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Wrap the Dead : The funerary textile tradition from the Osmore Valley, South Peru, and its social-political implications

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6.1 Introduction

The South Central Andes region comprises various ecological zones that for millennia have been connected by cultural, economic and political contacts. In this chapter, the history of human habitation of the Osmore valley is described, placed within the wider context of the South Central Andes region. As most archaeological and ethnohistorical studies on this region have been published in poorly available magazines or dissertations, it was felt necessary to present the cultural history in considerable detail, especially for the Tiwanaku, Ilo-Tumilaca/Cabuza, and Chiribaya cultures.

The first archaeological investigations in the coastal zone of south Peru and north Chile were carried out by Max Uhle in 1917, followed in 1943 by Junius Bird. His relative cultural sequence was largely based upon systematic excavations of shell middens at Quiani in northern Chile. Although many of the phases he baptized have since then been renamed, his chronology is still valid. Excavations of mortuary contexts from the Osmore valley from the 1950's through to 1970's have more recently been complemented by systematic surveys and excavations by Programa Contisuyo members in the Osmore Drainage in the 1980's and 1990's (Alcade 1994, Aldenderfer 1989a; Bermann *et al.* 1989; Buikstra 1989; Goldstein 1989; Jessup 1991; Miranda 1992; Moseley *et al.* 1991a; Owen 1993; Rice 1993; Sandweiss *et al.* 1989; Stanish 1985; Umire 1998; Wise 1989, 1990; Wise *et al.* 1994).

The cultural development of the Andean prehistory has been organized into chronological sequences, such as Rowe's (1962) Early, Middle and Late Horizons (referring to time units in which a single ceramic style of a certain culture dominated large parts of the Andean area) and Early and Late Intermediate Periods (indicating periods in which several local styles in smaller areas are characteristic). However, not all of these cultural spheres affected the South Central Andean area. Therefore, broad evolutionary terms will be applied for the southern cultural developments prior to Tiwanaku's expansion (the Middle Horizon) (*fig. 6.1*).

6.2 Palaeoindian Period (? – ± 8,000 B.C.)

The earliest humans, the so called Paleoindians, may have reached South America as early as 31,000 B.C., although this date for the Monte Verde site (site MV-1) in South-Central Chile has not been generally accepted. Paleoindian groups certainly did inhabit this area (site MV-6) around 12,000 B.C., when the glacial period ended, although evidence is scarce (Dillehay 1989, 122). Evidence for early maritime adapted groups is even harder to obtain, since coastal sites may have been submerged by the rising sea level or by destruction caused by modern settlements concentrated at the coast.

6.3 Archaic Period (±8,000 to 1,500 B.C.)

Human remains from the subsequent Archaic Period are more abundant. The Archaic Period is characterized by the onset of sedentarization of hunter-gatherers. Small groups survived by seasonal migrations following their prey, such as camelids. Early archaic hunters and gatherers appear to have moved around in highland regions and in coastal regions, but evidence of transhumance patterns covering highland and coast are debated (Aldenderfer 1989b). The adaptation to high altitude resources, known as '*andinización*', implies that people moved from the puna to lakes in the high sierra (above 2000 masl) where animals and birds hibernate. '*Maritimización*' refers to the adaptation strategies of coastal groups, exploiting marine and nearby terrestrial resources. Evidence of manipulation of plants and camelid herding is found in later archaic contexts, while the presence of exotic objects in burials indicate incipient social stratification (Núñez 1983; Sutter 1997, 39-42).^[1]

6.3.1 HIGHER OSMORE DRAINAGE

In the higher reaches of the Asana tributary of the Osmore drainage, Aldenderfer (1989b, 129) identified human occupation in the rockshelter Quelcatani dated

		Titicaca Basin (altiplano)		Middle Osmore Valley	Coastal Osmore Valley	Northern Chile Azapa Valley
		north	south			
Late Horizon	A.D. 1500	Inca		Inca (Estuquiña/Inca)	Estuquiña/Inca	Inca
Late Intermediate Period		Colla Lupaqa	Pacaje	Estuquiña	Estuquiña & Terminal Chiribaya	Gentilar
				Chiribaya	Late Chiribaya (post-Algarrobal phase)	Pocoma San Miguel
	Tumilaca			Ilo-Tumilaca/Cabuza		
Middle Horizon	A.D. 1000	Tiwanaku V		Chen Chen (Tiwanaku V) & Wari	Early Chiribaya (Algarrobal phase) Chen Chen (Tiwanaku V)	Maytas Cabuza (Loreto Viejo, Sobraya, Charcollo)
		Tiwanaku IV		Omo (Tiwanaku IV)		
Intermediate period	A.D. 500	Pukara	Tiwanaku III	Trapiche	BREC	
Early Horizon/Formative			Tiwanaku I/II (incipient)		AEC (Formative)	Alto Ramírez (Formative)
						Quiani (Formative)
	A.D. 500			Huacacane (Formative)		
			Chiripa (1500-500 BC)		Chinchorro (Archaic) (5800-4200 BC)	Chinchorro (Archaic) (7000-1100 BC)
			Wankarani (1200-800 BC)			

Fig. 6.1 Time frame for regions of the South Central Andean Region

between 8,900 and 2000 B.C. Here, the people mainly lived of deer and camelid hunting.

6.3.2 LOWER OSMORE DRAINAGE

Wise (1989) identified various archaic sites along Osmore's littoral, all associated with shell middens. The settlement pattern of coastal archaic people seems to be determined by the presence of spring-fed water sources. The first evidence of human occupation at the coast has been found at the preceramic Ring Site on the Pampa del Palo, named after an artificial ring of shell debris with a diameter of 26 metres and at least 2.5 metre high. It was located 7.5 kilometres to the southeast of modern Ilo and 75 metres inland, although at the time of use, it would have been located at five kilometres from the shoreline and within the *loma* zone. The site has been dated between 7,900 and 3,800 B.C. (Sandweis *et al.* 1989). The middens indicate that the maritime exploitation had been the main food source and that the people had a variety of techniques to catch a large diversity of fish species (Guillén 1992, 65-66; Sutter 1997, 42-44).

The presence of a sedentary population in the Osmore drainage is clear by the end of the preceramic period. The habitation site Villa del Mar is located near the mouth of the Osmore river in Ilo and at 60 metres from the shore. It has been radiocarbon dated between 5,850 and 4,250 B.C. (Wise 1991). Its people depended on maritime exploitation and buried their dead in a formally bounded cemetery area. Six poorly preserved skeletons were found here, most bodies were buried in extended position, while a six month old infant and a five year old child had red painted clay masks molded over their skull. This burial style is related to the archaic coastal Chinchorro culture, and contrasts with the common burial style of the Peruvian coast in which individuals are placed in flexed position on their side in shallow pits (Buikstra 1995, 236, pers. com. 2004). The Chinchorro culture has been identified at sites located along the Pacific coast between Ilo in the extreme south of Peru and Antofagasta in northern Chile (a 900 kilometres stretch), with the core area between Arica and Camarones (*fig. 6.2*). In fact, strong cultural relationships among the populations of the various valleys of this wide zone persisted in the various cultures that blossomed here through time. The Chinchorros had a sedentary life, based on a conservative maritime subsistence with occasional hunting and foraging in seasonal *lomas*.

A typical Chinchorro settlement is estimated to have been populated by 10 to 50 individuals who lived in conically shaped huts made of a wooden framework covered with reeds or animal skins, with a central hearth and a maximum diameter of three metres (Arriaza 1995a, 18, 144, 149-152). Although they formed an egalitarian society, they did create the first artificial mummies in the world. The mummies are of astounding complexity, reflecting a sophisticated ideology.^[2] The emergence of formally bounded cemeteries and the Chinchorro mortuary ritual takes place at a time when the coastal population density is increasing, so that the Chinchorro burials may be interpreted as symbols of control over resources such as access to fresh water and fishing territories, by linking corporate rights to the ancestors (Buikstra 1995, 237-238). This cultural phase lasted from 7,000 to 1,100 B.C. (Arriaza 1995b, 36).

Guillén (1992, 167) stresses the importance of transhumant patterns of the Chinchorro people to the adjacent puna area where they hunted vicuñas and guanacos and gathered high-altitude plants in the summer months. This highland zone is thought to be the place of origin of the Chinchorros, based on similarities of lithic artefacts and the evidence of fish and shell fish remains in contemporaneous sites in highlands above 5,000 masl (Arriaza 1995a, 47).^[3] Rivera and Rothhammer (1986) and Rivera (1991, 19-20) trace the Chinchorros less convincingly to the Amazon area based on linguistic and genetic markers, on analysis of craniometrical distances and objects such as tropical feathers, jungle seeds and hallucinogenic drugs. However, the latter items are related to the final stages of the Chinchorro culture, rather than to its beginnings.

6.4 Formative Period: Early Ceramic Period (± 1500 B.C. – A.D. 500)

Around 1500 B.C., pottery, metallurgy, incipient agriculture and concentrated villages were introduced in the lower Osmore valley, either by coastal (horizontal) or by highland (vertical) contacts. Apparently, these introductions did not cause a drastic change, but instead were slowly incorporated in their life style that continued to be based on the exploitation of marine resources. In time, a new funerary tradition emerged at the coast, with the emphasis on single rather than multiple burials. The



Fig. 6.2 Archaic Period: Chinchorro cultural influence sphere

body was no longer mummified, although the use of red paint persisted. The body was placed in flexed position on its side or seated inside cylindrical shaped tombs, wrapped in decorated cloth, reed mats, or hides. The

number of grave offerings increased and included food offerings. In northern Chile, this new cultural period is known as the Quiani phase, forming the earliest phase of the Formative Period that is locally known as the Alto



Fig. 6.3 Formative Period: various sites in the South Central Andean Region

Ramírez phase (490 B.C. and 500 A.D.). Despite the new burial customs, the Quiani people were biologically related to the previous Chinchorro populations, and lived in more or less the same area (Arriaza 1995a, 156; Guillén 1992, 143-144; 171).

