south-west of the platform.

The alignment of the *Ushnu Pata* platform is north-east by south-west along its length axis. Its north-east corner is orientated approximately halfway between the summer or winter solstice events though this is unlikely to be related to these as the horizon, particularly in the direction of the summer solstice is obscured by a significant rise in the topography.

Inka Pirqa Pata

Circa 300 m northeast (43°) of the *ushnu* platform at Ushnu Pata an occupation site called Inka Pirqa Pata is located, at 13°23′46.4″ South and 74°14′43.7″ West, at approximately 3,700 masl. It is separated from Ushnu Pata by a flat plain named Ñuñuwayqo. The remains are located on the south-west slope of a low terraced rise. Mounds of rubble are visible and a modern irrigation canal cuts through the site.

[6] Diatomite or diatomaceous earth is a fine-grained sedimentary rock of friable chalky appearance made up in large parts of the skeletons of diatoms.

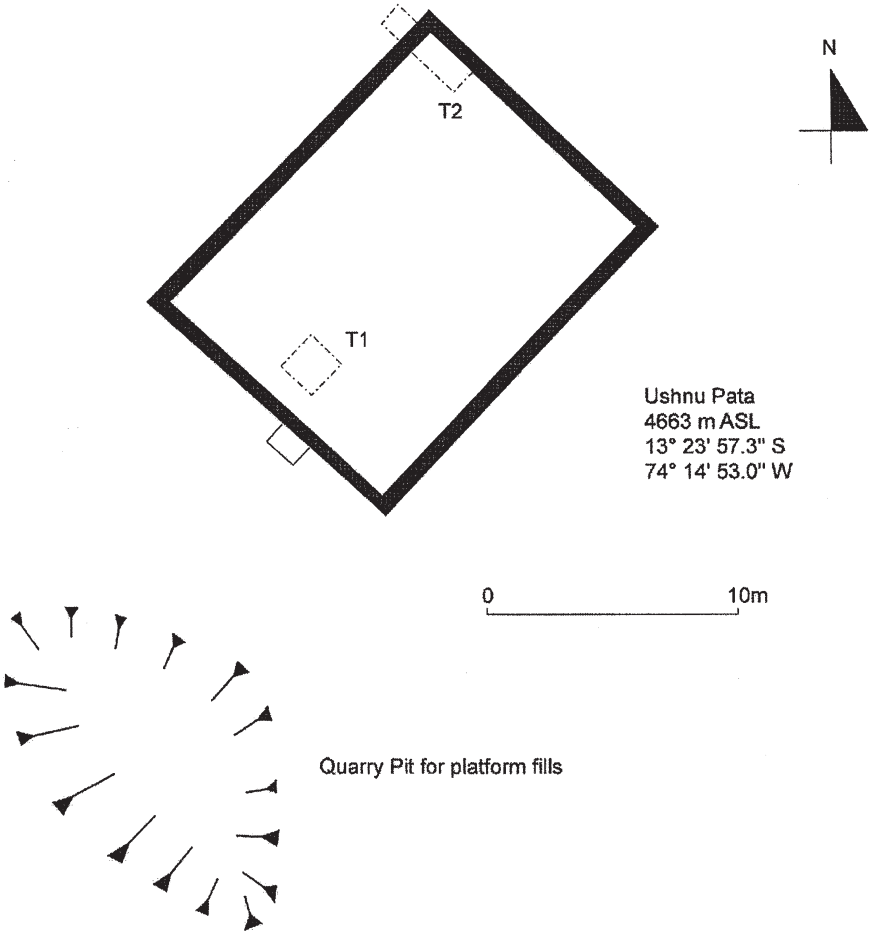

Fig. 10.6 Plan of Ushnu Pata platform

In the exposed section cut through by the construction of the canal, wall remains and stratified deposits are visible. A platform cut into the slope is present here, which is rectangular and measures approximately 15.7 × 12.2 m. Its length orientation is 225° and the wall widths is approximately 0.68 m. Half way across this platform a wall runs its entire width. The foundation of this wall appears to go the full height of the platform as could be observed in a hole, which appears to have been excavated centrally and up against it. The walls of the platform are of quarried fieldstone, moderate to large size, randomly coursed and set in clay mortar. The function of this platform is unclear and it appears to represent a different type of structure from the *ushnu* platforms

Fig. 10.7 North-northwest horizon profile at Ushnu Pata

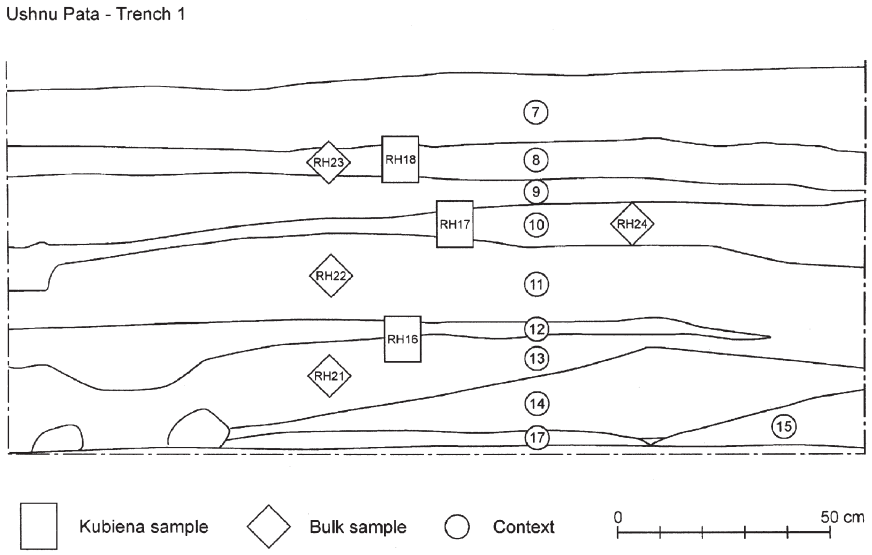

Fig. 10.8 Southeast section trench 1 showing layered profile

observed at the other sites. Finds present on the surface included stone agricultural tools such as part of a stone spade tip or *Chaquitactla* and pottery comprising provincial Inka and Late Intermediate Period style material.

Inka Raqay

Circa 13.4 km to the south west (313°) of Ushnu Pata is the site of Inka Raqay. It is located at 13°26′37.5″ South and 74°19′26.0″ West at an altitude of 3,768 masl. The site is on the edge of a modern reservoir. It has suffered extensive damage in the construction of the basin and subsequent stone robbing and looting. The foundations of large rectangular structures built in field stone and rough ashlar are visible on the surface, as are a number of carefully constructed drains and at least one elaborate rectangular bath with trapezoidal niches in three of its walls. Floor levels built of consolidated reddish clays can be observed. The site has been partially excavated by the Instituto Nacional de Cultura (Ayacucho) in advance of the construction of the reservoir, although it has not been published and falls outside the areas previously surveyed by Benavides (1976), MacNeish (MacNeish et al., 1981) and Lumbreras (1974). The settlement measures at least 300 meters across and appears to represent an elite Inka site. Part of it is below the water level of the adjoining basin and a second sizeable Inka settlement is reported to have disappeared in the building of the reservoir.

