

## Accounting for the Spread of Quechua and Aymara between Cuzco and Lake Titicaca

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### The Social Dynamic of Language Use

MANNHEIM (1991) USES THE CONCEPT OF a ‘social ecology of language’ to discuss how linguistic differences are located within a social landscape, where languages and dialects are channelled and used within people’s cultural, political, and economic strategies. Inherently any process of language shift, other than complete population replacement, requires a period of multilingualism where at least part of the population speak two or more languages, with different languages fulfilling somewhat different social roles. Thus language shift is partly shaped by small-scale processes where people respond to, and create, social change by using distinct languages when talking with officials, work colleagues, traders, and family members. However, major linguistic shifts throughout entire regions are most likely to take place where the social impact of a new way of life is associated with people speaking different languages (Renfrew 1987). Such large-scale social change should be of such an order of magnitude as to be reflected in the archaeological record.

This chapter explores broad social changes that may account for how Quechua and Aymara entered the Lake Titicaca and Cuzco regions so that they eventually replaced all other native languages. I start with a brief overview of the topography and ecology of the area which provides the landscape upon which people developed their subsistence base and over which they moved. I then review what is known about the distribution of Aymara, Quechua, and Puquina in the region at the start of the colonial period. From this basis I present a broad overview of the archaeological evidence for social development and change from the Formative to the early colonial period, in order to consider the social processes that led to the pattern of language use encountered by the Spanish.

The spread and divergence of both Aymara and Quechua took place within the past one thousand to three thousand years and it is suggested that Quechua originated in central Peru and Aymara somewhere around the south-central coast (Cerrón-Palomino 2000: 290; 2003, 22; Torero 2002: 46 cited in Heggarty 2007: 337 and 2008: 43). This means that both Aymara and Quechua are likely to have reached the Vilcanota Valley and Lake Titicaca Basin less than two thousand years ago. I will argue that the scale of social change wrought by the Wari Empire in the Vilcanota Valley is commensurate with the introduction and uptake of a new language, which I believe (following Beresford-Jones and Heggarty 2011; see also chapter 3 in this volume) is most likely to have been Quechua. But documentary evidence suggests the llama herders of the Lupaca, Canas, and Collagua were well-established Aymara speakers by the time of the earliest Spanish records, and I will argue that we need to consider the social processes surrounding llama herding to account for the spread of Aymara into the Titicaca Basin.

### Landscape and Subsistence in the Titicaca Basin and Vilcanota Valley

At 4,338 metres above sea level (masl) the Vilcanota (or La Raya) pass forms a dramatic watershed. To the south the waters flow towards Lake Titicaca and to the north the Vilcanota River flows past Cuzco and down to the Amazon. Today it forms the border between the Peruvian departments of Cuzco and Puno, it is where a line of burial towers (*chullpas*) marked the boundary between the Canas and the Colla ethnic groups (Sillar and Dean 2004), and before that it formed a frontier between Wari and Tiwanaku territories (Janusek 2008: 262).

Lake Titicaca (3,810 masl) covers some 8,500 square kilometres, straddling the modern border between Peru and Bolivia at the lowest point between the Cordillera Real and the Cordillera Blanca. Cultivable *sumi* land around the lakeshore and in small river *quebradas* (c.3,800–4,000 masl) can support production of tubers, chenopods (e.g. quinoa), beans, and, to a restricted extent, maize. Above 4,000 metres agricultural production is limited but this extensive area of puna provides good grasslands which are particularly important for camelid grazing.

The Vilcanota Valley includes several sections with broad U-shaped profiles and alluvial fans that provide fertile agricultural land for a wide range of crops including generous maize yields. Steep hillslopes and ridges above 4,000 metres are less easily used by human populations, but gentler slopes and some higher puna grasslands, particularly in the 'Provincias Altas', provided important pasture for the highland herders. (The Provincias Altas refers to the

present-day highland provinces of Canas, Canchis, Espinar, Chumbivilcas, and Acomayo within the department of Cuzco. In this article I will be referring to the same area in relation to the highland herders and ethnic groups who occupied it. The area I am referring to is slightly larger as it stretches over the modern departmental borders into Arequipa and Apurímac, to include the early colonial ethnic groups of the Canas, Canchis, Collagua, and Chumbivilcas, and could reasonably stretch into the area of the Soras and the Chanka confederacy—see Fig. 12.1.) Cuzco stands at 3,400 masl within the small side valley of the Huatanay River, which subsequently flows through the Lucre Basin and into the Vilcanota River.

Pre-Hispanic farmers developed a sophisticated range of techniques for improving soil fertility, drainage, moisture retention, and irrigation. These included the use of raised fields (*camellones*), small irrigation reservoirs (*cochas*), flat platform terraces (*andenes*), sloping terraces, and canals. All of these mitigate environmental uncertainty and secure longer growing seasons or higher yields, but they require varying amounts of co-ordinated human labour to build, maintain, and use (Kendall and Rodríguez 2009). Irrigated terrace agriculture has been particularly important for maize production, but irrigation and raised fields can be used for other crops including the highly productive and nutritious quinoa, *cañihua*, beans, and a wide range of tuber varieties, all of which are particularly well adapted to higher-level cultivation and are also grown on unirrigated land. Agricultural production takes place in association with llama and alpaca herding which provides meat, transport for small loads (25–50 kg), and dung for fuel and fertilizer. Of vital importance, camelid wool can be spun and woven to make warm clothing and blankets, which were an essential prerequisite for large-scale occupation of these cold, high-altitude areas.