In the later stages of the Formative Period, isolated artefacts such as ceramics and wool tapestries are present at coastal sites. Their decorations of trophy heads, sacrificer and feline figures, and their technical features are clearly related to the Pukara culture from the Titicaca Basin. The centre of the Pukara culture lies at an altitude

of 3,950 metres, 75 kilometres to the northwest of Lake Titicaca (fig. 6.3). The type site measures about 4 km², and is considered the first urban settlement of altiplano. The Pukara culture (500 B.C.-A.D. 500) would have its apogee between 200 B.C.-A.D. 200. Simultaneously, the ancestral Tiwanaku culture, known as Kalasasaya and Qeya phases, developed at the eastern side of the Titicaca Basin. Both cultures drew their stylistic inspiration named 'Yaya-Mama Religious Tradition' by Karen and Sergio Chávez (1975, 57), which Stanish (2001, 202) estimates to have had its strongest influence between

500 and 200 B.C. This tradition formed a pan-Titicaca Basin ideology, shared by the Wankarani people (dated 1200 to 800 B.C.), living to the north and northeast of Lake Poopó, and by the Chiripa people (dated 1500 to 500 B.C.), living at the southeastern shores of Lake Titicaca and the Copacabana peninsula. The Yaya-Mama ideology is dominated by angular stelae with their four sides carved with symmetrical and opposed rendering of frogs, undulating snakes, male and female anthropomorphic personages, checkered crosses, and so forth. The representations are believed to have centered around the close relationship between humans and their life-giving environment. The emergence of the Yaya-Mama Religious Tradition is closely associated with profound social and political changes and incipient hierarchy (Chávez 1988, 28; Kolata 1993, 78-79; Rivera 1991, 25; Stanish 2003, 110, 131-132; Sutter 1997, 62-63). The fact that the Yaya-Mama influence has spread over such a wide area, including the Osmore and Azapa valleys, “(...) could mean that an ideological system controlled the Titicaca region in Pre-Tiwanaku times, and that there may have been an earlier expansion out of Titicaca” (Rivera 1991, 27-28).

In addition, Cook (1994, 189) and Silverman (1996, 124-126) observed shared iconographic features between the *altiplano* Yaya-Mama tradition and the contemporary Paracas and following Nasca styles from the south coast, supporting the existence of an exchange network between these regions.

6.4.1 MIDDLE OSMORE DRAINAGE

Pukara influence has also been found in one of the two Formative ceramic traditions from the middle Osmore drainage. The Trapiche ceramics are thought to represent a locally produced variant of the *altiplano* Pukara style, while few pieces of Pukara ceramic and repaired Pukara tapestry fragments with paired warps were found in its associated elite boot tombs. The ceramics are dated between 380 B.C. and A.D. 350 (Feldman 1990, 69-72; Goldstein and Owen 2001, 141-145).

The second ceramic tradition is called Huaracane after the type site Huaracane Pampa. It appears to be older (800 B.C. to A.D. 20) and wider spread, as far as northern Chile. In the Osmore drainage, it has been found at 70 cemeteries and with 169 residential sites next to the fertile valley floor. The Huaracane people lived on half round earth terraces with plazas and worked the land with a minimum of irrigation canals. They buried

their dead in two different types of tombs that both could contain a single up to eight individuals. Round, semisubterranean ‘*túmulo*’ burials were located near the settlement. Associated ritual offerings give the impression that *túmulos* were in fact ceremonial burial structures. They were made of alternating layers of earth and vegetable material, and often contained mutilated bodies or secondary interments. The *túmulos* measure between 2 and 7 metres in diameter and up to 4 metres in height. The individuals had been buried lying on one side, some with coarse ceramics and dressed in large cotton or very coarse camelid textiles, whereas others were naked. The bodies had desiccated through the dry desert and high salt content of the soil. No such tomb is known in the *altiplano*, but they are common in both the Osmore and Azapa valleys, 200 kilometres apart, related to the Late Formative Alto Ramírez culture (490 B.C.- A.D. 500) of the latter valley (Cassman 1997 66, 93).

The other tomb type is the so-called ‘boot tombs’. These are about 3.5 metre deep shafts with a small side chamber at the bottom and marked at the surface by a stone ring with a diameter of about four metres. Each tomb held a maximum of eight individuals of both sexes and all ages, and appears to represent elite burials. This type of tomb occurred in the middle Osmore valley. No counterparts are known from the highlands nor from the lower valley (Buikstra 1995, 239-240; Feldman 1989, 215; Goldstein 1989, 57-61; Goldstein and Owen 2001, 141-145; Moseley *et al.* 1991, 122; Sutter 1997, 64-69).

Buikstra (1995, 241-242) believes that the two ceramic traditions represent the presence of two distinctive ethnic groups, living in a competitive atmosphere. Although the Huaracane residential sites are not fortified, the elaborate boot tombs may be regarded as a symbolic representation of territorial control. Few rich graves from the Huaracane tradition contain artefacts from the flourishing Chiripa and Wankarani cultures from the southeastern Titicaca Basin, but also artefacts from coastal cultures such as ceramics from the Alto Ramírez populations to the south and fragments of textile and ceramics from the Early Nasca or Paracas culture to the north. These artefacts probably arrived there through trade between *altiplano* and coastal leaders with a shared ideology. No foreign social or political order seems to have been imposed, although it is likely that the trade between coast and highlands was stimulated by the growing *altiplano* societies

(Feldman 1989, 215; Goldstein 1989, 84, 230-231; Goldstein and Owen 2001, 145; Kolata 1993, 75-77).

6.4.2 LOWER OSMORE DRAINAGE

Owen (1993, 61-62) grouped the Formative sites of the lower Osmore valley together as the 'Algodonal Early Ceramic (AEC) style' sites. He identified at least ten sites from the coast to 20 kilometres inland, with radiocarbon dates between 100 B.C. and A.D. 380, but possibly these ceramics remained in use until A.D. 670 (Owen 1993, 412). The Algodonal Early Ceramic style shares its form and technique with the contemporary Huaracane population from the middle valley, yet differ in their paste and painted decorations. Their *túmulo* burial tradition, diet and domestic architecture are likewise closely related. Large settlements were situated on artificial terraces at Loreto Viejo and El Algodonal just above the agricultural fields at the valley bottom. In fact, they may once have formed one long stretched settlement of 1.5 km. Agriculture formed the main food source of these people, supplemented by hunting and gathering in *lomas* and exploiting marine sources. At the coast itself, AEC habitation has been identified at the sites of Carrizal and Pocoma (Bolaños 1987; Tello 1987).

A different ceramic style was found at the coastal Wawakiki site, dated around A.D. 340. These coastal people knew about irrigation agriculture, but preferred the exploitation of marine resources. Their ceramic and burial tradition seems to be related to the Alto Ramírez tradition in the Azapa valley, suggesting that horizontal cultural relations among coastal populations continued after archaic Chinchorro times. The contemporaneity of two different ceramic traditions in the lower Osmore valley indicates that a maritime tradition of coastal people coexisted with an agro-maritime tradition of people living in the valley (Buikstra 1995, 238-239; Goldstein and Owen 2001, 141; Owen 1993, 61-62; Sutter 1997, 67-69, 71).

The same goes for the Azapa valley. There, the agro-maritime tradition of the Alto Ramírez population differs from the El Laucho marine exploitation, and their burial and ceremonial practices. However, Sutter's biodistance comparisons indicate that the Alto Ramírez population does not represent highland immigrants as is often stated (Feldman 1989, 215; Focacci 1982; Muñoz 1987; Rivera 1991, 28). Instead, Sutter (1997, 268) shows that the Alto Ramírez people were genetically

related to a segment of the previous Chinchorro population who had moved inland and adopted agricultural practices, without abandoning the consumption of large quantities of maritime products. All altiplano objects, such as Pukara textiles and ceramics that were found in Alto Ramírez burials, had in fact been inserted as ceremonial objects during the earliest construction phases of *túmulos*, rather than in normal burial contexts. Various authors warn that highland presence in coastal areas does not imply a highland dominance over the coastal people in the trade network (Goldstein 1989, 45; Guillén 1992, 172, 177; Kolata 1993, 75-77; Mujica 1985, 111; Sutter 1997, 70-71, 75).

6.5 Middle Horizon: Tiwanaku culture (±A.D. 300-1100)

The Tiwanaku culture emerged more or less simultaneously with the Pukara and few other, smaller cultures in the Titicaca Basin. After centuries of growing interactive relationships between distinct ecological zones of the altiplano, a stable network of food exchange had been created, including products from tuber farming, camelid (alpaca and llama) herding, and fishing. The network required year-round organization, so that previously self-sufficient villages became increasingly dependent on other communities. This interdependence inevitably led to a change in economy and power relations, which is thought to have occurred between 1000 and 200 B.C. So rather than a change in technology, it was a change in labour organization that brought on the rising of elite groups. Social, political and economic ties between the common people and emerging elite class were cemented by community fiestas that simultaneously served to strengthen the ideological character of the leading authority (Kolata 1993, 63, 82-83; Stanish 2001, 201, 206).

According to Goldstein (1989, 41, 233-236), the Tiwanaku probably arrived at the key moment of transformation of the Andean state: the traditional structures of complementarity between communities in different ecological zones, including the highland herders, lowland farmers and fishers, the so-called '*vertical archipelago*', had been stretched to its fullest capacity. From there, the Tiwanaku were the first people who used craft specialization and social differentiation to manipulate these structures into asymmetrical

relationships to serve the power and prestige of their imperial state. The unequal redistribution was made acceptable through elite-sponsored feasts with ideological content. This process would come to full bloom during the expansive Tiwanaku V phase (A.D. 750-1100), when its productive diversification and procurement of specific resources were at its peak (Stanish 2003, 68-69).

During Tiwanaku III (A.D. 100 and 375), the incipient state was accumulating power and prestige at a vast rate. Conflicts between peer highland polities are indicated by the presence of lithic projectile points and the appearance of trophy heads on Pukara and Tiwanaku stone sculpture, ceramics, and textile (Stanish 2001, 205; 2003, 161-162). Although both polities had comparable economic potential, Tiwanaku seems to have been more advantageously located at the southernmost part of the altiplano, whereas Pukara lacked expanding potential as it laid buffered between Tiwanaku in the south and the polities around Cuzco and Chumbivilcas in the north (Stanish 2001, 210).

Soon ideology was integrated in Tiwanaku's expansion strategy. As a result, the site of Tiwanaku became a shared centre of cosmological and political authority, and expressed its top location in the state hierarchy through its lay out, architecture and monumental sculpture. The sanctity of Tiwanaku was still remembered in the 16th century, when the site was known by the Aymara name '*Taypikhala*', 'stone in the centre' (Cobo 1990 [1653], 100). Although this may not have been the original name of the site when it served as the capital of a vast empire, it indicates how people looked upon this centre: the '*axis mundi*', centre of the world and mediation point between the various ecological zones. Even the mighty Incas considered the site as (one of the) place of genesis of the Inca rulers, adopting its grandeur and divine status to enhance their own genealogy (Kolata 1993, 175-176; Stanish 2003, 247).