Condoray

The site of Condoray is located on a mountaintop overlooking the confluence of the Río Qaracha with the Rio Pampas 13°35′27.1″ South by 74°17′34.7″ West, at an altitude of 4,119 masl. This represents a LIP fortified settlement site with relatively few surviving circular fieldstone built structures (<30). These tend to be less than 5 m in diameter. The site has segments of up to three walls encircling it. There is a LH re-use of the site with a definable Inka presence. A single rectangular building made of moderate quality polygonal ashlar measuring 10.05 m by 7.6 m with double faced 0.85 m wide walls is located on the southwest margin of the settlement looking directly up the Río Qaracha.

Two relatively small Inka type rectangular *ushnu* platforms are known to be located several hundred meters north of the site as is a third non-*ushnu* platform. These are planned to be included in future investigations.

Inka Pirqa

Inka Pirqa is located on a rounded mountaintop on the altiplano c. 27 km southeast of the city of Ayacucho, at 13°21′40.2″ South by 74°04′38.2″ West, and at an altitude of 4,340 masl (Fig. 10.4). The *ushnu* platform present here is situated on the summit of the mountain. It comprises three superimposed platforms. The basal one is little more than a rectangular outline of rocks, or very low double-faced fieldstone wall, barely a single rock in height, constructed directly on top of the ground surface.

The wall width here is 0.65 m. This lowest platform measures c. 32.7 m by 18.5 m. The second platform consists of a single faced wall, c. 1.07 m in height and measuring c. 24.5 by 11.4 m. The third and final platform is contained within a double-faced wall, c. 1.35 in height and 0.65 m wide. This stage measures 22.8 m in length by 9.6 m in width (Figs. 10.9 and 10.10). The walls of the *ushnu* are built out of selected and minimally modified fieldstone, which appears to have been quarried from rock outcrops in the immediate vicinity of the monument. The rocks used measure from c. 0.3 × 0.3 m to c. 0.4 × 0.7 m.

The structure is aligned on a north-east by south-west orientation of 73° off north. There are no steps or stair constructions facilitating access to the top (Fig. 10.9). On the long south-eastern side there were two sections of wall collapse which suggested tumbled down stairs. Excavation of one of these indicated however that steps had never existed here. Considering the wall heights of the second and third platforms (1.07 m and 1.35 m respectively) climbing to the top, though clearly, not impossible, would involve considerable agility. The absence of stairs suggests a number of possibilities. Firstly, the nature of the activities carried out here could have been at variance from the activities associated with stepped platforms with stairs, and did not involve regular accessing of the top platform. Alternatively, steps or a ramp would be added and removed at the times that the structure was in use (No obvious stock of materials reserved for this process was present in the vicinity of the structure). Thirdly, the structure was not finished at the time that it was abandoned

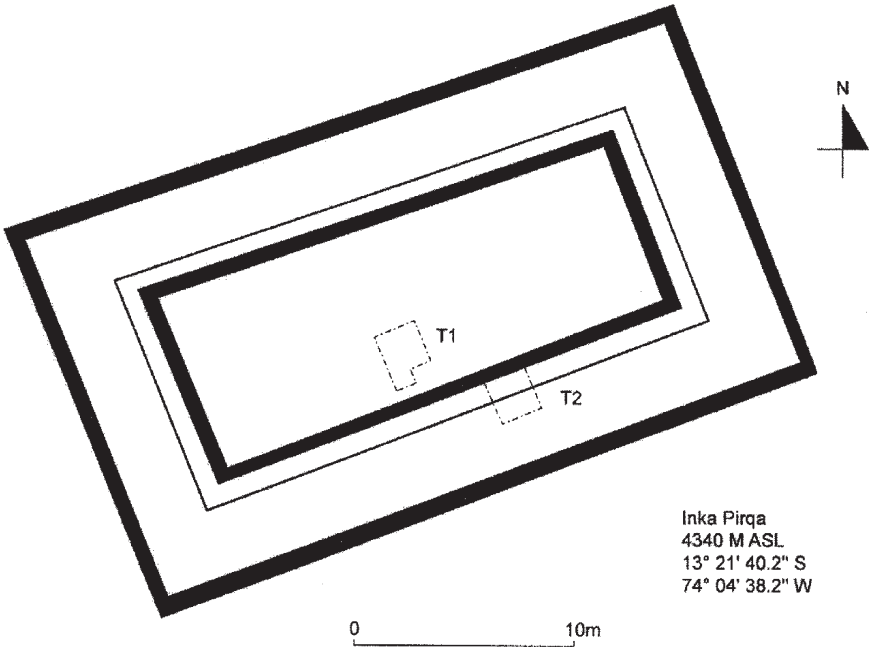

Fig. 10.9 Plan of Inka Pirqa platform

Fig. 10.10 The east face of the Inka Pirqa ushnu

and there had not been time to construct the steps. The latter possibility would mean that the construction of stairs was the last part of the building process involving steps not keyed into the *ushnu* walls. The presence of the single step access, not keyed into the structure's wall at Ushnu Pata perhaps favours the last of these possible interpretations.

Information on the placement of stairs at other *ushnu* platforms is limited, although published images of ones at Huanuco Pampa (Morris and Thompson, 1985) and el Shinkal de Quimivil (Raffino et al., 1997) suggest that stairs here too may be abutting these platforms rather than being keyed into their walls.

The location of the site of Inka Pirqa offers a remarkable view of the major mountain peaks and ranges present in the departments of Ayacucho, Huancavelica and Apurimac. Ampay, Uripe, Condoray, Qarawarasu, Apacheta and Rasuwillca can all be seen from this platform, as can many lesser peaks. The panorama is uninterrupted except by these major features which rise slightly above the far off, ragged horizon profile. The distances over which these features are visible are considerable, Qarawarasu for example is approximately 110 km away as the crow flies to the SSE, on an orientation of 168° (Fig. 10.11).

The alignment of the platform appears not to be related to that of the summer and winter solstices which are at 114° and 66° respectively. Any possible observable near horizon solar positions related to particular parts or sections of the horizon profile and to solstice or other Inka seasonal festivals remain to be further investigated. Similarly, no obvious alignment characteristics relevant to the lunar cycle have been identified, though a link between the observable horizon profile and particular lunar settings or rising events remains a possibility.

Similar to the archaeological sequence at Ushnu Pata the Inka Pirqa platform fills below the topsoil comprise a layer of pale brown grit and gravel and pebble

Fig. 10.11 The south-southeast horizon profile from Inka Pirqa with Qarawarasu visible

sized angular stone followed by a layer of black to dark brown sandy silts in turn overlying a repeated sequence of similar materials (Fig. 10.12). There was some evidence of looting of the platform comprising a large shallow angled cut.

Evidence for three further steep sided narrow and deep cut features was uncovered. The first measured 0.75 m in diameter at the top, 0.10 m in diameter at the base and it had a depth of 0.92 m [13] (Fig. 10.12). The second had a top diameter of 0.65 m, and was excavated to a depth of 1.65 m, at which point it was approximately 0.35 m in diameter. It remained unfinished as it became impossible to finish this excavation for health and safety considerations with the available resources. The top of the third steep sided cut [38] was observed near the base of the west facing section in Trench 1. The only finds recovered from the excavations comprised a few 'odd' shaped rocks of stone types not local in origin, which came from the steep sided deep cuts.