### Languages of the South-Central Andes During the Colonial Period

Since the colonial period there has been a great decline in the diversity of native languages, with large regions adopting a single native language usually spoken alongside Spanish, which has been the dominant language for most professions and state-sponsored activities (although Aymara is becoming more widely used in Bolivian government and professional work). Today, in the department of Cuzco, Quechua (IIC—Cuzco variant) is spoken widely, and in the lower Urubamba Machiguenga is spoken. Around the north of Lake Titicaca Quechua (IIC—Puno variant) is spoken as far south as the town of Puno, while from Puno round the western and southern shores of Lake Titicaca, Aymara is spoken. To the east of Lake Titicaca the Kallawayá



**Figure 12.1.** Locations of ethnic groups (in italics) mentioned in early Spanish colonial sources.

ritual and medical specialists use Puquina in some of their ritual vocabulary, although they speak Quechua in daily activities. Further east, in and around Potosi and Cochabamba, Quechua is again used, until the eastern lowlands where Guarani and Arawak are spoken. This modern distribution needs to be put into a historical context in order to ascertain the distribution of language use around the time of the Spanish conquest. To help envisage the sociopolitical geography of the region, Fig. 12.1 shows places mentioned in the text as well as the locations of ethnic groups (shown in italics) mentioned in early Spanish colonial sources (based on previous documentary work and maps including those of Rowe 1946, Julien 1983, Bouysse-Cassagne 1986, and Bauer 2004). These ethnic groups largely originate in the Late Intermediate Period (see below), although they were probably highly contingent on temporary allegiances prior to their use as administrative divisions within the Inka state. Where early colonial records refer to language use it is frequently in relation to these ethnic groups, although colonial reorganization of the social and political landscape led to the demise of these ethnic economies. These policies caused many natives to lose their land, and as they were relocated into Spanish *reducciones* (centralized village or towns where the native population was resettled by order of the colonial authorities), became *foresteros* (mobile workers), engaged in market trade, or were sent to work in the mines, less widely used indigenous languages were abandoned (Mannheim 1991).

### **Puquina, the Colla, and beyond**

Although minimal Spanish records of Puquina show that it used loanwords from Quechua, it is not the pidgin hybrid of Aymara and Quechua suggested by Stanish (2003), but has a distinct linguistic structure that may originate from the Arawak family of languages (Adelaar with Muysken 2004). Bouysse-Cassagne's (1975) analysis of a document from the 1590s recommending which languages to use for church catechisms in the bishopric of Charcas provides the best overview of language use within this region during the early colonial period, and it shows Puquina was used in the area to the north of Lake Titicaca. Torero (2002: 397–401) also provides several colonial references that show Puquina was a significant language in the area from La Raya to the northern shore of Lake Titicaca. Thus during the Inka period the Colla ethnic group, who occupied this area, must have spoken Puquina as at least one of their languages. Beyond Lake Titicaca Puquina use was even patchier, but the Cuzco Synod of 1591 required the use of Puquina along with Quechua and Aymara, and in 1620 the Bishop of Arequipa stated that Cuzco parishes had villages that spoke Quechua, Aymara, and Puquina (Mannheim 1991: 45).

**Aymara: Lake Titicaca and the Provincias Altas of Cuzco**

The late sixteenth-century manuscript from the bishopric of Charcas (Bouysson-Cassagne 1975) shows Aymara as the dominant language for the circum-Titicaca area, and it was in Juli that Ludovico Bertonio lived between 1585 and 1619 basing his Aymara dictionary (Bertonio [1612] 1984) on the local Lupaca dialect. At the time of the Spanish conquest Aymara was also spoken by some people in the Provincias Altas of the department of Cuzco, including Canas, Chumbivilcas, and Espinar (Mannheim 1991: 43–4; Heggarty 2007). It was also one of the languages of the Soras and Chanka confederation (Monzón [1586] 1965 cited by Meddens personal communication). Bertonio ([1612] 1984: A2) states that Aymara was spoken by the ‘Canas, Canchis, Pacajes, Carancas, Quillaguas, Charcas andc’. Guaman Poma ([1615] 1966) indicates that Aymara was spoken in both Collasuyo and Cuntisuyu, including Pampachiri in the province of Andahuaylas. Adelaar with Muysken (2004: 261) suggests this could refer to the Collaguas, an important and large ethnic group of Aymara-speaking herders in the upper Colca Canyon.

Two northern versions of Aymara (Jaqaru and Cauqui) are spoken to the south-east of Lima and there are many Aymara toponyms in central Peru (e.g. Cerrón-Palomino 2002 cited in Heggarty 2008: 41). Differences between the Aymara of Lake Titicaca and the Jaqaru and Cauqui variants to the east of Lima suggest these diverged from a unified Proto-Aymara during the past one thousand to three thousand years (Heggarty and Beresford-Jones 2010). Given the lack of variation in Aymara spoken around the Lake Titicaca area it has been argued that it may have reached the lake area in the past 500–700 years (Cerrón-Palomino 2000; Torero 2002). These authors have suggested that Aymara came into the region after the demise of Tiwanaku, possibly originating in the Nazca area of the south-central coast. During the Cambridge meeting Cerrón-Palomino, César Itier, and Paul Heggarty were suggesting that without any clear social drivers for language change during the Late Intermediate Period it may be more logical to suggest that it was in fact the Inka who primarily spread Aymara around Lake Titicaca. But I will argue that the Lupaca and Canas herding groups must have already been Aymara speakers by the Late Intermediate in order that they could have spread the language during the Inka period.