After A.D. 500, Tiwanaku transformed into an expanding state and within one century, the centre had become the capital of an empire with a dense network of administrative centres and agricultural villages along their road system. The urban centre covered at least 6 km² and housed an estimated population of 30,000 to 60,000 individuals. They were subdivided into at least three social classes: a warrior elite who held political and religious offices within the central area, while a middle

class of artisans, and a commoner class of farmers, herders and fishers lived in surrounding areas. Despite the high location at 3,850 masl, the Tiwanaku and Catari valleys in the core territory altiplano are believed to have been the home of a quarter to half a million people (Kolata 1993, 173-176, 205; Stanish 2003, 180).

The town was inhabited by '*corporate groups who simultaneously conducted distinct economic activities, differed in status, and maintained distinct social identities*', expressed in preference of types of state ceramics, diet, cranial deformation and mortuary ritual (Janusek 2002, 51-52). He concludes that '*the influx of groups to Tiwanaku, their use of elaborate Tiwanaku-style wares, and their participation in the emerging political economy, together afforded the state its legitimacy and power*', while simultaneously fortifying local group identity and power. '*Facing a highly diversified and potentially volatile socio-political landscape, state leaders throughout Tiwanaku IV emphasized incorporative more than transformative or territorial strategies of integration*. Integration was promoted by a prestigious ideology that was clearly expressed in the urban centres (Janusek 2002, 54-55).

The ceremonial centre comprised a huge, man-made pyramid with ceremonial structures and elite residence at its top; a semi-subterranean temple with anthropomorphic (trophy?) heads projecting from all inner walls; an enclosure contained by five metre high and straight walls accessed by a prominent, monolithic gateway in the eastern façade; and palaces. Another ceremonial enclosure was located one kilometre to the east and is thought to have functioned as the secondary centre according to the typical Andean dual social-political structure. Tiwanaku's most famous porch, the 'Gateway of the Sun', see fig 7.1) is thought to originate from this compound. The use of monolithic doorways with decorated lintels is unique to the Tiwanaku culture. The gateways indicate that ritual movement was a central element of Tiwanaku's religion and that it had determined the site planning. This is confirmed by the sculpted figures above the gateway representing processions towards a central point or frontal figure. On some architraves and walls, traces of paint have been found, so that it is probable that Tiwanaku's architecture once was entirely painted. In addition, the recessed areas surrounding the carved figures of architraves once held inlays of precious metals, held in place by anchor pins. The result would have been multicoloured



Fig. 6.4 Middle Horizon: influence spheres of Tiwanaku and Wari cultures (after Owen and Goldstein 2001, 170)

gateways that reflected brilliantly the sunlight. In short, Tiwanaku intended to create a religious centre that was meant to impress and to convey significance (Conklin 1991, 282-286; Kolata 1993, 122-145; Stone-Miller 1995, 126-133).

Within two centuries, Tiwanaku's power extended throughout the Titicaca Basin and the warmer valleys ('*yungas*') on the eastern and western slopes of the Andean mountain range (fig. 6.4). Tiwanaku's expansion was selective, incorporating certain favourable regions

while ignoring vast areas between the core territory and the periphery. Neither did the expansion follow a strict military strategy, but rather did it respond to the local diversity it encountered. As a result, its imperial administration ranged from centralized to decentralized state control, with scattered agro-economic colonies in lower altitude valleys and elite trade partners. Llama caravans linked the various production zones together, travelling as far as San Pedro de Atacama in the Atacama desert, at 800 kilometres distance or a three month round trip to the south of Tiwanaku, to collect copper, lapis lazuli, etc. (Goldstein 1989, 43; Kolata 1993, 276-277; Stanish 2003, 8-9).^[4]

In the oasis of San Pedro de Atacama, the presence of Tiwanaku representatives is debated, as neither a purely Tiwanaku cemetery nor a domestic area are known here. Luxury Tiwanaku items such as finely made pottery, gold keros, textiles, and rapé snuff tubes and trays were found in tombs in a segment of the Coyo Oriental cemetery and intermixed with local artefacts in other sectors. This differential distribution has been the source of varied interpretations. While some find the Tiwanaku objects proof of (indirect) trading partners and the oasis a convenient rest area for the llama caravans (Browman 1980; Buikstra 1995, 243; Stanish 2003, 192-193), others regard the objects as belonging to resident Tiwanaku people expressing their ethnic affinity among the local population (Berenguer and Dauelsberg 1989; Oakland 1992, 336).

In the warmer valleys such as the Cochabamba and Osmore valleys, Tiwanaku established agricultural colonies to ensure a constant supply of maize, peppers, coca leaves, etc. Tiwanaku colonists would have shared these valleys with other ethnic groups, each with their own occupational and cultural affiliations (Murra 1972, 55). Although the production of maize and coca leaves formed the main incentive of Tiwanaku's colonization drive, these products were not required out of food scarcity, but rather because maize and coca leaves formed a highly valued ceremonial and prestige crop. Up to the present day, these products are essential in the Andean ideal of generosity and reciprocity (Kolata 1993, 251, 255).

In addition to imposed trade and colonies, local population may have opted for participation in Tiwanaku's secure and far-reaching economic network, in order to gain political and economic security.

Probably, Tiwanaku's imperial ideology was just as important in establishing their presence in new regions as military conquest. The power and prestige of the Tiwanaku political structure was expressed in portable and lavishly decorated objects such as ceramics, wooden tablets, and textiles, etc., used in rituals in which identification with Tiwanaku's symbols was generated.^[5]

Paramount in the pantheon is the so-called 'Frontal Personage' or 'Gateway God', with attending winged Profile Personages (see Chapter 7). The possession of such items and their associated successful ideology would have increased the prestige of its owner and influenced the local cult. Populations living in the proximity of Tiwanaku's peripheral colonies or falling outside of Tiwanaku's direct rule, soon started to make copies of the prestigious ceramics (Goldstein 1989, 244; Hoshower *et al.* 1995, 150; Kolata 1993, 243-244, 251; Moseley *et al.* 1991, 123-126; Uribe and Agüero 2000).

6.5.1 TIWANAKU PRESENCE IN THE MIDDLE OSMORE VALLEY

Around A.D. 550, the Tiwanaku people arrived in the Osmore valley on the western flanks of the Andes. They are thought to have reached this valley at some 150 kilometres from the Titicaca Basin by following the western shores of Lake Titicaca and then moving down hill at the modern city of Puno (just like the modern road), then a densely populated Tiwanaku province. They settled at the confluence of three small rivers where the valley widens into a plain area of 28 kilometres long x 1 to 8 kilometres wide, at an altitude of 2000 to 1000 masl and about 300 kilometres away from the empire's core area (*fig. 6.5*). This Tiwanaku colony was strategically located in an area of great agricultural potential and on trade routes to coastal resources (Goldstein 1989, 48; Kolata 1993, 255; Stanish 2003, 187-189).

During the initial years, the Tiwanaku settlers appear to have shared the valley with the Huaracane people. No signs of resistance against the newcomers, such as defensive walls, weapons, or skeletal evidence, have been identified (Goldstein 1989, 231-232). It is also possible that the Huaracana had abandoned the valley prior to or during the arrival of the Tiwanaku, and settled in the marginal lower or higher stretches of the drainage. The cultural remains of both Tiwanaku and Huaracane habitation and mortuary sites show a minimum of interaction, if any at all (Goldstein and Owen 2001, 145, 161).

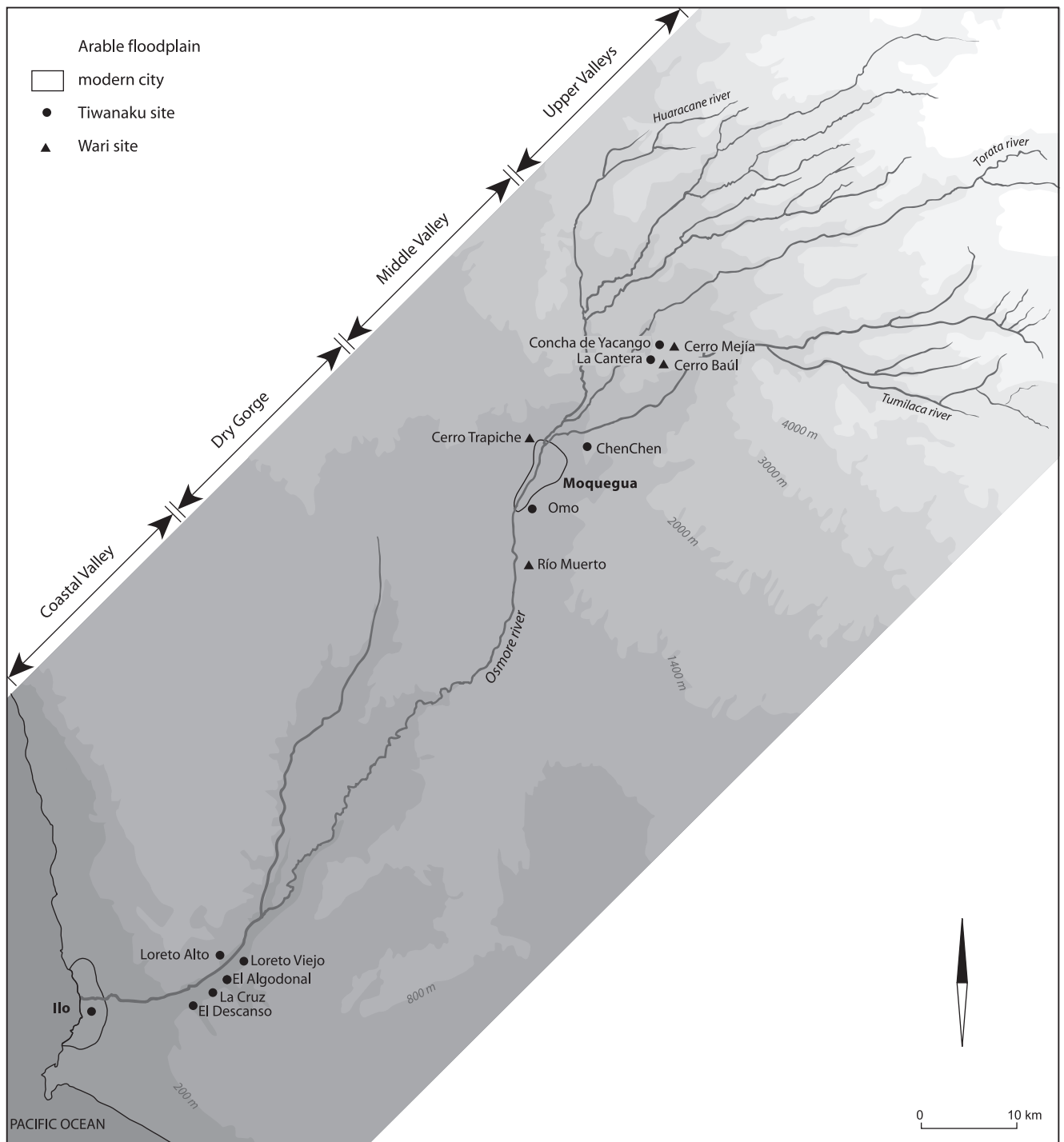


Fig. 6.5 Middle Horizon: Osmore valley during Tiwanaku and Wari colonization (after Owen and Goldstein 2001, 176-178)