The two excavated and partially excavated steep sided cuts appear to have been fashioned fairly soon following the completion of the construction of the platform. They were positioned side by side and the shallower one [13] cut the deeper one [19]. These features do not appear to represent looting pits as they were carefully constructed and steep sided. One interpretation favoured by the excavators is that the platform was built by first constructing the walls, perhaps followed by placement of offerings in specific locations around the base of the structure. This would then have been followed by carefully putting the platform fills into place — these being put in a pre-selected sequence of structured layers. Following completion of the construction, steep sided cuts were inserted over the locations of the original offerings in order to be able to 'feed' these same with libations and offerings at appropriate times.

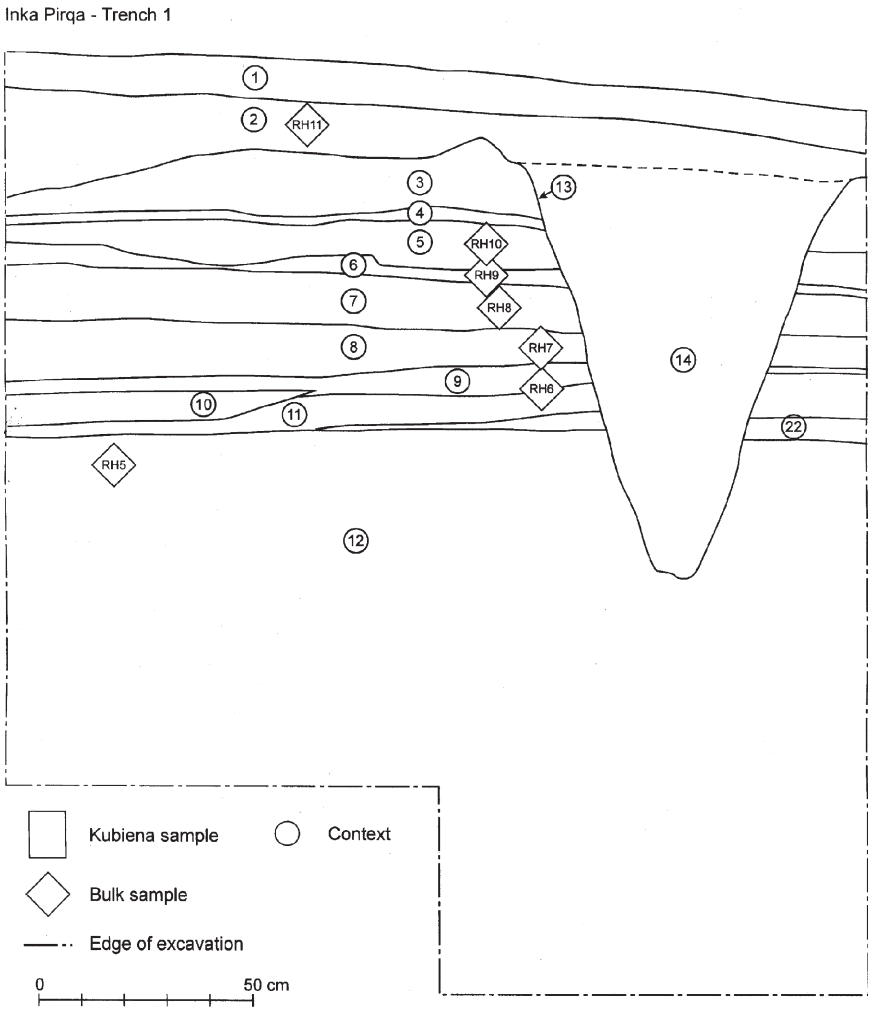

Fig. 10.12 The south section of trench 1 at Inka Pirqa showing steep sided cut [13] and layering of fills

Clearly with the data currently available the interpretation of the role of the steep sided cuts has to remain a hypothesis. It would however make sense in the light of what is known of Andean offering traditions. Both in terms of earlier cultures such as the cut stone chambers at the Middle Horizon site of Huari just to the North of Ayacucho, which had well constructed feeding channels. Isbell has identified a series of Middle Horizon tomb types at Conchopata and Huari some of which have access holes such as Cist interments (Type 3), Bedrock cavity interments (type 4), and Mortuary Room Interments (Type 5). These holes served to make repeated offerings long after burial of the dead (Isbell, 2004:8–20). The provision of libations

at Huacaypata in Cuzco to both dead ancestors and structured sacred places within this public space can be seen in a similar light. The circulation of sacred essence or *Sami*, *Samay*, *wasisami* or *enqa* is fundamental to the Andean cultural model (Allen, 1988:207–208; Bolin, 1998:xiii, 9, 36 passim; Flores Ochoa, 1977:211–237; Staller, this volume). The circulation of this animating essence constructs the bond between people and the animating forces of their environment. The bond between descendants and their ancestors comprises a fundamental link in maintaining the stability and fertility of this relationship. It also re-enforces the legitimacy of claim the people can make to the resources in their landscape. Many further examples of feeding of ancestors and sacred *huacas* are known from the various Late Horizon Inka and indeed non-Inka traditions. With respect to one of the *ushnu's* focal aspects being on the ancestors in *uku pacha*, their feeding through shafts fits with Andean tradition.

The analysis preformed on the samples taken from the Inca Pirca platform comprised organic matter content (loss on ignition); calcium carbonate analysis; particle size analysis; soil geochemistry, and thin section analysis.

The results of this work indicate that the sequence of horizontally laid down layers represent sets of soil profiles, which mimic 'local' agricultural soil packages. What cannot be confirmed or negated on the existing data resolution is whether this stratigraphic sequence of repeated soil packages comprises inverted soil profiles or ones, which have been placed right side up. An aspect of inversion of the soil profile is apparent in the groundbreaking activities associated with the use of the foot-plough (*taquitaccla*), where the sods are overturned and the turf is inverted to the base of the profile. This inversion of sods of earth has been interpreted in contemporary Andean culture in the Department of Apurimac, as an inversion of the seasons and finishing the rainy season, 'a reversal of the worlds of the living and the dead', and a setting in motion of the next year's agricultural cycle (Gose, 1994:184; Staller, this volume). If further analysis confirms the hypothesis of inverted agricultural soil packages constituting the fill of high altitude *ushnu* platforms than a focus on the ancestors or Mallqui appears justified in its interpretation.

The analysis of the micromorphology of a thin section sample through a stratigraphic sequence of a dark, a light, followed by a further dark layer was analysed. The dark layers comprise humic stained fine material in the form of loose or partially welded faunal excrements that are interspersed with angular clasts of quartz-rich rocks (quartzite and possibly also granitic) – only weakly weathered.

The light layers comprise non-humic orange silty clay irregularly dispersed between angular to subangular clasts of a wide range of rocks including basalt, silty mudstone and a granitic rock – the first two are extremely weathered.