**Quechua and the languages of Cuzco**

Although Bernabé Cobo referred to Quechua as the ‘general language which the Inca introduced throughout their empire’ (Cobo [1653] 1988: 107), significant divergence between the variants of Quechua spoken across the northern, central, and southern Andes demonstrates that it must have spread

out from a single Proto-Quechua source some one to two thousand years ago, before the Inka Empire (Heggarty 2007; 2008). The location of this source is likely to have been somewhere in the central Andes, and it is significant that the Cuzco variant of Quechua shows some underlying Aymara traits in its phonetics and structure, suggesting that those who first learnt this Quechua may have previously spoken a variant of Aymara (Cerrón-Palomino 2003; Heggarty 2007). At the time of the Spanish conquest a number of languages were being spoken around Cuzco. These included variants of Puquina, Aymara, and Quechua as well as several distinct languages such as those spoken in Chumbivilcas, Zurite, and Anta (Mannheim 1991: 44–5). ‘Chumbivilcano’ was spoken by herders in the highland provinces of Chumbivilcas, Espinar, and Grau, and it was recognized as being somewhat distinct from both Quechua and Aymara by Francisco de Acuña, although Paul Rivet suggested this was an Aymara-related language (Acuña 1586 and Rivet 1924, cited in Mannheim 1991: 44). Similarly Monzón (1965 [1586]: 221–2) reported that the Soras spoke Aymara, Quechua, and a third, distinct language, ‘huahuasimi’.

### A Sequence of Social Changes Affecting the Titicaca and Vilcanota Regions

#### **The Formative: Autochthonous Developments of Ritual Authority**

What broad social processes could be responsible for bringing Quechua and Aymara into the region during the preceding one thousand to two thousand years? The term ‘Early Horizon’ is not used for Cuzco or Titicaca area chronologies because the Chavín style is not found and there is limited evidence of any direct influence from central Peru. The Formative sees the development of strong ritual centres around the Lake Titicaca area and more modest development in the Vilcanota region, with some influence from the Altiplano traditions stretching into the Vilcanota Valley.

By 1000 bc several of the villages in the Qaluyu and Chiripa traditions had created the sunken courts which became a feature of the region’s ceremonial practice for the next two thousand years (Stanish 2003; Hastorf 2008). Sunken courts and raised mounds provided focal ritual spaces that drew in large populations. From around 250 bc a small number of these ritual centres became dominant forces in the development of polities in Lake Titicaca area. Pucara (to the north of the lake) developed as a strong central site with stepped platforms, sunken courts, statuary, and ritual paraphernalia that helped to attract people to participate in ceremonies. Pucara’s influence stretched into the Vilcanota and Moquegua valleys (Goldstein 2000), with



iconography, including a front-facing deity, that shared some of the components of the southern Andean Iconographic Series (SAIS) identified by Isbell (2008; Isbell and Knobloch 2006). But Pucara was abandoned between ad 200 and 400, to be succeeded by the increasingly dominant role of Tiwanaku. The occupants of Tiwanaku also built an elaborate sunken court with carved stone heads in the walls and then added large raised artificial mounds. By ad 475 Tiwanaku had become the dominant power in the area.

By around 1500 bc small villages were being established in the Vilcanota and Cuzco valleys, with further developments through the Early, Middle and Late Formative (2200 bc–ad 200), showing continuities in pottery styles and occupation sites that suggest a relatively continuous local development. There is good evidence for contact with the Lake Titicaca area, including some Pucara-style pottery found in the upper Vilcanota and Apurimac drainages reaching as far as Lucre. A sunken court identified by Zapata (1998: 320–8) at Muyu Orco was constructed in relation to the comparatively large settlement of Wimpillay (within the modern city of Cuzco) which Bauer (2004: 44) suggests was the central site of a chiefdom. Similarly the stelae and probable sunken court at the higher-elevation site of Suyo (Dean 2005: 283–5) suggest strong influence from the Lake Titicaca area in the upper Vilcanota Valley prior to Wari expansion. At this time the obsidian that is found in Cuzco originates from the Arequipa area Alca source, while the upper Vilcanota area also used the Colca Canyon Chivay sources that supplied Tiwanaku and the Titicaca Basin, suggesting a relative ease of interaction between these zones. Consequently Burger and colleagues argue that the area comprising ‘Cuzco, Arequipa, and the Titicaca Basin seems to constitute a developmental zone more closely linked together than with those areas surrounding it’ (Burger *et al.* 2000: 350).

The least well understood and most contested period of Cuzco archaeology is the period from ad 200 to ad 600, with much of the debate focusing on the identification and interpretation of Qotakalli-style pottery first published by Barreda Murillo (1982). ‘Qotakalli’ refers to quite a wide range of fine cream slipped pottery with black and red geometric decoration. This pottery is a significant departure from earlier brown and red wares, and it is associated with the development of new and larger settlements on the river terraces, suggesting an intensification of agricultural production (Bauer 2004: 52–3). Bauer has found early Qotakalli associated with the co-presence of Muyu Orco style pottery and incised *incensarios*, both of which show potential Altiplano cultural influences which he suggests continued until Wari occupation of the area fundamentally changed the direction of cultural influence (Bauer 2004: 50). Although the Qotakalli style is locally produced and predates Wari colonization of the Vilcanota Valley, a contrasting interpretation suggests it is derived from an early copying of Wari-style pottery (Glowacki



in McEwan 2005: 113) possibly signifying the initiation of a cultural influence from central Peru.

The direction of influence for the majority of the Formative was from the Lake Titicaca area into the Vilcanota Valley and Cuzco region, although the poorly understood changes associated with Qotakalli-style pottery may be due to a rising influence from central Peru. However, it is only in the succeeding phase of the Middle Horizon that there is evidence for the sort of large-scale central Peruvian influence that is likely to have brought a major language shift.

#### **Tiwanaku and Wari: Two States of Mind and Control**

The conventional description of this period as a horizon is justified by the vast areas that were dominated by Wari and Tiwanaku. As well as the urban growth at Wari and Tiwanaku, this period saw further intensification in agricultural production, llama herding, and developments in craft specialization, facilitated by the movement of people. Wari and Tiwanaku are distinct social and economic entities with clearly differentiated territories, and the Vilcanota pass (La Raya) marked a boundary between their distinct influences, similar to the Wari–Tiwanaku boundary in the middle Moquegua Valley near Cerro Baúl (Isbell 2008; Janusek 2008).