Omo, Chen Chen and Wari

The first Tiwanaku settlers brought Tiwanaku IV style pottery with them from the altiplano (dated A.D. 400-800). This style is locally known as 'Tiwanaku Omo', after the type site Omo. However, eight recent radiocarbon dates taken from contexts with this type of ceramics have yielded dates ranging between A.D. 600 and 1000 (Goldstein and Owen 2001, 145-148).^[6] Previously it was believed that the Omo style predated the Tiwanaku V pottery, locally known as 'Tiwanaku Chen Chen' after the type site Chen Chen. However, eight more radiocarbon dates from the latter contexts have yielded a time span between A.D. 800 and 1050.^[7] Similar observations were made by Janusek (1994, 90-101) and Stanish (2003, 168) for the Tiwanaku core territory. These data imply that the Omo and Chen Chen styles were contemporaneous for about 200 years. Goldstein and Owen (2001, 149, 161) believe that the distinction between the two styles was not only temporal, but social as well. The two Tiwanaku groups are thought to have lived side by side in the Osmore drainage, expressing their unique identity in clear variation of ceramic styles. They are thought to represent distinct ethnic groups, or social units that functioned autonomously within the Tiwanaku province, or moieties of the Andean dual organization. This corresponds with the recent interpretations of the Tiwanaku state as a '*loosely centralized segmentary state*', rather than a homogenous state, as expressed in the Tiwanaku core territory and type site as well (Albarracín-Jordán 1996; Bermann 1997; Janusek 2002, 55; McAndrews *et al.* 1997).

The Omo and Chen Chen style ceramics clearly differ from the previous Huaracane and subsequent Tumilaca style pottery, as well as from the ceramic style of the contemporaneous Wari settlers in the Osmore valley. Systematic surveys in the whole Osmore drainage indicate that the Tiwanaku and Wari settlements were physically separated.^[8] Owen and Goldstein (2001, 171, 175) feel confident enough to equate the various ceramic styles with distinct groups of people, as several excavations and ceramic analyses have confirmed that each of these ceramic styles is associated with distinct settlement pattern, architecture, mortuary practice, and lithic style.

Tiwanaku Omo

The Tiwanaku-Omo people lived in at least fifteen sites in the middle Osmore valley. Most sites were concentrated

at the valley bottom, but two sites were located in the Tumilaca valley in the higher reaches of the drainage, presumably to control the access to the middle valley. The agricultural fields at the valley bottom needed no artificial terracing and only modest irrigation canals in order to produce maize, peppers and coca leaves. The Tiwanaku probably obtained access to other resources of the area as well, such as copper from the mountains, and salt, *guano*, dried fish and weeds from the coastal area, in exchange for their prestigious ceramics and textiles (Goldstein 1989, 61; Goldstein and Owen 2001, 149; Clark 1993, 92).^[9]

Soon, the settlements ranged from hamlets on flat bluffs near the agricultural fields, to dense communities of several hundred structures grouped around formal plazas. The main Tiwanaku settlement complex was the type site Omo, just downstream of modern Moquegua. Omo occupied nearly 40 hectares across five bluff-top sites, with some 500 rectangular rooms (not all contemporaneous) clustered around three separate plazas. The rooms were lined up in rows and made of wooden posts with thatched roofs and walls made of cane or woven textiles or mats hanging down from the roof. More high quality artefacts were found at the southern plaza, implying that a certain degree of social differentiation existed within the community. Tiwanaku Omo artefacts are virtually identical to artefacts at the Tiwanaku core area and have been found within all individual houses, indicating that the colonization was state approved and occurred by sending whole groups from the altiplano to this foreign region (Clark 1993, 92; Goldstein 1989, 231-232; Goldstein and Owen 2001, 149; Hoshower *et al.* 1995, 150; Kolata 1993, 252-263).^[10]

Tiwanaku Chen Chen

After A.D. 800, the Tiwanaku changed their strategy. They took greater control over the local resources and social networks, and built new elite class houses and ceremonial structures in former residential areas at the central site. Around A.D. 800 or 850, such numbers of Tiwanaku colonists arrived in the middle Osmore valley that eventually these Tiwanaku Chen Chen sites would be more numerous than the Tiwanaku Omo sites. During the two centuries of Tiwanaku Chen Chen's presence, they strengthened their control over the middle valley. The population grew much larger and lived in

undefended settlements that ranged from small hamlets to large towns with ceremonial and administrative structures. Most of these settlements were concentrated near the irrigated agricultural fields at the valley bottom or near natural springs (Williams 1997, 90). Goldstein shows that the mid-section of the Osmore valley became a highly organized and directly administered province of Tiwanaku state. Extensive and more labour intensive canal systems were constructed, so that a maximum of the valley bottom land could be cultivated. Agricultural tools such as stone hoes and large grinding stones were found in such high densities that it is clear that maize production for export formed the main motivation for the Tiwanaku settlers (Goldstein 1989, 70, 86, 236-237; Goldstein and Owen 2001, 159, 161; Janusek 2002, 56; Moseley *et al.* 1991:127-128).

The type site Chen Chen was located on the hills just above modern Moquegua (see *fig. 6.5*). It formed the largest Chen Chen site with ten habitation areas covering 24 hectares, including space for processing and storage of the crops. The houses were made of vertical canes set in trenches, supported by intermittent wooden posts. A small ceremonial area was identified. The habitation areas were surrounded by 28 cemeteries, which covered about eleven hectares and were estimated to have contained some 12,000 burials (Owen 1997). The site was surrounded by 90 hectares of irrigated cultivation areas (Goldstein and Owen 2001, 153; Owen 1997, Vargas 1994; Williams 1997, 90).

A new Chen Chen-style settlement was erected near the existing Tiwanaku Omo site. Although its habitation and cemetery areas are smaller than Chen Chen, Omo enjoyed an exceptional status in the Osmore valley, demarcated by the only temple complex erected outside the Titicaca Basin. The temple has been dated A.D. 900 $\pm$ 60 and appears to have been painted red. In the central, semi-subterranean court on top of the largest platform structure, the offerings of a llama fetus and a starfish have been found. Goldstein (1989, 152-153) interpreted these finds as a symbolical linking of the altiplano with the coast, since Omo was located roughly midway these two. The monumental architecture characterizes Omo as a provincial religious and administrative centre for the altiplano colonists (Goldstein and Owen 2001, 158-159; Kolata 1993, 268-269; Moseley *et al.* 1991, 130).

Blom examined the physical remains of the Tiwanaku settlers and came to the conclusion that warfare did not occur in the valley, as evidence for trauma is low and only 7% of this evidence may be interpreted as other than casual accidents (Blom 1999, 177). The skeletal data also indicates that whole families inhabited the settlement, and that they formed a relatively homogeneous population.^[11] The bioarchaeological study by Blom *et al.* (1998, 251-252) found that Tiwanaku colonists were the sole inhabitants of the Chen Chen sites during this period.^[12] The Tiwanaku Chen Chen colonists in the Osmore valley are thought to form a discrete segment of the Tiwanaku altiplano population, as they practiced head deformation in fronto-occipital shape only, while in the metropole of Tiwanaku, both fronto-occipital and annular deformation types were found in roughly equal proportions (Janusek 2002, 49-51).^[13] As the Chen Chen colonists were heavily engaged in maize cultivation, these individuals may have arrived in the Osmore valley due to their required knowledge about lowland agricultural techniques or irrigation, and/or due to ancient ties to the Osmore drainage, or as a reward (Blom *et al.* 1998, 254; Blom 1999, 185-186; Clark 1993, 92; Kolata 1993, 264-5).

Wari

In the Osmore drainage, the Wari population represents a culturally and biologically distinct population. They arrived from the core territory in the Huananga basin near the modern town Ayacucho, some 600 kilometres northwest of the Osmore drainage and about 700 kilometres to the north of the centre of Tiwanaku (see *fig. 6.4*). Recent radiocarbon dates provided by Williams (2001, 73) show that Wari colonists occupied the region between A.D. 600 and 1000. This new chronology implies that the Wari arrived in the small Osmore valley simultaneously with or even prior to the Tiwanaku Omo settlers. They shared the valley among them for four centuries, including the Tiwanaku Chen Chen colonists during the final two centuries (Owen and Goldstein 2001, 171-174). The new data contradict the previous hypothesis that the Wari arrived after the Tiwanaku Omo population had abandoned the valley, and had withdrawn when the Tiwanaku Chen Chen returned, as claimed by Moseley *et al.* (1991, 135) and Watanabe (1984, 42-48).

The Osmore valley is the only valley so far where the Tiwanaku and Wari, the two major cultures of the

Middle Horizon, are proven to have coexisted, although similar cohabitation has been claimed for the Arequipa area (Stanish 2003, 192, 203). Conklin (1991, 290), Cook (1994), Moseley (1997, 220) are of the opinion that the interaction between the Wari and Tiwanaku cultures had deeply affected each other's (cultural) development, as they share practically similar main deities and religious iconography. Recently, however, archaeologists have concluded that both cultures are more or less contemporary and that their inspiration had been derived from a shared ancestor, the Yaya-Mama Religious Tradition from the Pukara culture northwest from the Titicaca Lake (Bruhns 1994, 249; Haeblerli 2001, 116-130; Isbell 2001, 456; Stone-Miller 1995, 119).

Evidence from the Osmore valley shows that exchange among the Wari and Tiwanaku people was extremely rare. The segregation is already obvious in the settlement pattern: whereas the Tiwanaku population preferred to cultivate and settle at the flat valley bottom as they did in the altiplano, the Wari settled in the higher Torata and Tumilaca valleys of the Osmore drainage, 12 kilometres upriver from the Tiwanaku villages (see *fig. 6.5*). They preferred hilltop locations, first at Cerro Mejía and later at the dramatic table mountain of Cerro Baúl, rising 600 metres high with a flat surface of 1 x 0.5 kilometres at the top, forming a natural fortress. There, they implemented their homeland system of agricultural terraces on previously barren mountain slopes and fed 300 hectares of newly created land by irrigation canals. The apparent defensive nature of Cerro Baúl has often been explained as evidence of a state of competition or even hostile conflicts with the Tiwanaku colonists (Feldman 1989; Goldstein 1989, 235; Moseley *et al.* 1991). However, the recent publications of Owen and Goldstein (2001, 181-182) and Williams *et al.* (2001, 83) indicate that the Wari and Tiwanaku coexisted more or less peacefully in their unfortified settlements.