There is no doubt that we are dealing with topsoil material (dark) and subsoil material (light) that has been transported from elsewhere. There is an outside chance that they come from the same soil – in which case, the basalt and silty mudstone must have been completely removed by weathering prior to movement and the rock components in the topsoil would be residual, a possibility which is considered to be highly unlikely. Most likely, the topsoil was removed from a site where the soil developed in a parent material containing quartzite/granitic rocks, whereas the

subsoil was removed from a different site where the soil developed in a parent material dominated by basalt rocks.

The results from soil geochemistry indicates a 'local' origin for the repeated soil and subsoil packages present in the *ushnu* fill. 'Local' in this sense does not necessarily mean the immediate vicinity of the platform, as the thin section results are consistent with an origin of these deposits from the soils derived from the general geomorphological structure characteristic of the region, but not a match for the soils around and under the platform. A hypothesis where the fills were brought to the platform by the *ayllus* under the administrative aegis of the platform from their local ancestral agricultural fields, therefore is a possibility. Separate agricultural soil sequences being placed inverted in the Inca Pirqa platform, form a physical link with the ancestors of the *ayllus* who where being drawn in to a relationship with the Inka administrative center at Cuzco. This link is both symbolic and metaphorical through mediations, rituals and sacrifices being completed at the platform, as these would present an elegant Andean construct to the building of the platform in first place.

Each *ayllu* responsible for a contribution to the construction of the platform in this model would contribute 'ancestral' soil from their agricultural lands. Each contribution would form a physical and metaphorical link between the *ushnu* structure and the various contributing *ayllus* homelands.

Ushnu Pirqa

Ushnu Pirqa is situated on a rounded mountaintop on the altiplano at 13°21′42.0″ South by 74°14′11.0″ West, at an altitude of 4,175 masl (Fig. 10.4). The structure present at this location comprises a rectangular walled feature. It measures 9.9 by 6.6 m (exterior measurements). The walls average 0.75 m in width. Its long walls are on an orientation of 333: off North. The height of the walls averages 1.05 m and there is no evidence for doorways, niches or windows (Fig. 10.5).

The stones used in its construction consist of faced fieldstones, which vary in size from approximately 0.35 m × 0.35 m to 0.70 m × 0.56 m (Figs. 10.13 and 10.14). They have been fitted into the wall taking account of their individual shapes, on average the stones on the interior face are smaller than those on the exterior, and both exterior and interior faces are flat.

Circular configurations of stones at floor level on the inside of the structure lead one to suspect that these may be positions of offerings, *pagos* or sacrifice. As this site was not included in the excavation permit, no exploration test pits were completed here.

Since the toponym for the site is Ushnu Pirqa and that the structure does not appear to represent a building for habitation, the possibility has to be considered that it represents uncompleted *ushnu* platform still under construction.

Its location would be consistent with the other examples of high altitude *ushnu* platforms recorded in the vicinity of Ayacucho. Compared with the stepped construction

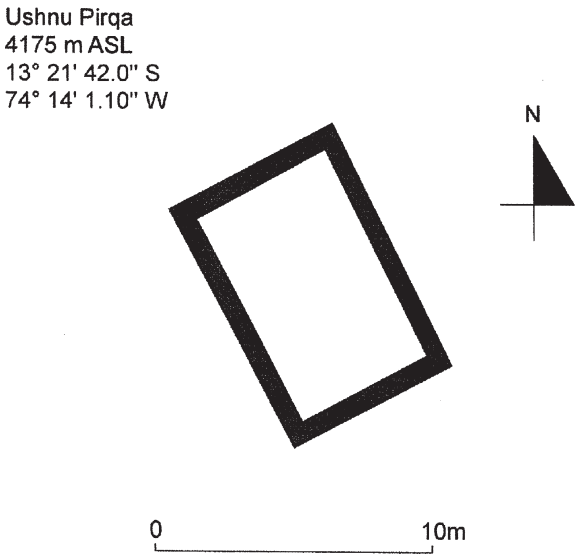

Fig. 10.13 Plan of the Ushnu Pirqa structure

Fig. 10.14 South face of the Ushnu Pirqa structure

of Inka Pirqa this rectangular walled feature could represent the central platform of a stepped platform. The top platform at Inka Pirqa is also double faced as is the wall of the single platform at Ushnu Pata. The interior fills at both these platforms were deposited subsequent to the construction of the walls. Therefore, a construction

such as at Ushnu Pirqa lacking features consistent with those of a domestic building could be an unfinished platform where the interior fills were never put in place.

GIS Analysis, Visibility and Intervisibility

As part of the current investigation, preliminary analysis was completed to test the hypothesis that the location of high altitude *ushnus* in the Peruvian Andes was determined on the basis of intervisibility between these structures and other landscape features. This work was carried out by Naomi Riddiford using ArcView GIS facilities at Royal Holloway. The basis for the analysis was formed by the 1:100,000 scale contour map, two known and one possible *ushnu* in the area, an elite Inka occupation site, a second Inka habitation site and a Chanka/Inka mountaintop settlement. Clearly, at this stage of the current project, the results are limited both by the extent of the total area digitised and the small number of Inka sites in the sample. Despite this fact a number of interesting preliminary conclusions can be reached. Ushnu Pirqa is only visible to the occupation site at Inka Raqay, and *vice versa*. Ushnu Pata and the settlement site of Inka Pirqa Pata are visible to one another. Inka Pirqa is effectively invisible, as it can neither see nor be seen from the *ushnus* or the occupation sites. It is interesting to note that the orientation of Ushnu Pata (44°) is almost identical to the angle between Inka Raqay and Ushnu Pirqa (43°) when connected by a straight line. The areas from which a site can be seen and those that can be seen from it as defined for Inka Raqay, Ushnu Pata and Inka Pirqa Pata are also close to this orientation[7] Thus it may be suggested that these structures were deliberately positioned to maximise visibility from them (Riddiford, 2004).

The concept that Inkas aimed to link *hanan pacha*, through *kay pacha* with *uku pacha* via *ushnu* construction may be reflected in the Ayachucho *ushnu* locations: The areas which can be seen from them and which they can be seen from extend from immediately adjacent to agricultural land and settlement up the mountainside and then to the *ushnus* themselves. This may provide an ideological linkage between the Inkas, their ancestors and their gods. The evidence suggests that visibility exerted an important influence on the choice of the location of these *ushnu* sites. Thus *ushnu* intervisibility with landscape features such as *huacas* and mountains is reflected in the corresponding areas from which they can be seen, and which can be observed from them throughout the landscape, rather than in the possibility of identifying other *ushnu* locations from any particular one (Riddiford, 2004). The latter may however also be a consequence of the sample size.

Inka Pirqa differs from the other *ushnus* in a number of ways. These differences suggest it may have performed a distinct role. Its orientation (73°) varies greatly from that of the other sites. Taking the view that *ushnu* orientation reflects the focus of the area that is meant to be seen from it and vice-versa it is possible to infer that

[7]The view shed orientation discussed here relates to the short axis, i.e. 90° to the line of sight.