The phenomenon of Tiwanaku focused strongly on the city's role as a ceremonial centre. Janusek (2004) and Janusek and Blom (2006) highlight evidence for a rich diversity of peoples within the city, each with somewhat distinctive material culture patterns. Large-scale labour projects at Tiwanaku focus on the monumental construction of ceremonial areas within the city. The large permanent population must have relied heavily on crops and meat brought in from the hinterland around the Titicaca Basin, benefiting from the use of raised fields (*camellones*) for increased crop production on the Altiplano. But Tiwanaku supplemented this with production-focused 'colonies' in the Osmore River valley, Moquegua, as well as a strong relationship with Cochabamba.

The Wari left an even stronger material expression of their expansion and domination of subject territories. Whereas Tiwanaku's colonies in Moquegua and Cochabamba fit fairly well within Murra's (1972) 'vertical archipelago' model (where colonists produce crops to send back to their central ethnic group), Wari installations such as Cerro Baúl, Pikillaqta, and Azángaro are much larger-scale state administrative facilities that engage with, and exploit, the labour of local peoples and are thus even more likely to have had a large regional impact on language use. Wari expansion brought them to the Vilcanota Valley around ad 600 (Glowacki 2002), rupturing the area's previous engagement with the Lake Titicaca area and bringing the valley into the

**Table 12.1.** Comparison of the chronologies of the Titicaca and Cuzco regions.

Date	Period	Lake Titicaca region	Vilcanota/Cuzco region
AD 1533–1824	Colonial	Colla and Lupaca fragment under colonial mita (labour tax) and market economy	1533 Cuzco captured by Spaniards, 1570 Toledo <i>reducciones</i>
AD 1400–1533	Late Horizon	Colla and Lupaca ‘Señoríos’ become Inca provinces after <i>c.</i> AD 1450	Inca Empire (unites Inkas of privilege and incorporates Canas and Pinahua, etc.)
AD 1100–1400	Late Intermediate Period	Colla, Lupaca, and Collagua herding groups in dispersed hilltop settlements with <i>chullpas</i>	Killke and Lucre pottery styles, multiple small ethnic groups, and emerging Inka dominance; llama herders in the Provincias Altas
AD 900–1100	Middle Horizon	Tiwanaku	Wari dominance ends <i>c.</i> AD 1000
AD 600–900	Middle Horizon	Tiwanaku	Wari expansion and construction of large planned sites
AD 500–600	Middle Horizon	Tiwanaku	Qotakalli
AD 200–500	Late Formative	Pucara collapse around AD 300, Tiwanaku	Qotakalli
200 BC–AD 200	Late Formative	Chiripa, Pucara	Chanapata
800–200 BC	Middle Formative	Qaluyu, Chiripa, Pucara	Chanapata
1800–800 BC	Early Formative	Qaluyu, Chiripa	Marcavalle

orbit of central Andean developments. For instance, Burger *et al.* (2000) note a clear shift to acquisition of obsidian from the Quispisisa source (located in central Ayacucho which was controlled by the Wari). The initial Wari presence at Huaro and large Wari houses and elite tombs at Batan Orco date to around ad 600 (Glowacki 2002). The vast administrative site of Pikillaqta (McEwan 1987, 2005) may have started slightly later (*c.* ad 600–700) and continued to be developed until it was abandoned abruptly (ad 900–1000). There is further evidence of Wari activity and influence up the Vilcanota River to Raqchi and west of Cuzco to Chumbivilcas and Espinar. At Raqchi (3,480 masl), in the upper Vilcanota Valley, a battery of 152 circular buildings with narrow doorways were constructed within a large walled enclosure. These have previously been interpreted as a series of Inka store houses (*collca*), but our excavations revealed small hearths, and dating a carbonized tuber

(OxA-12147–1240 bp +/-22 calibrated to ad 685–885, 95.4 per cent probability) and quinoa grains (OxA-13926–1273 bp +/-25 calibrated to ad 660–780, 95.4 per cent probability) from the floors of two of these structures demonstrates that they were in use around ad 700–800 (Sillar and Dean forthcoming). These buildings are very similar to the 501 small conjoined buildings within Sector 4 of Pikillaqta, some of which also had hearths, with the buildings arranged within five distinct enclosures, each of which has an internal plaza in one corner (McEwan 1987). Similarly the central sector of Azángaro includes 304 rectangular rooms fronting a large plaza area (Anders 1991). The layout of these sites is counter to long-term domestic occupation by families, while the larger plaza areas with rectangular structures running along one side may have provided areas for group assembly. All of this suggests shorter-term accommodation for state-co-ordinated groups such as a labour force. Both the Wari installations at Pikillaqta and Raqchi are associated with large-scale aqueducts (more substantial than later Inka canals) and some terracing, suggesting agricultural production was at least one focus for this workforce. Bauer's (2004: 64–7) survey work shows that within the Huatanay Valley where Cuzco sits local settlement patterns were not substantially altered by the Wari presence, although it is likely that the population provided labour tribute to the Wari (possibly as the workers temporarily housed at Pikillaqta).