Only at two locations did these two groups of colonists live in each others proximity: at the foot of Cerro Baúl where two Tiwanaku settlements have been found (La Cantera and Cancha de Yacango), while a small Wari settlement was found at Cerro Trapiche and Wari lithic workshop at Río Muerto in Tiwanaku territory. However, even these sites are devoid of each other's artefacts. At the huge site of Chen Chen, only 20 non-Tiwanaku pots were found. However, none of these were of the Wari (-Chakipampa or Ocos) style

found in the Wari settlements. Rather, they appear to be locally made Qosqopa-Wari style pottery, and thought to have derived from the Arequipa region (Owen and Goldstein 2001, 175, 179-180).

Similarly, Tiwanaku ceramics are notoriously absent at Cerro Baúl (Feldman 1989; Williams 2001, 81-82; Williams *et al.* 2001, 78). Owen and Goldstein (2001, 180) add that the absence of mingled ceramic and lithic artefacts at both Wari and Tiwanaku sites points to a minimum of other forms of exchange as well: they are of the opinion that any significant trading of crops or other items and exchange of labour would eventually have been accompanied by exotic artefacts.

Seen the distance between the Osmore drainage and the Wari homeland, plus the limited agricultural potential of the Osmore settlements, it is unlikely that the Wari came to Osmore to produce food for the homeland. Evidence of exploitation of copper, obsidian and semi-precious stones such lapis lazuli, crisacola and onyx, likewise indicates smallscale activities at the most (Williams *et al.* 2001, 82). Isbell (1991, 311) believes that the main reason to establish a Wari colony in the Osmore valley was to contain Tiwanaku's expansion. The recent fieldwork at Cerro Baúl by Williams *et al.* (2001, 80-83) confirms this hypothesis. They explain the impressive Wari stronghold as a symbolic representative of the importance of the capital's political and ideological prestige. Constant support of the Wari capital is suggested by the supply of imported prestige objects throughout the centuries. The sacred nature and esteem that Cerro Baúl enjoys today, may originate from Wari and Tiwanaku times. Evidence that the mountain had been sacred during the Wari and Tiwanaku occupation is indicated by a 'D' shaped mason structure among the domestic and administrative structures at the top of the mountain, resembling the temple structures from the Wari capital (Williams *et al.* 2001, 75). In addition, the Tiwanaku built their temple at Omo which is one of the few locations in the middle Osmore valley from where Cerro Baúl is visible, while at the site La Cantera at Cerro Baúl's foot, the Tiwanaku had constructed a ceremonial structure. However, if the Tiwanaku considered the mountain sacred and if they were allowed to visit its top, then they did not leave behind any recognizable artefacts (Owen and Goldstein 2001, 180-181).

6.5.2 TIWANAKU PRESENCE IN THE LOWER OSMORE VALLEY

Owen named the descendents of the Formative Algodonal Early Ceramic (AEC) population the Burgess-Reinhard Early Ceramic (BREC) style. Although no radiocarbon dates are known from these sites, the stylistic and technological characteristics of its pottery places the tradition probably between the AEC and the arrival of the Tumilaca settlers around A.D. 950 to 1000, that is, contemporaneous with the Tiwanaku occupation. Owen concludes that the population of the lower Osmore Valley had been reduced to a minimum during Tiwanaku and Wari occupation, as only six shallow BREC sites have been discovered during Owen's systematic survey of the lower Osmore Valley (1989-1990), all located between 5 and 10 kilometres from the coast. Owen believes that the reduction of coastal population is linked to the expansion of Tiwanaku irrigation works in the middle valley, reducing the already small amount of groundwater flow to the coastal valley even further (Owen 1993, 58-60).

The question whether highland Tiwanaku colonists were physically present in the coastal Osmore valley is up to present a source of debate. This debate is complicated by the fact that the direct descendents of the Tiwanaku colonists in the Osmore drainage, known as the Tumilaca, manufactured artefacts of very close stylistic affiliation. Gherzi (1956) was the first to excavate in the lower valley at the type site of the Chiribaya culture, located at seven kilometres from the coast. Among predominant Chiribaya cultural remains he identified features that seemingly belonged to the *Tiahuanaco and Puquina* civilization, such as the tomb form, braided hairstyle of the mummified bodies, and some geometric stepped ceramics (Gherzi 1956, 92).^[4]

Vescelius (1960) identified ceramics from the Loreto Viejo cemetery, located near the site El Algodonal midway the coastal valley, as a coastal variant of the Tiwanaku style, which was repeated by Ravines (1969). Since then, the term 'Loreto Viejo style' has been used to indicate Tiwanaku presence in the coastal area, for instance on the sites of Loreto Viejo, Loreto Alto, and El Algodonal (see *fig. 6.5*). In the Azapa valley in northern Chile, 'Loreto Viejo' style was also used to label Tiwanaku-related artefacts (Focacci 1982; Muñoz 1983; Lumbreras 1974; Rivera 1980; Santoro and Ulloa 1985). However, Goldstein (1995), Owen (1993, 405) and

Sutter (1997, 83) are of the opinion that the Azapa "Tiwanaku" material in fact represents a mixture of local Tiwanaku phase V, Sobraya and Cabuza ceramic traditions. Goldstein confirms that part of the Loreto Viejo cemetery material is "*of unquestionable Tiwanaku V affiliation*", but adds that the site is only small and located in a fertile agricultural pocket rather than at the coast to exploit maritime resources (Goldstein 1989, 239-240).

Owen's systematic survey of the lower Osmore valley (1989-1990), however, identified only very few Tiwanaku style artefacts at three supposed Tiwanaku sites, such as "*the fragments of one kero, a few other possible Chen Chen phase sherds, a basket shaped like a Tiwanaku phase IV or V kero, and a tapestry shirt fragment that might be Tiwanaku V in style*". Owen attributes these finds to "*a vanishing, small Tiwanaku population at the most*", and "*visiting or resident state officials who probably maintained diplomatic or economic contacts with any local groups*". He feels that the Tiwanaku style artefacts "*more likely represent exchange objects, or Tiwanaku stylish traits lingering in the craft repertoire of the subsequent Tumilaca phase. (...) There were apparently no Tiwanaku state colonies in the coastal Osmore valley*" (Owen 1993, 14, 52-53, 304).

On the contrary, Carpio (2000a, b, c; pers. comm. 2004) argues that Tiwanaku colonists did settle in small, dispersed hamlets in the lower valley, at La Cruz, El Descanso, and El Algodonal. He bases his identification mainly on stylistic features of ceramic artefacts. As for the La Cruz site in the same stretch of the valley, Carpio and Guillén defined a sector that is "*pre-Chiribaya, not necessarily all Tiwanaku*", and another, clearly differentiated sector with early-Chiribaya characteristics. Most of the tombs had been looted in antiquity (pers. comm. Guillén 2004).

Considerable quantities of maritime products in Chen Chen contexts in the middle valley indicate that Tiwanaku Chen Chen had access to coastal resources. Goldstein (1989, 239-240) and more recently, Goldstein and Owen (2001, 141, 161) presume that the Tiwanaku obtained those products through indirect relationships with specialized coastal populations, possibly by making use of longstanding trade routes. This trade appears to have been intensified during the Tiwanaku Chen Chen phase, possibly stimulated by the need for more guano fertilizer for the maize agriculture. Early colonial

documents state that camelid caravans carried this trade item, together with edible algae, dried fish and shellfish, back to Osmore's middle and high valley.^[15]

6.5.3 TIWANAKU PRESENCE IN THE AZAPA VALLEY

The same controversy concerning Tiwanaku's physical presence is actual in the Azapa valley. Berenguer and Dauelsberg (1989), Focacci (1982, 71-75), Kolata (1993, 250), Mujica (1985), Mujica *et al.* (1983), and Rivera (1991, 30) all state that Tiwanaku colonists were physically present in minimally twenty Tiwanaku sites in the Azapa mid-valley. However, all these small-sized sites in fact form multicomponent cemeteries with variable proportions of Tiwanaku material context (Goldstein 1995; Sutter 1997, 82). In addition, revision of publications and inventories with so called 'Tiwanaku' and 'Loreto Viejo' objects (Focacci 1982, Muñoz 1983, Lumbreras 1974, Rivera 1980, and Santoro and Ulloa 1985), identify most of these artefacts as Cabuza style, that is, postdating the Tiwanaku phase (Goldstein 1995; Sutter 1997, 82-84).

Goldstein's (1995) systematic survey of the Azapa valley failed to locate non-mortuary Tiwanaku features in the whole Azapa valley, and only small Tiwanaku mortuary components within local cemeteries were identified at the sites Atoca 1, Azapa 71, Azapa 75, and Azapa 143, and Quebrada de Diablo. Goldstein interprets these finds as a possible small delegation of Tiwanaku administrators in the Azapa valley, but does not exclude the possibility that the Tiwanaku-style tombs belonged to high status local individuals who benefited from direct or indirect trade relations with the Tiwanaku (Goldstein 1989, 45-47).

Sutter (1997, 81-85, 269-270) likewise contradicts the hypothesis that large contingents of highland colonists would have settled in the Azapa valley: his bioarchaeological study showed that there existed a genetic continuity between the archaic Chinchorro and post-Tiwanaku population of this valley. The integration of the Azapa valley within the Tiwanaku influence sphere would mainly have occurred via the Tiwanaku colonists in the middle Osmore valley, who spontaneously functioned as cultural and ideological dispersers of the Tiwanaku culture and ideology (Uribe and Agüero 2000).

6.5.4 DECLINE OF THE TIWANAKU STATE

Tiwanaku settlements and possibly the Wari settlements as well, appear to have come to a violent end just prior

to A.D. 1000. The Chen Chen temple at Omo, its houses and canals were intentionally destroyed and its thoroughness even points to a long period of plundering. The quantities of projectile points and stone slings suggest a violent conflict. At the Tiwanaku Chen Chen sites, the cemeteries have been pillaged as well, but it is unknown whether the desecration of the tombs took place simultaneously with the destruction of the settlements. The capstones of the tombs were removed and the dead exposed to the elements. However, no intentional disturbance of interred individuals has been observed, as the fragile soft tissue, ropes and textiles are still intact. Ceramic and wooden artefacts are left in place as well, but metal objects or jewelry are virtually absent, and may have formed the incentive for this apparent plundering (Goldstein 1989, 166-167).