Inka Pirqa principally focuses on the north and south horizons. This may reflect the location of an Inkan settlement at Ayacucho, or possibly one beyond at Huamanguilla. However, the visible landscape clearly also extends to the west and southwest. Although Inka Pirqa is invisible from the remaining *ushnus*, it clearly has the most extensive view. This is due to its location on a mountain summit. Distant mountain peaks constituting key Inkan *wamanis* are visible from Inka Pirqa. Qarawarasu for example is c. 110 km away as the crow flies to the SSE, on an orientation of 168°, and features up to 130 km away can be seen from this site.

Other distinguishing features of Inka Pirqa are that it is the only tiered platform, which mimics the mountain upon which it is situated. Its location was chosen due to the visibility of distant key Inkan sites and landscape features, thereby providing a visual linkage with the wider kingdom. This is further supported by the inclusion of rocks and stones, which are not of local origin in cut features in the *ushnu*, which may provide a tangible link with some of these distant sites. Thus, the other *ushnus* and occupation sites relate to the local scale, whereas the nearby Inka Pirqa *ushnu* provides a regional focus. This suggests a hierarchical approach to *ushnu* location. There are therefore at least two levels of *ushnu*. The first has a local focus, tying sites within a valley or site complex into a system of ritual locations and sacred sites visible from the *ushnu* within the local landscape. The second has a regional or interregional focus, where it serves to visually tie in interregional landscape features such as mountaintops or *wamanis* into the state's ritual landscape from the top of this type of *ushnu*.

The effectively isolated location of the high altitude *ushnus*, makes their low structural height surprising. In order to ensure that these features were visible in the landscape, their structural height would need to have been considerably increased. The area, which can be seen from them, extends over vast ranges of the landscape (distances of over 130 km are projected for Inka Pirqa).[8] They themselves are however not obvious and it is therefore what can be seen from them rather then where they can be seen from which is the operative notion in the planning of their positions.

The distance between Inka Raqay and Ushnu Pirqa is c.12 km. Thus although these two sites are in theory intervisible, the height of Ushnu Pirqa (1.35 m) is not enough to make it visible at this distance. However the unfinished state of Ushnu Pirqa means that its final height is unknown. The location of Ushnu Pata does not favour visibility in the landscape: Unlike Inka Pirqa and Ushnu Pirqa, it does not have a mountain top location. The natural horizon profile is therefore not disrupted. This substantially reduces Ushnu Pata's potential visibility (Riddiford, 2004). There is a tendency for the structures to blend in with their surroundings. High altitude *ushnus* are deliberately positioned to maximise visibility.

The GIS analysis therefore leads us to the preliminary conclusions that the location of Inkan settlement and agriculture exerted an influence on the choice of *ushnu* sites. *Ushnu* visibility aspects provided an ideological linkage between the Inkas,

[8] Further work must include the plotting of *ushnus*, their locations, orientations, heights, stairs, steps, associations, etc.

their ancestors and their deities. There was a hierarchical approach to *ushnu* function and geographic location. *Ushnu* location was determined by the view observed from these sites, and they were built to blend into the landscape, with their construction deliberately mimicking the natural surroundings (Riddiford, 2004).

Discussion

The Ushnus Investigated

Two *ushnu* platforms located at high altitude and in isolation from occupation sites were tested by excavation of two exploratory pits in each. These sites are Inka Pirqa, which translates as Inka wall, and Ushnu Pata, which could translate as steps or tapering slope (Gonzáalez Holguíin, 1989:280) or high point, edge or top (Soto Ruiz, 1976:85) of the *ushnu*. A further isolated potential *ushnu* platform was visited and surveyed although no excavations were done here. This site is known by the name of Ushnu Pirqa, which means 'Ushnu wall'. Two Inka sites in the vicinity of the tested sites were visited and linked into the study, these comprised the settlement and administrative site of Inka Raqay and a small settlement site called Inka Pirqa Pata and the more distant mountaintop Late Intermediate Period Chanka and Late Horizon Inka settlement of Condoray. The platforms of Inka Pirqa and Ushnu Pata, other than their walling, their structured fills, certain cut features at Inka Pirqa and a single potsherd from Ushnu Pata, lacked cultural material.

The structured fills uncovered in these platform structures comprised a sequence of topsoil and subsoil followed by a repeated set of similarly configured layers. These comprised angular blocky gravel, representing weathered bedrock material, followed by layers of dark brown and black soil overlying a further layer of broken up bedrock. This series of layers was repeated a number of times down to the underlying natural.

The structured fills have been interpreted as sequences of possibly inverted natural soil profiles with 'natural bedrock' at the top followed by a dark soil horizons overlying the next set starting again with 'natural subsoil'. These fills though likely to come from the general region do not originate in the immediate vicinity of the *ushnu*.

The stone used in the construction of the walls of Inka Pirqa appeared to have been quarried from nearby bedrock outcrops. The bedrock here comprised igneous granite-like material associated in places with large veins of white quartz. The origin of the stones used in the construction of the walls at Ushnu Pata remains to be identified (it may be a form of andesite), but is thought unlikely to have come from any great distance away. Although as is indicated in recent work by Ogburn a distant source is not impossible, and certainly in the light of this study is worth further investigation (Ogburn, 2004).

Most of the few other excavated *ushnus* known, such as at Pumpu (Matos, 1994), Huanuco Pampa (Morris and Thompson, 1985) and El Shinkal de Quimivil (Raffino

et al., 1997) are associated with occupation sites. In the cases of Pumpu and Huanuco Pampa with substantial administrative centres of urban proportions.

Ushnu Location

Valderrama and Escalante note a structure of opposition and complementarity, namely that between culture and nature. Culture (village) → Nature (mountain) in their study of the community of Yanque Urinsaya and Yanque Hanansaya in the Colca valley (Valderrama and Escalante, 1988:210). Similarly, Billie Jean Isbell observed in her work on the village of Chuschi, Ayacucho that the people here view the valley as civilised and the *puna* as wild or savage (Isbell, 1978:164). That these beliefs are deeply rooted in Andean thinking and go back at least to the early colonial period, and almost certainly well into the Late Horizon, becomes clear in the Huarochirí Manuscript. Here green irrigable valley lands are viewed as female, whereas snow-capped mountaintops where river waters originate are viewed as male. Water is seen as male and violent in association with *wamani* and *apu* (Salomon and Urioste, 1991:15, 115). Water embodies the transcendence of the pairs of opposites in that it also has female connotations when associated with *pachamama* and life giving rain.

Verticality following an *axis mundi* concept appears to reflect aspects of linking *kay pacha*, *uku pacha* and *hanaq pacha* by means of the *ushnu* platform structure (Staller, this volume). The fills of the platforms in themselves may well be structured to demonstrate these aspects of vertical linkages. The isolated high altitude *ushnus* sampled in Ayacucho (in particular the Inka Pirqa site) were located in a part of their environment that the Inkas would have characterised as 'wild'. This would have constituted locations at, or above the limit of cultivation. In order to create this aspect of verticality, a structured deposit of materials within their fills reflected cultivated cultural soils associated with lower altitudes. It would also demonstrate the 'cultural' cultivated versus 'wild, untamed' uncivilized dichotomy. It would conceptually link the 'wild' high altitude *Apu* world with the lower cultivated, domesticated valley environment.