By around ad 900 the Moquegua colonists ceased engaging with Tiwanaku (Goldstein 1993). It was around this time that larger planned systems of *camellones* were being constructed near Tiwanaku by major work groups (Janusek and Kolata 2004). This is in contrast to earlier periods when raised fields were constructed at a relatively small scale using community or kin-group labour organization (Erickson 1988). So, it is possible that small-scale agricultural community social structures had been undermined (Janusek and Kolata 2004, but see Graffam 1992). The agricultural productivity of the raised field systems on which urban Tiwanaku relied declined sharply, possibly due to severe droughts, and in spite of attempts to build additional aqueducts, canals, and reservoirs, Tiwanaku had collapsed by ad 1100 (Kolata 1993). Janusek (2008: 295) highlights contemporary iconoclastic defacing of cult images, suggesting a major reaction against the religious understanding and ceremonial activities that had been at the heart of the city. Many new small-scale settlements emerged around ad 1000 as Tiwanaku's urban population gradually abandoned the city (Albarracín-Jordan and Mathews 1990; Janusek 2008), a process that may have taken three or more generations (Stanish 2003: 12; Janusek 2008). There is no evidence of forces from outside the Lake Titicaca area causing the demise of Tiwanaku (Janusek 2008), so it seems to be Tiwanaku's existing hinterland population who developed into the herding groups that characterize the area during the subsequent 'Intermediate' phase,

and it is the origin of the Aymara spoken by these groups that we will need to consider.

### **The Intermediate Period: Farmers, Herders, and the ‘Chullpa Horizon’**

The demise of Tiwanaku’s and Wari’s influence sees the emergence of smaller polities or ethnic groups, with many settlements on hilltop locations. Although the Lupaca and Colla had some large settlements, there is no evidence of distinct hierarchies, and none of the crowd-drawing ceremonial architecture that had characterized Titicaca area developments for the previous two millennia (Stanish 2003) or the high-quality ceramics used for presentation and ritual. A similar lack of hierarchy within hilltop settlements and lack of ornate pottery is noted amongst the Collagua (Wernke 2006) and the Canas (Sillar and Dean 2004). Similarly in the area associated with the ‘Chanka confederation’ archaeological survey has revealed dispersed hilltop settlements with a strong focus on llama herding as well as some arable agriculture, but no architecture for social hierarchy (Meddens and Pomacanchari 2005; Bauer et al. 2010). Yet in all these cases colonial sources state that ethnic leaders from these groups were able to co-ordinate large populations. For instance, Cieza (1986 [1553]: ch. 100) states that the Lupaca had defeated the Colla in a large battle in which 30,000 had died. While such casualty numbers may be exaggerated, they suggest that by the Inka period the leaders of these herding groups were capable of commanding large populations.

During this period the upper Vilcanota Valley, the Provincias Altas, and the Lake Titicaca area change their burial practices, with above-ground burial towers, or *chullpas*, in use from around ad 1000. The collective burials in these structures were easily accessible, allowing periodic removal of dried mummy bundles. *Chullpas* are difficult to date, and few have been properly excavated, but in the upper Vilcanota Valley and Lake Titicaca area they seem to originate in the Late Intermediate Period, and there is no evidence for any dating before the end of the Middle Horizon. Isbell (1997) argues that *chullpas* were first developed around ad 200 in or near the Huamachuco area, and adopted in Ayacucho around ad 700 or 800, so it is probable that this change in burial practice found its way into both the Vilcanota Valley and the Lake Titicaca area from the central Andes. The Late Intermediate Period is usually seen as a time of fragmentation with small regional polities adopting defensive strategies, yet the commonalities of this burial tradition show a level of broad regional interaction that stretches through many highland pastoral groups and crosses the former divide between the Tiwanaku and Wari domains.

By the start of the Late Horizon the sociopolitical organization within the Cuzco Valley was quite distinct from Lake Titicaca and the Provincias Altas. There were many ethnic groups (Quilliscache, Mayu, Anta, Ayamarca,

Tambo, Chillque, Masca, Papri, Pinahua, Huayllacan, Cavina, Cuyo, Poques, (Ollantay)tambo, Lares) reported within 100 square kilometres around Cuzco (Rowe 1946; Bauer 2004), an area smaller than the individual territories of the Colla, Lupaca, Canas, or Collagua herders. This suggests that the process of sociopolitical development before, during, and after the Middle Horizon permitted smaller-scale groups to develop and partially stabilize as semi-autonomous units, and it is quite likely that some of these groups had adopted different languages. The small territory of these ethnic groups included little land suitable for significant llama herds, so their subsistence would necessarily have focused strongly on crop production and some exchange beyond their own territory. Several ethnic groups relied on water supplies that passed through the territory of neighbours, yet the immediately pre-Inka period in Cuzco saw widespread terracing and irrigation. These agricultural improvements attest to the co-ordination of community labour and the continuing influence of Wari irrigation technology. This was helped by the warmer and wetter conditions from around ad 1200 when these irrigated terraces probably became even more productive (Kendall and Rodríguez 2009). The Cuzco Valley is not characterized by defensible sites during the Late Intermediate Period, nor is there evidence for the use of *chullpas* (Bauer 2004; cf. Parsons et al. 2000: 195–6). The primary Inka achievement was the integration of the many small ethnic groups around Cuzco to form the ‘Inkas of privilege’ who were prepared to work together to develop canal systems and exchange goods, while groups who refused to ‘join’, such as the Ayarmarca and Pinahua, were eventually brought in through marriage alliance or conquest and had much of their lands confiscated by the Inka (Bauer 2004). A strong expression of this is the creation of new styles of architecture and pottery (for instance, Inka pottery draws upon the Killke and Lucre pottery tradition to develop a new hybrid style that incorporates ‘the best’ of both styles and technologies).