As no foreign artefacts are found, it appears that the destruction was the work of an internal Tiwanaku revolt (Goldstein 1989, 181, 198-199). Janusek (2002, 56) adds that during the Tiwanaku V phase, the rulers may have attempted to force a greater control over the local groups instead of the previous strategy of voluntary participation in the prestigious economic network.

Although Moseley *et al.* (1991, 138) do not reject this theory, they are of the opinion that the destruction of the unfortified Tiwanaku sites were rather the result of violent encounters between the Wari and Tiwanaku colonists, after which the Wari withdrew from the valley. At Cerro Baúl, Feldman (1989) found various structures of the final occupation phase to have been burnt down just prior to the site's abandonment, suggesting a forced withdrawal. However, Williams *et al.* (2001, 70) found no confirmation of this hypothesis. Owen and Goldstein (2001, 185) interpret recent evidence as indicative that the Tiwanaku and Wari were not responsible for each other's demise but rather appear to be affected by the same factors.

A similar outburst of aggression has been observed in the Azapa valley, where burials with locally produced Tiwanaku ceramics had been systematically looted at the sites Azapa-75 and Quebrada de Diablo (Sutter 1997, 93). Dauelsberg (1985) suggests that this destruction reflects the hatred that aboriginal people held against the intrusive Tiwanaku-related foreigners. Owen believes that the same feelings may have been present in the Osmore valley, but adds that the undisturbed tomb contents seem to suggest some fear or respect, as well.

Nor can he exclude the possibility that carefully opening of some tombs had been part of the ritual system of the very group that had made the tombs (Owen 1993, 431).

The incentive for the weakening of Tiwanaku state control in the western valleys around A.D. 950 and for the eventual fall of the whole state structure around A.D. 1100, has been sought in climatic changes. Ice core samples from the Quelccaya glacier show accumulation of dust between A.D. 600 and A.D. 920, which has been associated with periods of major agricultural construction works by the expanding Tiwanaku state. These centuries were followed by a period of dry and warm weather between A.D. 950 to 1300.^[16] This extended dry period has been confirmed by palaeolimnological research using pollen of aquatic plants in the sediment cores from Lake Titicaca. The research indicates that the lake's water level dropped considerably from A.D. 1050 to just prior to the Inca conquest in the early 15th century (Kolata 1993, 285-289; Thompson *et al.* 1988). The great drought appears to have led to progressive abandonment of irrigated agricultural systems in Tiwanaku's colonies. The irrigation agriculture in the Osmore drainage depended on water sources that were directly linked to precipitation levels. Between A.D. 850 and 950, the agricultural potential of the Osmore valley appears to have declined, since Tiwanaku people moved to the water sources in the higher valleys. Eventually, the area would have become unprofitable and the Osmore drainage became independent, either because the central Tiwanaku government cut down the area from its economic network, or because the former state provinces actively broke away (Kolata 1993, 292-295; Owen 1993, 80-82).

Around A.D. 1000, the agricultural systems of raised fields in the altiplano area itself, which had been less vulnerable to the draught due to its feeding by stable deep groundwater and perennial springs, dried up as well. With them, the very base of Tiwanaku's subsistence and surplus for the political system disappeared. The process of state collapse may have been a gradual process, taking place between A.D. 950 and A.D. 1150 (Albarracín-Jordan & Mathews 1990), though a rapid disintegration has been suggested by Graffam (1992, 885), at some point between A.D. 1100 and 1200.

6.6 Late Intermediate Period: Tumulaca, Cabuza, and Chiribaya cultures (±A.D. 950-1350)

Following the collapse of Tiwanaku's economic network, a process of political and economic fragmentation and great population movements took place in the South Central Andes. Eventually, people restructured into smaller polities. In the altiplano, Aymará '*señoríos*' (kingdoms) were formed that continued to exist under Inca and Spanish rule (*fig. 6.6*). Spanish chroniclers like Cieza de León, state that the kingdoms, especially the Colla and Lupaqa kingdoms at the western shores of the Titicaca Lake, were in constant competition and conflict with one another (Cieza [1553] 1995, Lib. II, Cap. C, 274; Stanish 2003, 13, 204-207). Similar competition can be observed in Tiwanaku's peripheral zones such as the Osmore drainage. There, Tiwanaku's demise apparently led to political instability and hostilities among the inhabitants, as new settlements were built at strategic or more defensible hill top locations instead of the open valley bottom. In addition, groups of people moved up into the three upper valleys and down into the coastal Osmore valley, even if this meant considerable labour investments for agricultural terraces on steep slopes and long irrigation canals.

6.6.1 TUMILACA CULTURE

Within decades, stylistic diversification took place in the upper, middle and lower valley, indicating reducing contacts with the Tiwanaku core area and each other. This local phase is known as the Tumulaca phase (A.D. 900 to 1050), named after the type site located where Osmore's three tributaries meet (see *fig. 6.6*). Tumulaca style artefacts are characterized by lesser quality of technique and iconography compared to the Tiwanaku prototypes, probably as a result of less contacts with iconographic models and craft specialists from the Tiwanaku centre. In addition, the Tumulaca may have explicitly refused the former Tiwanaku concepts. For instance, they totally abandoned the rendition of the frontal, rayed human face on ceramics. This seems to indicate that the Tumulaca rejected the paramount Frontal Personage or Gateway God of the Tiwanaku state ideology, that is thought to have represented Tiwanaku's political unification and hegemony (see Chapter 7) (Cook 1983, 179; Goldstein 1989, 77-78, 87,

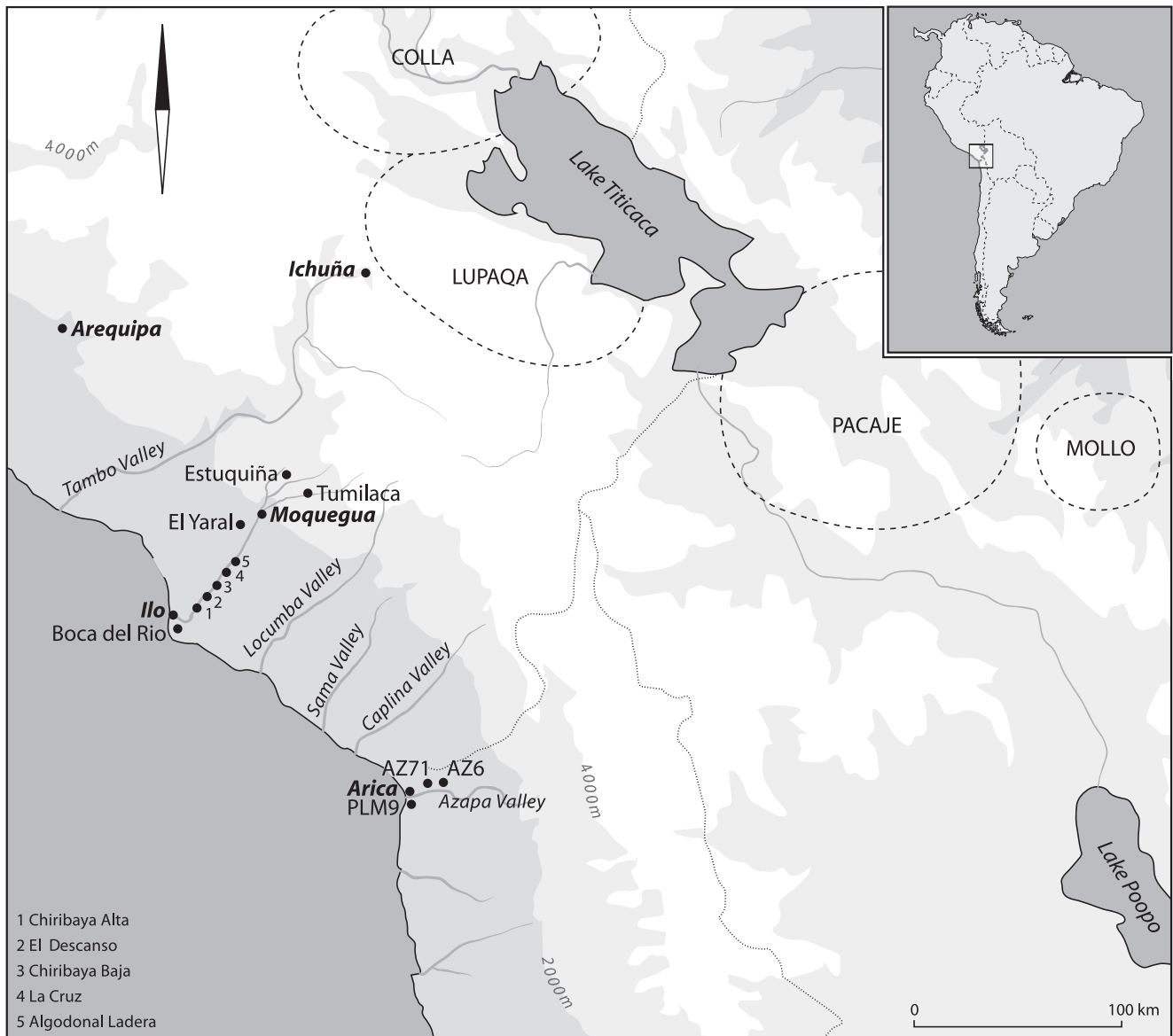


Fig. 6.6 Late Intermediate Period: altiplano señoríos and sites (after Stanish 2003, 205)

243; Moseley *et al.* 1991, 129; Owen 1993, 15, 73-75, 245; Owen and Goldstein 2001, 182; Stanish 1985, 64-65).

In contrast to the Tiwanaku, the Wari colonists did not leave any recognizable descendants behind in the valley (Owen and Goldstein 2001, 185-186).

6.6.2 ILO-TUMILACA/CABUZA CULTURE

The Tumilaca people of the lower valley have been named Ilo-Tumilaca by Owen, in order to distinguish them from their relatives in the middle drainage.

Although their material culture is virtually identical in the initial stages, stylistic differences soon developed after the geographical separation. Radiocarbon dates are scarce but seem to suggest that the initial Ilo-Tumilaca style, with close resemblance to the Tiwanaku style, was followed in time by the cruder Ilo-Cabuza style, named after the Cabuza culture of northern Chilean with whom they show close stylistic resemblance, that is, A.D. 950 - 1075 and A.D. 1000 - 1250, respectively (Owen 1992, 2, 14-15).