This dichotomy of wild versus domesticated and cultural is one which has been recognized in early colonial and late Inka thinking, with respect both to an opposition between valley and *altiplano* human populations, domesticated and wild untamed animals and cultivated and wild soils (Staller, this volume). This model could be used to explain the deposition of structured fill sequences as observed at Inka Pirqa and Ushnu Pata, particularly if the inverted depositional sequence is seen as providing an agricultural soil for the ancestors.

The *quechua* term for guano or fertilizer is *wanu*, which comes from the word *wañuy*, which means death or die and refers to decaying organic material (Gose, 1994:113). The fact that the dark layers of fill in the Inka Pirqa *ushnu* comprise in part loose or partially welded faunal excrements, though the evidence does not confirm a purposeful addition of fertilizer, is suggestive in this context of a direct

link with the world of the dead and the ancestors. The link between the dead and agriculture in the Andes is of great antiquity, with many modern Andean peoples metaphorically equating burial with sowing (Gose, 1994:114; Harris, 1982:52). The dead or *malqui* were in prehispanic times interpreted as seed or plants, with roots in the underworld and with their stone *huanca* or metaphorical double, having its principal face turned or inverted to the side where the sun rises in the world above (Duvoils, 1973:164). The interleaving dark and light layers with black relating to the ancestors and the underworld and white to the sun and the world above (Staller, this volume), further emphasizes the verticality and link with the underworld and the ancestors in the construction of the *ushnu*. The inversion and colour oppositions reflecting the Andean concept of dualistic oppositions (Staller, this volume).

This same dichotomy may also be reflected in the structured fills of the *ushnus* located in lower lying cultivated lands and habitation sites. These would, in this model, reflect a link with wild undomesticated nature and the *apus* (mountain deities). Their fills should therefore comprise rubble fills or rock, mimicking natural bedrock/mountain locations.

As a working hypothesis concerning some of the differences observed between the high altitude *ushnus*, sampled at Inka Pirqa and Ushnu Pata in Ayacucho, remote from areas of habitation and forming the subject of this report, and the other excavated ones, which to a greater or lesser extent have been published may lie in the location of the latter, in close proximity to, or forming part of habitation sites. Other aspects of relevance relate to whether the *ushnu(s)* is or are part of a local network of shrines and deities. These associations can for example be postulated for the *ushnu* at Laymi in the Chicha valley (Meddens and Schreiber, 2008) or the one at Sayhuite (Van de Guchte, 1990), or whether they are part of a larger long distance of extended interregional ceque/shrine network, such as identified by Zuidema (1982a) and Heffernan (1996). Certainly some *ushnu* sites are closely linked to these, such as Vilcashuaman and Tambo Colorado.

Soil Classifications

Currently Andean communities employ complex soil classification schemes. These are in some elements at variance from occidental schemes of classification. These types of categorization are likely to be of considerable antiquity as unlike religious schemes there was little reason for the colonial, church or republican authorities to attempt to modify them. These types of classification would have been taught from a very early age and form some of the basic elements relevant to agricultural productivity. They would therefore have been included in the basic repertoire of elements needed for the population to survive.

The Yanque community from the Colca valley defines the key characteristics of soils on the basis of temperature, humidity, texture, colour, topography and fertility. All these variables are used together in order to define any specific soil type (Valderrama and Escalante, 1988:82–85).

That these systems of classification are widespread in Andean thinking is reflected in the Cuzco quechua agricultural terminology which similarly uses a wide range of terms distinguishing ranges of moisture, fertility, compaction, composition, topography, crop suitability and extent to which a soil has been lying fallow (Beyersdorf, 1984). In addition, there is a ritual and religious vocabulary including terms such as *harawi*; a ritual song dedicated to the soil (Beyersdorf, 1984:34), *haywarikuy*; a ritual sacrifice to the earth at the start of the agricultural year (*ibid*.:38), *t'inkasqa*; a toast to the earth and seed prior to the harvest (*ibid*.:114); and *wanka*; a loud and festive cry to the earth when harvesting maize (*ibid*.:121). These have survived centuries of Hispanic influence and continue to form part of the Quechua agricultural technology serving to ensure productive arable processes.

Use and Movement of Soil and Stone in the Construction of Temples and Shrines

The *mitmaq* for the Island of the Sun in lake Titicaca were based at Copacabana. Special agricultural terraces had been constructed on the island for the shrine, with good and fertile soil brought in from a great distance. This was so that maize could be grown there, because of it being very cold (high altitude) and maize could not normally be grown there. With much tending they managed to grow small numbers of maize plants. (Vega, 1723:105).

While constructing the cathedral of Cuzco Polo de Ondegardo established that the original soil from the plaza of Huacaypata had been taken away to other places as 'it was greatly esteemed'. The plaza was covered in a thick layer (c. 0.5 m and more in places) of coastal sea sand littered with offerings (gold and silver vessels and tiny gold and silver figurines and camelids are mentioned). This sand had been brought up to Huacaypata 'out of reverence to *Tizibriacocha* (Titi *Viracocha*) to whom they mainly offer their sacrifices' (Polo de Ondegardo, 1965 [1571]:118–119).

The stone with which the Inka palaces and the Temple of the Sun in Tumibamba in the province of the Cañaris (present day Cuenca, Ecuador) were constructed was brought from Cuzco, (a distance of 400 leagues, c. 1,700 km) on order of the king Huayna Capac and his father Tupac Inka. This was done to favour and honour the inhabitants of this province, as these stones were sacred. Not only did the Temple of the Sun (in Tomebamba) look like the one in Cuzco, *it was the one in Cuzco* (Vega, 1723:270–271), for having been made of the same materials.

The claim for building stone having been transported from Cuzco to Ecuador and in particular to Tomebamba is also made by a number of other 16th and early 17th century chroniclers. These include Cabello de Balboa (1951 [1586]:376–377), Cieza de León (1984 [1553]:145, 1985:190) Guaman Poma de Ayala (1980 [1615]), Murua 1946 [1590]:103 and Polo de Ondegardo (1916 [1571]:111–112). Cieza de León makes mention of Inka operations which involved moving hills or

mountains (1985 [1553]:190), a statement supported by Murua (1946 [1590]:111).

Dennis Ogburn has confirmed in his research that stone originating in the Rumicolqa quarry in Cuzco was moved c. 1,700 km from Cuzco to Ecuador to be used in Inka buildings there. The Andesite stones where geochemically characterized using wavelength dispersive X-ray Fluorescence (XRF spectrometry) (Ogburn, 2004:419–439). The stones in this transport ranged in size from 41 × 42 × 43 cm to 143 × 47 × 40 cm and are estimated to weigh from 200 to 700 kg (Ogburn, 2004:422).

Archaeologically the tradition of moving quantities of stone, aggregate and soil to provide a tangible and material link between separate and distinct spatial entities is of considerable antiquity and has been confirmed in the excavation of the Akapana temple pyramid at the site of Tiwanaku (c. AD 300–1000) (Staller, this volume). Carefully placed layers of green gravel had been used in its construction. This gravel came from the Quimsachata and Chila mountain range to the south. These mountain ranges represented important mountain deities in the Tiwanaku pantheon. Alan Kolata (1993:109–143) interpreted the temple structure and that of the adjoining Puma Punku complex as mimicking mountains present in the Quimsachata range.