### **Inka Expansion: Rearranging the Pieces**

The consolidation of the Inka as a distinct political group in the Cuzco region took around two centuries (c. AD 1200–1400), followed by the larger-scale expansion and conquest of the enormous Inka Empire (c. 1400–1533). The Inka were able to dominate the vast territory of their empire by working with pre-existing sociopolitical organizations, using local ethnic leaders to arrange tribute for the Inka state, co-ordinated through administrative centres and road networks (Kendall 1985; Hyslop 1990; Astuhuamán 2008). The Inka had a policy of maintaining and developing ethnic difference in clothing, hairstyle, headdress, and political organization which is more likely to have accepted individual ethnic languages rather than trying to ‘impose’ Quechua. However, the forced relocation of *mitma* settlers with their families from one

ethnic group into newly conquered territories (Murra 1980, 1982; Wachtel 1982) could have been a significant vector of linguistic change. Some people were brought into Cuzco to work on royal estates and construction projects, but Cuzco never grew to the size of Tiwanaku, Wari, or Chan Chan, partly owing to the relatively short period of the Inka Empire, and because restricted access to land and the lack of a market meant that migrants could not survive in the city unless given a specific role by the Inka.

During the period of Inka control over the Lake Titicaca area many substantial new settlements were created including two major new administrative centres at Chucuito (Hyslop 1976) and Hatuncolla (Julien 1983). Large numbers of *mitma* and *yanacuna* (individuals who worked directly under the orders of the Inka) were moved into and around the area. For instance, following the massacre of the population of Ayaviri after the Colla rebellion, the town was rebuilt by the Inka with an *aqlla wasi* (state institution of women selected by the Inka to serve religious duties) and reoccupied by *mitma*, many of them Canas (Julien 1983). Diez de San Miguel's *Visita* ([1567] 1964) also lists Canas *mitma* settlers in Pomata (near Juli in the Lupaca territory). Artisan centres were also created, at some of which potters, weavers, and metal-workers from two or more ethnic groups were resettled to produce for the Inka state. For instance, a metal-working site was set up at Pila Patag near Chucuito, and a thousand weavers and a hundred pottery-making families were moved to a new craft production centre at Milliraya (Murra 1978; Spurling 1992). In fact the Titicaca area probably saw a greater scale of reorganization and relocation of settlements than anywhere else in the Inka Empire which could have had a significant impact on language use. However, most of these *mitma* were relocated from other parts of the Titicaca Basin or the Canas ethnic group. Thus Inka resettlement policies are most likely to have spread the language already being spoken by the Canas and the Lupaca (at the expense of Uru, Puquina, or any other local languages). By the 1590s Aymara was the dominant language throughout the Lake Titicaca area with only minor patches of Quechua among the Colla, on the Cochabamba and the Copacabana Peninsula, and in Porco/Potosi where the Inka brought in *mitma* and *yanacuna* from more distant areas (Bouysse-Cassagne 1975). Thus the Lupaca and the Canas must have been speaking Aymara by the time they were incorporated into the Inka Empire and we need to look to the preceding Late Intermediate Period to explain their uptake of Aymara.

### Potential causes of language change

The discussion of cultural change above has focused on the emergence, expansion, and demise of chiefdoms, cities, states, and ethnic groups, in relation to

changes in labour control and subsistence methods. A major feature of this is the shifting emphasis within Andean agro-pastoralism. Mannheim (1991) argued that subsistence modes were a major factor in pre-Hispanic language use, and at the Cambridge conference there was some discussion of the degree to which highland herders may have had different languages from lowland agriculturalists. This is a feature of the *huari* cultivators and *llacuas* herders distinction identified by Duviols (1973) with a marked dualistic social structure expressed through distinctions in language and dress. However, as herding and crop production tend to be *interdependent* rather than *independent* modes of production, these two groups are mutually sustaining. The degree to which these subsistence modes would provide distinct social contexts for different languages would depend on how the process of exchange between them was managed. In the valleys, economic specialization focused on crop production was driven by the construction, maintenance, and use of agricultural intensification projects. Highland pastoralist economies focused on maintaining their herds for meat and wool, growing some tubers, and their vital role in the transport and exchange of goods. As well as the construction of hilltop settlements with impressive enclosure walls, herding communities may have acted as a dry season workforce for production and construction activities in the valleys within Wari and Inka labour management. But herding did not lend itself to the same level of hierarchical control that intensive agriculture and valley resettlement did. So which of these factors affected longer-term changes in the 'social ecology of language use' (Mannheim 1991)?

#### **A Wari Origin for Cuzco's Quechua**

In the millennium or so prior to the Inka conquest (the period when Aymara and Quechua are thought to have spread into the Vilcanota Valley from central Peru (Heggarty 2008)) the Wari occupation is the clearest social force coming from central Peru that was significant enough to have propelled a language change. There is abundant evidence for some four hundred years of strong Wari influence along the Vilcanota Valley with the movement of large labour parties to state installations and major investment in aqueducts, canals, and terracing. But, prior to Wari expansion, central Peruvian traditions (such as Chavín) had a limited influence on the Cuzco area. In the Formative the direction of influence is from the vibrant cultural developments in the Titicaca area to the south. Given the strength of Quechua throughout the central Andes, including the lower levels of direct linguistic interference from southern Aymara in the Quechua of the Ayacucho area where the Wari heartland lies, it seems logical to believe that Quechua was introduced into Cuzco by the Wari.