However, Owen (pers. comm. 2004) does not exclude the possibility that the Ilo-Cabuza style artefacts belong to individuals of lower status or to people with weaker ties to the Tiwanaku heritage, perhaps autochthonous people such as the Cabuza from the Azapa valley. According to Owen, the Ilo-Tumilaca people migrated into an almost deserted coastal valley, where they met with a minimal BREC population who lived in small settlements in the *lomas* near the coast. Owen supposes that in as little as one generation, the aboriginal BREC population had merged or maybe been replaced by large numbers of newcomers who settled at the narrow, but fertile floodplains. Apparently, the abandonment of Tiwanaku's extensive irrigation works in the middle valley had resulted in a substantial increase of the water flow, creating agricultural potential in previous arid land. In addition, the descendents of the Tiwanaku colonists brought with them the knowledge of intensive agricultural technology. The repopulation of the coastal Osmore valley would then have been a direct result of the collapse of the Tiwanaku state and the political fragmentation and competition in the middle valley (Owen 1993, 120, 519-533).

However, the Ilo-Tumilaca were not the only identifiable people in this small valley. Owen's thorough survey of the 23 kilometres long x 300 metre wide coastal valley, shows that shortly after Tiwanaku's fall, perhaps as many as five distinct groups were present in the lower valley. He identifies these separate groups by their distinct ceramic traditions and associated domestic and mortuary material cultural characteristics. Three of these five populations, identified as 'Ilo-Multicolor', 'Osmore-Multicolor', and 'Viboras' style ceramics, were identified at a maximum of five sites each, some of them mixed with other groups. The ceramic styles of these groups show close resemblance to the two major ceramic styles of the valley and are thought to have merged with them soon after arrival. The fifth ceramic style was named 'Chiribaya' by Ghersi (1956) after the *hacienda* at the valley bottom at seven kilometres from the ocean's shore. 'Chiribaya' was also the name of a settlement of fishermen that fell under the *cacique* Puca of the town of Ilo, located at the mouth of the Moquegua river in the early Spanish colonial years (Cúneo-Vidal 1977, vol. IX, 76).

From the earliest years on, the size of the Chiribaya population appears to have equalled the Ilo-Tumilaca population. Their cultural remains have been identified between the Tambo valley in the north and the Azapa valley in the south (Owen 1993, 91-93, 114-122, 246).

6.6.3 CHIRIBAYA CULTURE

The origin of the Chiribaya population is still controversial. Stanish (1992, 91, 106; 1991, 11) and Jessup (1991) suggest that the Chiribaya ceramic style is a direct descendent of the Tiwanaku in the Osmore valley, with an equally long developmental history as Ilo-Tumilaca phase ceramics. They base their theory on the fact that both groups produced ceramics that were technically very similar yet clearly differed in iconography. Boytner (1998, 332-333) comes to the same conclusion after studying the stylistic and technical features of their textiles. Owen adds more types of material culture with great similarities between Ilo-Tumilaca and Chiribaya culture, such as the basic structure and assemblage of wool textiles, use of wooden spoons and *keros*, bundling of the dead and their seated placement inside tombs, basic construction method of cane-wall houses and the use of narrow, stemmed projectile points. According to him, the development of the earliest phases of Chiribaya and Ilo-Tumilaca ceramic traditions could equally well have occurred in one of the valleys south of Osmore, such as the Caplina valley at Tacna where Chiribaya pottery has been found, or in intervening valleys of Sama and Locumba, unexplored until this day (Owen 1993, 110-112, 334).

Based on stylistic features, the Mollo culture in the Larecaja area of the Titicaca Basin may be another option (Lumbreras 1974; Sutter 1997, 273-279), or the highlands south of Puno: in the community of Chaje, near Ichuña, modern Quechua communities produce woven bags with unique decorations, that are highly reminiscent of the double headed anthropomorph designs of the Chiribaya.^[17] Clark (1993, 99) suggests that the Chiribaya population descended from the Tumilaca refugees from the middle drainage, who developed their unique ceramic style in the coastal Osmore valley where they met with Cabuza and Maytas populations from the coastal Azapa region.

Although Owen considers the coastal Formative AEC and Middle Horizon BREC populations as unlikely

cultural ancestors of the Chiribaya, he stresses the fact that the only Chiribaya centre of prestige, Chiribaya Alta, has been found in the coastal Osmore valley. As this site is thought to have been the centre of Chiribaya's political and economic power as well, *'the presence of this important site suggests that the Chiribaya tradition originated in the coastal Osmore valley and spread from here'* (Owen 1993, 108-113, 334).

Bawden (1989a, 204) studied the human adaptive mechanisms in the coastal zone near the Osmore mouth and found evidence of specialized settlements of fishers and farmers. The associated ceramics led him to suggest that *'a local cultural tradition with a long history of painted ceramics (that is, Chiribaya) developed on the coast earlier and with far less highland influence than has usually been believed'*. He concluded that *'the coastal environment incorporated a sufficient variety of adjacent micro-zones of sufficient subsistence potential to form an ecologically-integrated, self-sufficient economic region in which verticality operated on a local level within this system. However, the common pattern of wider regional interaction does occur on the coast but within a model that stresses laterality (that is, long-lasting exchange with the Azapa valley)*. Jessup's ceramic study agrees with the hypothesis of a coastal Osmore origin of the Chiribaya. He states that the *'geographic distribution of Chiribaya ceramics demonstrates an early concentration on the coast and apparent later unification of populations in distinct environmental zones'*. He links this process with a reduction of economic risk by increasing the direct access to a variety of complementary resources (Jessup 1991, 7).

Finally, the bioarchaeological analysis of Lozada (1998, 109) supports the theories of a coastal origin of the Chiribaya. Lozada disagrees with Sutter's conclusion that the lower Osmore Chiribaya population was biologically distinct from the 3000 year or older preceramic people from the same coastal region. Sutter (1997, 264-266, 247) had concluded that it was likely that *"the Late Intermediate Period Tumilaca and Chiribaya peoples shared recent common ancestors with Middle Horizon Tiwanaku altiplano colonies"*, although he did not compare the dental traits of the Chiribaya with the Tiwanaku populations from the middle Osmore region. In addition, he acknowledged that no skeletal remains had been found at EAC and BREC sites for comparisons among more recent inhabitants of the lower Osmore region. Lozada (1998, 105, 176), using epigenetic cranial traits, found that the Chiribaya could not be distinguished genetically

from the Formative coastal fisherfolk of Roca Verde (500 B.C.-A.D.200), while she did observe statistically significant differences among the Chiribaya and the mid-valley Tiwanaku colonists.

In addition, Buikstra's new radiocarbon dates from Chiribaya sites, such as El Yaral, suggest that Chiribaya's early development was contemporaneous with the Tiwanaku Chen Chen phase (pers.comm. 2004). So rather than an uninhabited coastal area, the Chiribaya culture developed exactly during Tiwanaku's occupation of the middle valley, *'suggesting that they were powerful enough to resist being politically subjugated by, or culturally homogenized within, the expanding Tiwanaku empire'* (Lozada 1998, 177).

Likewise, in the Azapa valley, the Maytas culture, stylistically closely related to the Chiribaya culture, has been disputedly dated to be contemporaneous with the earliest influences of the Tiwanaku's culture in this region (Dauelsberg 1985; Focacci 1982, 69, 74; Rivera 1991, 30; Stanish 1991, 10-11). Both coastal Maytas and Chiribaya populations appear to have responded to Tiwanaku's expansion by creating and expressing a shared ancient and maritime-based identity. The existence of such coastal connections agrees with Rostworowski's 'horizontal model' of an ancient cultural and economic network among coastal peoples, who did not have to share the same genetic ancestors (Lozada 1998, 16-17, 23, 62; Rostworowski 1977, 93; Sutter 1997, 243).

The Chiribaya pottery developed from the experimental Algarrobal-Chiribaya phase (A.D. 975 to 1125) into the Yaral phase and then into the standardized San Gerónimo phase (Jessup 1991, 4-6). Owen chooses to lump the Yaral and San Gerónimo phases together in a post-Algarrobal phase (A.D. 1075 to 1375) (Owen 1993, 105-106, 418, 420).

6.6.4 EXPLOITATION OF THE LOWER OSMORE VALLEY

The Ilo-Tumilaca/Cabuza group populated at least eleven single-component habitation sites and at least nine single-component cemeteries, while the Chiribaya erected at least 28 habitation sites and 21 cemeteries. Both built their villages along the entire length of the coastal valley, placed on natural and artificial terraces on the steep valley walls above the agricultural fields. They appear to have lived peacefully side by side, as defense works are absent, weapons are rare, and the physical

remains show no unusual percentage of traumatic injuries (Burgess 1992; Owen 1993, 186-187).

Other sites show mixed habitation and cemetery areas, but it remains unclear whether they indicate mixed settlements or sequential occupations whose refuse got mixed. One site was without doubt used by both the Ilo-Tumilaca and Chiribaya people. This is Chiribaya Alta, the largest and most complex site in the valley (see *fig. 6.6*). The site is located on a steep hill overlooking both the valley and the coastal area, right above an easy access to the valley bottom. Chiribaya Alta has been interpreted as the ceremonial centre for both populations, with nine separate burial grounds.

Like all material culture, the houses of the Ilo-Tumilaca/Cabuza and Chiribaya show similarities as well as differences. Both lived in rectangular cane-walled houses, but whereas the Ilo-Tumilaca/Cabuza lived in one to four freestanding rooms and separate cooking huts within some open terrace space, the Chiribaya lived in a cluster of rooms, corridors and patios with heavier cane walls for many generations (Asociación Moquegua 1997, 48).

The two groups appear to have built a 6.7 kilometres long irrigation canal to irrigate 378 hectares of terraced fields as a joint venture, as both ceramic types are found in the associated fields. These fields were constructed well above the floodplain to prevent occasional destructive flooding in the valley bottom. Thus they formed a secured subsistence base (Owen 1993, 125). The engineering skills originated from the mid valley and may have formed the main contribution of the Tumilaca to the lower valley, and as such, their legitimation to settle among the Chiribaya.

Although the Ilo-Tumilaca/Cabuza and Chiribaya inhabitants exploited the same environment, the domestic middens of their sites indicate that they consumed different relative amounts of basically similar food sources. Apparently, very little exchange occurred between the groups despite their proximity. The Ilo-Tumilaca/Cabuza middens yielded more camelid remains, beans, yuca and squash, while the Chiribaya had more access to or interest in maize, guinea pigs and tree crops.^[18] Both groups show little evidence for hunting and must have competed for water and for access to the littoral for shellfish collecting and fishing (Owen 1993, 162-166).^[19] The high percentages of camelid remains indicate year-round access to these

animals and their wool. The herds would have been kept in the *lomas* near Ilo, that were described in colonial reports to be one of the richest *loma* zones of the southern coast, seasonally visited by highland herders (Jessup 1991, 9-10).