The issue with respect to the equating of a sacred shrine or body with another by incorporating physical elements of one in the other does not mean that the whole structure of one had to be built of parts of the other. Small fragments of named *huacas* are known to have been used to recreate these same *huacas* elsewhere following their destruction during the Colonial extirpation campaigns, much to the disgust of the Spanish priest in charge of putting an end to native religious believes (Molina, 1989:131–132). Examples can be seen in Cristobal de Albornoz's campaign against Taqui Onqoy. Doubles of Inka rulers are known to have existed, comprising of idols, which held a small piece of the Inka concerned (such as a few strands of hair or nail clippings). Symbolic transference of the sacred identity of *pacarinas* is known to have been achieved by pouring a sample of water from the original source into the newly appropriated spring or lake or by placing a textile which had previously been draped over the original source *huaca* over the newly selected stone, in the case of *mitimaq* emigrants (Albornoz in Duvoils, 1967:21). The use of limited or even symbolic contributions of soil or stone to link and equate one structure with another does of course not help in creating a testable model to establish the physical existence of such a link. The fact is that we know that some physical part of the structure with which a shrine is linked will be incorporated within it but that this physical element could be very small indeed and need not be present in sufficient quantities to show up in test results which we can obtain with current techniques.

Ushnu Construction

The site of Ushnu Pirqa with its potentially unfinished *ushnu* should be considered in the light of the terminology used to describe the building of an *ushnu* in the

Huarochiri manuscript. When Llocllay Huancupa (a *huaca*) disappeared the people grieved and searched for him. They went to the place where Lanti Chumpi (a local woman) had first discovered him and built him a step-pyramid (Salomon and Urioste, 1991:102). In the explanatory footnote (*ibid*.:102, note 479). *'husnocta pircaspa*' is translated as literally meaning 'walling an *ushnu*'. Duviols (1984:202) describes *ushnu*-like shrines as 'towers' built around an axis or shaft at which worship was celebrated. Firstly, the reference in the Huarochiri manuscript could be taken to refer to the method of construction of the *ushnu* platform. The immuring being completed first followed by the deposition of the fills inside the walling, a construction method now confirmed in excavation. Duvoils concept to the *ushnu* as being built around a shaft would make sense with respect to the placement of *Capac Hucha* sacrifices as part of the foundation offerings in the construction of the *ushnu* structure.

Steps and Liquids

Steps as a form are part of a widely distributed Andean land / mountain concept (de Bock, 2002:14). Steps in structures, in a stairs configuration, are in Inka thinking linked with liquids. This idea is obvious from the stairs and cascade combination associated with the sun temple at Machu Picchu and the stairs and cascade structure which is part of the temple building at the site of Sayhuite (located between Abancay and Curahuasi). In both instances, cascades serve to link separate temple precincts by the use of sacred liquid and essence. In the case of Machu Pichu, the Temple of the Sun with the temple of the Condor, and at Sayhuite the Upper temple with the lower *ushnu*. In the case of Machu Pichu, the aspect of the condor as a messenger of the mountain deities (*wamanis* or *apus*) should be mentioned, and the fact that the temple of the Condor here is positioned below the cascade in the lower sector of the site, in the opposite of the location were a real condor might be expected. Stepped platforms or steps leading up to the top of a platform include a visual and visible expressions of and reference to running water.

The number of steps forming the *ushnu* platform can clearly vary. Why this should be is at present unclear. Three levels such as at Inka Pirca are relatively common with other examples being the Huanuco Pampa platform (Morris and Thompson, 1985), Usno Moq'o in Abancay (Oberti, 1997) and the Pumpu *ushnu* (Matos, 1994). Three steps could be an expression of a *kay pacha, hurnin pacha* and *uku pacha* symbolism. Vilcashuaman even has four steps. Single levels such as at Ushnu Pata also have a wide distribution, with el Shinkal in Northeast Argentina (Raffino et al., 1997) constituting another example.

Similarly, the stairs mounting the platforms vary both in orientation and in the number of steps they have. They can be completely absent such as is the case with Inka Pirqa. They can have a very limited number of steps as with Ushnu Pata, which has only one, or significant sequences, such as el Shinkal de Quimivil, which has nine, Pumpu thirteen and Ushnu Moq'o which has fifty-three.

The lack of obvious drainage structures within or in the immediate vicinity of the Ayacucho *ushnu* platforms requires explanation. It may be that the steep sided shaft-like cuts in the Inka Pirqa platform can be viewed as fulfilling this role. The lack of more obvious drainage structures could be seen as being at variance to the perceived link of *ushnus* with libation offerings and fountains (Meddens, 1997; Zuidema, 1989a). It may be that the explanation for this characteristic of these *ushnus* derives from the isolated location of these particular platforms, it may be the result of the limitations of the excavation sampling strategy used. They draw in the world of the ancestors, *apus* and *wamanis* into the network of Inka social, economic and political exchange and structure. The use of shaft features may be more appropriate in this context.

Circulation of Life Force, Fluid, Blood Chicha and Water

The flow of life force or *sami* underlies all cultural activities in Andean belief systems (Allen, 1988:207–208). The continued vitality of sacred places, shrines and *huacas* is dependent on the feeding of these *huacas* and through them the nourishing of the ancestors and the supernatural. The ritualized exchange of offerings in a reciprocal relationship, in return for well-being, stability and fertility of the community forms the basis of Andean existence (Murra, 1975; Staller, 2000–2002). This circulation of animating essence is fundamental to the maintaining of entropy of the universe, or maintaining balance and stability of the world (*ayni*) (Classen, 1993:11; Staller, this volume).

The sequences of material present in the two sampled *ushnus*, Inka Pirqa and Ushnu Pata comprise black to brown coloured soils mainly made up of sandy silts. These are interspersed with pebbly and gravelly layers made up of what appears to be the natural geological ‘bedrock’. The soils may derive from a range of different altitudinal and ecozones. They appear to have been laid down in a series of repeated possibly inverted sequences, i.e. with the ‘cultural’ soils at the base of each sequence and the ‘natural’ stone and gravel at the top. The soil structure superimposed with the gravel and stone on top of a further soil deposit.

The perceived inversion of the natural sedimentary sequence reflected in the platform fills represents an intentional arrangement. There is no structural reason why the inner fills of these platforms should be ordered in this manner. This manner of construction therefore elucidates Inka concepts related to the role and function of these platforms. The definition of the *ushnu* platform as an axis mundi, linking the world above (*hanan pacha*) with the contemporary world and society (*kay pacha*) to the world below and the ancestors (*uku pacha*), (Meddens, 1997:11; Zuidema, 1989a:402–454) permits the development of an interpretative model for the internal organization of the fills of these high altitude structures. Each set of soil profiles present would conceptually derive from a different part of the area, which the individual platform was meant to draw or tie into the greater Inka world. Each soil profile would stand for a distinct defined eco-zone and for a circumscribed

social unit or *ayllu* tied to this specific area. Each set in turn would be focussed on a matching group of ancestors in the world below (*uku pacha*). This would explain the inversion of the soil package, and in this way the world of the ancestors would be linked into the cycle of life force or *sami* of the living (Allen, 1988:207–208). This spiritual energy was, and indeed is, viewed as being key to maintaining the entropy of the cosmos (Allen, 1988:49–50, 207–208; Classen, 1993:14; Staller, 2006).