The Quechua spoken in the Cuzco region shows an underlying Aymara influence (Cerrón-Palomino 2003, 2004; Heggarty 2007). This would suggest that the Quechua-speaking Wari who came to the Vilcanota Valley gave their language to former Aymara speakers (although we should also consider the possibilities that these were Puquina, ‘Chumbivilcano’, or ‘Huahuasimi’ speakers, and that some of this Quechua was conveyed into Cuzco by bilingual Aymara-speaking highland herders—see below). Although Aymara’s and Puquina’s presence in Cuzco in 1599 (Torero 2002: 393) may have been a consequence of the Inka policy of bringing members of conquered ethnic groups into Cuzco, it is probably also a product of the distinct histories and diverse origins of the small ethnic groups who became the Inka and Inkas of privilege. The languages of these groups could have included some introduced in the Late Formative Period from Lake Titicaca (e.g. Puquina). This could help explain the use of Aymara and Puquina words for Inka authority names, toponyms (of the anthropomorphized landscape), and rituals (such as the song recorded by Betanzos) (but see Cerrón-Palomino this volume). This cluster of small ethnic groups, which were to form the heartland of the Inka state, partly developed their identities through their relationship to Wari administration which built its infrastructure in the Vilcanota Valley. The layout of Pikillacta with five distinct enclosures for workers’ accommodation in Sector 4 suggests noticeable social divisions amongst the labour force the Wari used, and it may have been the shared experience of working on Wari agricultural and construction projects that provided a model for co-operation amongst those who were to become the Inkas of privilege. I suggest that the Wari language, Quechua, was adopted by the residents of the Cuzco region and provided a medium through which to integrate the diverse ethnicities of the Inkas of privilege. This (c. AD 700–1000) ADOPTION OF QUECHUA WENT ALONG WITH THE ADOPTION AND ADAPTION OF WARI-INFLUENCED AGRICULTURE AND ARCHITECTURE TO HELP TRANSFORM THESE SMALL ETHNIC GROUPS INTO THE INKA STATE.

### **Aymara Spread by Highland Herders**

The Inka period saw a major reorganization of the Lake Titicaca area; however, the majority of the population was relocated from other parts of the Titicaca Basin and the Provincias Altas. Unless Aymara was already being spoken by some people in the Lake Titicaca area, Inka social policy could not have achieved such a widespread use of the language by 1590. On this basis I suggest that Aymara must have been spoken in the Lupaca area and Provincias Altas prior to the Inka conquest. However, Aymara’s lack of dialectical diversity in the Lake Titicaca region argues against its long-term presence (Heggarty 2008: 40), so Aymara could only have begun to spread during the Late Intermediate Period.

So let us go back to the demise of Tiwanaku, when the dispersal of the city's heterogeneous population (Janusek 2004, 2008) may have been a factor in linguistic change. The gradual decline of Tiwanaku and its raised field systems allowed the herders, who were already pasturing their llamas in the hinterland around Lake Titicaca, to develop the benefits of their subsistence mode as the economy and power of the great city declined. By the Inka period the Lupaca, the highland Canas, and Collagua were all focused strongly on llama herding and shared more than just their use of the Aymara language. The post-Tiwanaku (and post-Wari) spread of the *chullpa* burial pattern suggests both a change in ideology and a level of herder interaction stretching into the central Andes that has been underplayed in our understanding of cultural dynamics in the Andes (but see Isbell 1997). Explaining the spread of Aymara into the Titicaca Basin requires a better consideration of this herder interaction across the Provincias Altas.

What social influence would have caused the highland populations to adopt and spread Aymara? It seems highly likely that Aymara had already been adopted amongst the Provincias Altas by the early Middle Horizon or more probably prior to Wari expansion. The distinctive Aymara variants of Jaqaru and Cauqui spoken in the highlands to the south-east of Lima, as well as historical records and toponyms, suggest Aymara was originally much more widely used throughout much of the central Andes (Cerrón-Palomino 2000; Torero 2002). The use of Aymara, 'Chumbivilcano', and 'Huahuasimi' amongst the herders along the Provincias Altas, as well as the fact that the Cuzco variant of Quechua appears to have been adopted by people who previously spoke Aymara, suggests an early spread of Aymara which could pre-date Wari control but must have been in place by the end of the Middle Horizon. Beresford-Jones and Heggarty (2010) suggest that this early spread of Aymara could be driven by a way of life that included the intensification of maize agriculture and was associated with the Chavín Horizon. Although Chavín had a very limited influence in Cuzco or Lake Titicaca, changes in camelid herding during the Early Horizon could have spread Aymara into the Provincias Altas. Many Early Horizon faunal assemblages show a shift from hunted deer to domestic camelids (e.g. Wing 1972; Miller and Burger 1995). As well as the supply of meat and the animals' role in facilitating transport and exchange, it was also the supply of wool that was essential in supporting large populations in the highlands. The Early Horizon also sees increasing evidence for camelids on the coast (Shimada and Shimada 1985), although highland alpaca were a more likely source for the fine camelid wool that augmented the cotton previously used in that area (Topic et al. 1987). Llama domestication may have taken place some three millennia earlier, but the camelid pastoralism that developed around the highlands of Chavín probably came from southern Peru and the puna of Junín and involved a greater level

of intensification by the Janabarriu Phase (400–250 bc) through a codependence on specialist agriculturalists and provision of long-distance exchange (Miller and Burger 1995). The occupation of land to manage these herds greatly added to the human populations in the Andean highlands. There is strong evidence for the importance of camelids within both the Wari and Tiwanaku states (as represented in the iconography, the quality of surviving textiles, and evidence for long-distance exchange) and both states fostered further specialization in herding (Dillehay and Núñez 1988). Increasing specialization in llama and alpaca herding was a necessary corollary to contemporary specialization in agriculture, craft production, and ritual/administrative tasks in order to ensure a supply of animal resources (wool for textiles, meat for food, and dung for fuel and fertilizer) and transport. Given the scale of the territory dominated by the Wari, including Wari interaction with the Nazca region, it is likely that the Wari played a significant role in creating the social conditions that maintained and developed the spread of Aymara amongst the llama herders of the Provincias Altas (see also chapters by Torero, Hiltunen and Isbell this volume).