Ushnus, Sky, Sun and Lunar Observations

The orientations of the principal axis of the various known *ushnu* platforms clearly varies significantly from site to site. In the Ayacucho case, the platforms in the landscape appear to have a link with distant denticulate horizon profiles, and an association with distant *wamanis* is be indicated. A direct relationship with sky phenomena such as solstices and equinoxes, or less obvious lunar events is not easily identified at either Inka Pirqa or Ushnu Pata. Work by (Pino Matos, 2004:303–311) suggested at least for some *ushnu* platforms a link between principal alignment of the structures and summer and winter solstice events.

Capac Hucha Sacrifice and Ushnus

The ancestors legitimise the present for their descendants and are therefore a demonstration of both the rights to resources for the living and duties of the living to the ancestors and *huacas*. This would link in well with the potential presence of *Capac Hucha* burials under the *ushnus*, being both a highly charged and most valued form of offering, they would also in turn become part of the world of the ancestors.

The use of *Capac Hucha* sacrifice in association with *ushnus* is confirmed in chronicle evidence, Pedro de Cieza de León mentions a stone seat as part of a shrine in Vilcas, ‘where the lord would give his public addresses’, as well as another large cut stone, ‘in the manner of a fountain or basin’, where they would sacrifice animals and children, in the center of the principal plaza of Vilcas itself (Cieza de León, 1947 [1553]:435). Guaman Poma de Ayala says of *ushnus*, that the Inkas had in their dominion lands reserved for sacrifices named *usno* (ceremonial structure) which was always for *capac hucha* to the sun and to feed the *huacas* (Guaman Poma de Ayala, 1980 [1583–1615]:236). Pachacuti Inka Yupanqui arranged the sacrifices to the *huacas*, Temples of the Sun and Coricancha and the throne and seat of the Inka, named *usno*, in every *uamani* (Inka administrative district) (Guaman Poma de Ayala, 1980 [1583–1615]:239).

Human remains, which may represent *capac hucha* sacrifice, have been found at the Usno-Moq’o site in Abancay, although unfortunately no age or sex information was obtained from the bone (Oberti, 1997:19). Similarly, human vertebrae were uncovered in the excavation of the *ushnu* at El Shinkal de Quimivil in Argentina.

As in the case of the Usno-Moq'o *ushnu* again no age or sex data are available (Raffino et al., 1997).

The issue of child sacrifice associated with the structure of the *ushnu* also demonstrates the existence of a network of conceptual links existing among *ushnus* and between them and other sacred places such as *huacas* in the landscape as noted above, from Cuzco itself sacrificial victims were redistributed to the outlying quarters of the Inka state. The sacrificial children travelled along straight routes and carried with them in essence the Inka himself and his self-sacrifice (Urbano and Duvoils, 1989) from the Inka in Cuzco back to their own communities of origin, where the actual sacrifice was completed. They provided some of the most important links to maintain the stability and health of the state (Zuidema, 1989b:144–190; Hyslop, 1990:72).

In essence, the *ushnu's* link with *capac hucha* sacrifice can been seen as exemplifying this role of the structure in linking linking the periphery to the center. The analysis of the account of Hernández Príncipe of 1622 by Zuidema relating to the *Capac Hucha* sacrifice described in this document is particularly relevant (Zuidema, 1989b:144–190). A chosen girl or accla, by the name of Tanta Carhua, aged 10, from the village of Ocros (or Orcon) had been send by her father (Caque Poma), the local curaca to Cuzco, to take part in the solstice rituals there. She was subsequently returned to her home community to serve as a *capac hucha* offering to the sun. The site of her sacrifice back in Ocros was that of an earlier ancestral tomb (or *huaca*) of the Llachuas (people who had come from outside into Ocros). Her sacrifice served to confirm the rank of her father to that of *kuraca* of the first *allyu* of Chillcas and Ocros. Tanta Carhua was as a sacrifice to the sun and by her participation in the solstice rituals in Cuzco tied into the Inka center and the Inka state. This served to tie the *ayllu*, community and geographical area of Ocros to the Inka personally and to the administrative center of Cuzco in particular (Zuidema, 1989b:147–190).

Cuzco as the conceptual center of the Inka Empire united in its core the Coricancha temple, the deities and *huacas* of the groups incorporated in the kingdom and tied by this their sacred essence to the Inka dynasty and the Inka state. The *capac hucha* by its contact with the sacred center and the Inka gained sacred essence and was elevated to the level of a huaca in its own right. By gathering *huacas* and chosen ones at the center Royal power was continuously replenished.

Conclusions

The *ushnu* platforms distributed throughout the empire were linked through their association with child sacrifice (*capac hucha*) and the movement of sacred essence along the *ceque* sightlines incorporating the margins of the Inka dominion to its center at Cuzco. Indeed its link with *capac hucha* renders this link even more compelling. In *capac hucha* (*hucha* or *cachahui*, messenger) sacrifice the travelling in a straight line maintained the long distance visibility aspect of the ceque and the

sacrifice. By not avoiding mountains in this journey it emphasizes the links between adjoining valleys and the periphery with the center (Zuidema, 1982a:431). In the links between the center and the periphery for at least some of the long distance *ceques* the observation point used was not at Coricancha (the Temple of the Sun) but a point in Huacaypata plaza where as we know an important *ushnu* was located (Zuidema, 1982a:435). In addition the *ushnu's* role in functioning as a conduit for sacred essence is further expressed in its function in the *Citua* ceremonies in purifying Tawantinsuyu and the in the creation of links and obligations of remote communities to the center at the time of the Inkas travels to the provinces.

As noted above Betanzos's and Molina's definitions agree with each other on the role of the *ushnu* as serving as a place for libations. Betanzos, Albornoz, Cabello Valboa, Guaman Poma de Ayala, and Santacruz Pachacuti Yamqui identify a stone platform in their descriptions of *ushnus,* none of which are contradictory. Betanzos' describes what happens in the provinces when the Inka, the son of the sun travels. The Inka embodies the sacred essence coming from the center. On the *ushnu* he replicates the libations acted out at Huacaypata on the principal *ushnu* located in Cuzco. He completes the link between ancestors *apus* and subjects, a link now known to be metaphorically replicated in the structured fills of the *ushnu* itself. The Inka generates obligations to him personally and his state by his public generosity to the people by his giving of gifts, which by the fact that they come from him are infused with his sacred essence. These gifts therefore acquire an additional dimension and importance.

One of the principal purposes of the network of *ushnus* over the landscape was therefore to tie the periphery to the center and to enable the Inka state to appropriate distant lands by reciprocal exchanges of offerings and animating essence for local stability within the distant sacred landscape.

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