With the decline in larger-scale agriculture at the end of the Middle Horizon (e.g. the failure of Tiwanaku's raised fields and the large Wari aqueducts), llama herders would have been in a comparatively strong position. The apparent isolation of fortifiable hillside retreats throughout much of the Andes in the Late Intermediate Period may hide smaller-scale trading trips to exchange wool, meat, salt, and labour for produce such as maize, beans, and potatoes. By the Late Intermediate Period the boundary between the former Tiwanaku and Wari territories dissolved. This is shown by the widespread 'chullpa horizon', which represents a changing approach to the role of dead bodies in the reckoning of kinship (Isbell 1997). In the highlands of the Provincias Altas and the Lake Titicaca area *chullpas* started out as relatively small-scale and low-investment structures that facilitated a familial focus for ritual practice, which could be seen as a rejection of the pomp, splendour, and public display of earlier Wari and Tiwanaku state religious practices. The growth in familial rituals of ancestor worship may have been such a rejection of institutional religious practice, but at the same time the demise of state-level control may have fostered the need for alternative local-level networks as the 'chullpa way of life' spread. It is significant that Wari's control of the southern part of its empire came to an end around ad 900–1000, by which time Tiwanaku had lost control over Moquegua, but this was a century or more prior to the collapse of the city of Tiwanaku (c. ad 1100); this allowed herder interaction amongst those who were to become the Canas, Collagua, and Lupaca to pre-date the collapse of the city. While we are familiar with the Canas, Collagua, and Lupaca as large ethnic groups with powerful leaders owing to Spanish colonial sources referring to them as *Señorios*, in the Late

Intermediate Period the dispersed hilltop settlements with little visible hierarchical distinction suggest a diffuse process of social change that focused on familial relationships, prior to the grand *Señorios* recorded by the Spanish. The widespread adoption of the ‘*chullpa* way of life’ shows that these dispersed hilltop communities were interacting with other herders and valley agriculturalists in a way that finally united the Wari and Tiwanaku spheres. Mayta Capac, the fourth Inka ruler, is reported to have married a Collagua noblewoman (Wernke 2006: 7 quoting Oré [1558] 1992: 41); this could reflect long-distance exchange stretching into the maize-growing valley of Cuzco in the Late Intermediate Period. The essential supply of woollen textiles remained an important component within this exchange which helps explain the economic power of highland pastoralists who were supplying both the Andean valleys and coastal communities with wool (e.g. the fine camelid wool supplied to Chimu weavers (Rowe 1980: 85–6)). I suggest that it was the spread of this ‘*chullpa* lifestyle’ that brought Aymara from the herders of the Provincias Altas to the Lupaca and Lake Titicaca region around the start of the Late Intermediate (*c.* ad 1000–1200).

Parsons *et al.* (2000) argue for the strong highland/valley interdependent duality in Junín emerging after the demise of Wari domination, and this is also true for the Collagua and Cavana of the Colca Canyon (Wernke 2006). In both cases this duality is expressed by highland herders speaking Aymara and valley cultivators speaking Quechua. Only in the Late Intermediate Period could the Cavana, within the lower Colca Canyon which had been under Wari control, interact with the Collagua herders of the upper Colca Canyon, which had probably been within Tiwanaku control, judging by the obsidian supply zone (Wernke 2006: 12). Perhaps more importantly these subsistence specializations and accompanying language distinctions probably originate from Wari colonization and agricultural intensification in the valleys, so that the subsequent interdependence of these dualistic ethnic groups is Late Intermediate response to Wari’s collapse. The highland Canas herders spoke Aymara, but it is less certain whether all the Vilcanota Valley Canas and Canchis were Aymara speakers. Given Raqchi’s strong Wari infrastructure, it is possible that some of the valley dwellers spoke Quechua, although it is clear that the Canas and Canchis developed a similar highland herder/lowland agricultural codependence that was facilitated through highland *ayllus* (kinship groups) embedded within the valley communities (Glave 1992: 25–56). This is what Salomon (1985) refers to as ‘Andean complementarity’, whereby highland herders and valley agriculturalists could form distinct social groups even though their subsistence, and parts of their sociopolitical organization, were codependent. By the Late Horizon, several large ethnic groups included both highland pasture and irrigated agricultural land within their territories, becoming increasingly reliant on ethnic leaders to sponsor the

internal exchange of goods and labour, including providing labour for the Inka state. In the Late Horizon Inka state social and economic policy fostered these ethnic identities, solidifying their territorial boundaries (Sillar and Dean 2004), and it is significant that most of the large elaborate fine stone *chullpas* that are the main evidence for social hierarchy amongst these groups date to the Late Horizon. The widespread linguistic borrowing between Aymara and Quechua (Adelaar with Muysken 2004: 263) may in part be an outcome of this deep structural interdependence between herders and farmers who maintained their distinct linguistic identities while interacting closely with one another.

### A last word from the Puquina-speaking Colla

By the Late Horizon the Aymara-speaking Lupaca, Collaguas, and Canas effectively enclosed the enclave of Puquina-speaking Colla. This originated with the much earlier polity of Pucara which dominated the northern Lake Titicaca area, with strong contacts into the Vilcanota Valley and down to Nazca and Moquegua prior to AD 300. Although the demise of Pucara was followed by the growth of Tiwanaku on the southern side of Lake Titicaca, Tiwanaku did not construct any major sites in the former Pucara territory and it seems quite possible that the native population maintained Puquina as their own language (whether or not Puquina was originally spoken in Tiwanaku; see Cerrón-Palomino this volume). It may be significant that the border separating Pucara from Tiwanaku was echoed by the subsequent aggressive dispute between the Puquina-speaking Colla and Aymara-speaking Lupaca. The former population of Tiwanaku adopted Aymara, but the former territory of Pucara maintained their Puquina language. Subsequent Inka decimation of the Colla, including the repopulating of the Ayaviri area by Canas and founding of the new ethnic capital and administrative centre at Hatunqolla (Julien 1983), led to the adoption of Quechua amongst the Colla in the Inka and early colonial periods. Today the former Colla–Lupaca boundary is marked by a linguistic frontier where Quechua has been adopted by the former Colla, while Aymara continues to be spoken in the former Lupaca area.

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