Despite the variety of food sources, both populations suffered from infectious respiratory diseases, especially of tuberculosis, that seem to indicate poor hygiene and sanitation practices and also poor nutrition. According to Burgess, the Ilo-Tumilaca/Cabuza people had a life expectancy of 19 to 27 years (Burgess 1992).

6.6.5 CHIRIBAYA DOMINANCE OVER LOWER OSMORE VALLEY

In time, the Ilo-Tumilaca/Cabuza habitation sites decreased in size and number. Their ceramic decoration became simpler, as maybe their whole social organization did. No Ilo-Cabuza style artefacts were found in the prestigious tombs at Chiribaya Alta, and this site grew to represent the physical centre of Chiribaya ideology and power. Eventually, the Ilo-Cabuza settlements disappeared at around A.D. 1250, while the Post-Algarrobal Chiribaya rapidly took over the valley. The Ilo-Cabuza people may have emigrated to other areas, but more likely were assimilated into the Chiribaya group through marriage, adoption, or other forms of personal alliances, supposedly attracted by the increasing status and quality of life of the Chiribaya (Owen 1993, 209-214).

Chiribaya's final century shows an increase of social stratification and craft specialization. They established colonies in the middle and higher reaches of the Osmore drainage, as well as in the Tambo and Tacna valleys (Stanish 1990, 154-156). The social-political complexity created by the Chiribaya with extreme wealth or status differences was previously unwitnessed at the south coast. Chiribaya Alta's prominent position was accentuated by surrounding mounds and ditches. The tombs contained ever more gifts of food and elaborate artefacts, and even female attendants (Owen 1993, 207-214, 463). Occupational grave gifts indicate that Chiribaya sites were economically specialized, as fishing tools are common in coastal sites, such as San Gerónimo, while agricultural food gifts are included in inland sites such as El Yaral and Chiribaya Baja. This distinction among economically specialized groups was further accentuated by distinct cranial deformation types. Annular deformation marked the great majority of Chiribaya maritime specialists, regardless of gender. Large percentages of

Chiribaya farmers were recognizable by their fronto-occipital head shape. The annular head shapes were non-existent among the Tumilaca, but their fronto-occipital shapes had been common among the Formative Huaracane and Tiwanaku colonists of the middle valley (Lozada 1998, 66-67, 158-162).

6.6.6 CABUZA AND (MAYTAS-)CHIRIBAYA PRESENCE IN THE AZAPA VALLEY

Cabuza and Chiribaya style ceramics and textiles have been found in great quantities in the Azapa valley as well. Though genuine Chiribaya style ceramics are present, the majority of these objects in fact represent the locally made Maytas-Chiribaya products, similar in design but with the omission of the typical Chiribaya white punctuations within lines (see Chapter 7). Although the shared ceramic and textile style and mortuary practices suggests that the Maytas and Chiribaya people formed one ethnic group with shared ancestors, Sutter's bioarchaeological study (1997, 273-278) made clear that both populations are in fact genetically distinct.^[20] Close stylistic similarities between both populations should then be considered as their desire to present themselves as closely related groups with shared economic and cultural relationships despite their different places of origin.

The Azapa Maytas ceramics have been dated A.D. 750 to 1235, making them contemporary with the Tiwanaku and supposedly with the Chiribaya style as well (Dauelsberg 1985; Focacci 1982, 69, 74; Rivera 1991, 30; Stanish 1991, 10-11).

Owen (1993, 17, 20, 94) and Sutter (1997, 82, 270-271) disagree with the early date for the Cabuza and Maytas-Chiribaya style in the Azapa valley and instead place their development after Tiwanaku's collapse. They build their case on recent thermoluminescence and 17 calibrated radiocarbon dates that yield A.D. 950 to 1440 for Maytas-Chiribaya artefacts and A.D. 1020 to 1430 for Cabuza artefacts.

Focacci (1982, 75) and Sutter (1997, 92-96) analysed the mortuary patterns, ceramics, textiles and domestic architecture of the Azapa valley, and concluded that the San Miguel cultural tradition must have been roughly contemporary to the Cabuza and Maytas-Chiribaya culture. They interpret the three material cultures as evidence of an equal number of ethnic groups living together in the Azapa valley, as example of a vertical archipelago in which various settlers lived together

harmoniously in order to exploit the region described in ethnohistorical sources (Murra 1972). Sutter (1997, 273) found that the genetic relations of the Cabuza, Maytas-Chiribaya and San Miguel traditions suggest recent common ancestors and/or a tradition of intermarriage. A small quantity of San Miguel ceramics has also been found in the whole Osmore drainage but these are thought to represent imports from the south, such as the later Gentilar style ceramics (A.D. 1350-1500) (Rivera 1991, 35-36; Stanish 1991, 11).

Cassman (1997, 162) disagrees with the interpretation of three ethnic, cohabiting populations. She studied the textile tradition of three Late Intermediate Period sites from the Azapa valley and had 33 radiocarbon dates taken, and concluded that the Cabuza, Loreto Viejo, Maytas, San Miguel, and Gentilar cultures do not represent separate ethnic groups or sequential phases. Instead, their textiles and ceramics overlap in time and are often placed in a single individual's tomb. She interprets the increasing variety of tunic forms and decorations of the early phase a "*reflection of an expanding local economy with time and resources available for conspicuous consumption*", whereas the dramatic reduction of stylistic variety in the later phase reflects the "*economic slowdown*", and concludes that "*from the shirt evidence presented, there was most likely a single ethnic group inhabiting the oasis of Arica from approximately just before A.D. 1000 to not much later than A.D. 1300*".

6.6.7 COLLAPSE OF THE CHIRIBAYA CULTURE

Geoarchaeological evidence presented by Moseley *et al.* (1991b) and Satterlee (1993) makes clear that the coastal Osmore valley was hit by the largest El Niño event yet identified in the southern Andean region. This disaster has been named the 'Miraflones event' and happened around A.D. 1350. This date corresponds with evidence from the Quelccaya Glacier cores that indicate a twenty years period of El Niño-related climatic disturbances between A.D. 1350 and 1370 (Satterlee 1993, 351-353). Disastrous floodings and mudslides pouring down from the *quebradas* wiped out the majority of the settlements on the valley sides (74%) and buried most of the agricultural system as well as the irrigation canal, covering them with debris up to ten metres in depth. The prestigious site of Chiribaya Alta was abandoned and no attempt was made to repair the main irrigation canal (Reycraft 1998, 27-28).

As always after El Niño-related events, marine resources recovered faster than the agricultural systems, and it is mainly along the coast where the decimated Chiribaya settled. Most of their maritime settlements had been spared, such as specialized fishing sites such as Burro Flaco. In addition, Chiribaya people appears to have fled to the higher valleys of the Osmore drainage that were barely affected by the Niño event. Here, a rapid increase in site density as well as a rise of conflict and raiding took place (Reycraft 1998, 42, 69, 323; Stanish 1992, 168-169).

Curious is the fact that the immigrants did not bring their typical Chiribaya decoration style, and also the coastal dwellers are found to have abandoned their cultural icons. Only the basic form and structure of houses, tombs, ceramics and textiles reveal the continuity of the Chiribaya culture. Instead, they adopted several stylistic traits of the Estuquiña culture from the higher valley that had been spared from the catastrophic event. No doubt the Chiribaya must have considered the survival of the Estuquiña a miracle, which would have enhanced the status of Estuquiña's pantheon. Apparently, the Chiribaya suffered from total disillusionment with their gods and political leaders (Reycraft 1998, 209, 317-324).

6.7 Estuquiña culture (±A.D. 1350-1450)

During the final days of the Chiribaya culture, the higher reaches of the Osmore valley were inhabited by at least three different ethnic groups. Based on ceramic style, mortuary and domestic architecture, settlements of Tumilaca descendents were identified, living side by side with a colony of coastal Chiribaya people looking for pasture grounds and with a Colla colony from the Titicaca Basin (Stanish 1991, 10, 12). Bawden (1989b, 301), Clark (1993, 877), and Stanish (1992, 169) believe that the Estuquiña culture (A.D. 1350-1450) represents an indigenous, hybrid sierra population developed out of these colonists. Their social organization would be much less hierarchical than the earlier Tiwanaku and Tumilaca organization. The valley witnessed a radical change in settlement location and burial tradition. People moved to fortified, hilltop sites and buried their dead in adjacent burial grounds, as well as inside their houses and in completely aboveground burial towers, called

ch'ullpa, thought to represent some social distinctions. Estuquiña style ceramics and textiles were notable devoid of decoration (Clark 1993, 761). Estuquiña settlements participated as indispensable intermediaries in an extended regional network of trade between the coastal Chiribaya and Gentilar, and highland Colla (Stanish 1985, 69; 1990, 156-157). So far, no Estuquiña structures or sites have been identified at the coast, although their ceramics were found mixed in very late Chiribaya tombs at San Gerónimo, suggesting intimate and peaceful relations between the two people (Owen 1993, 231; Reycraft 1998, 76, 211, 323-325). However, a small number of intrusive circular house constructions, identified as *altiplano* Lupaqa, are found among the coastal Chiribaya houses. According to Reycraft (1998, 76), the Lupaqa would not have been strong enough to control the Chiribaya majority, but instead appear to have had direct rights to exploit fishing areas and coastal trade.

In the final phase (A.D. 1450-1530), the Estuquiña may have enhanced their status through association with the expanding Inca empire. A hybrid Estuquiña/Inca pottery has been found in the Osmore drainage (Reycraft 1998, 323).

6.8 Inca culture (±A.D. 1430-1532)

The Incas were a highland people living in the Cuzco region. After the Incas had managed to defeat a massive attack by the Chanca people around A.D. 1430, they concentrated on territorial expansion. Within two generations, they conquered an area stretching from Ecuador in the north to Santiago de Chile in the south, a distance of 5000 km, bordered to the east by the Amazone forests. Inca control of the Titicaca Basin was not firmly established until the end of the fifteenth century, when the Inca finally conquered the Colla with the help from the Lupaqa people, who saw their chance to defeat their perpetual enemy. As a reward, the Lupaqa appear to have been granted the monopoly to administer and intensify their economic activities in the western valleys of the South Central Andes (Reycraft 1998, 132-133; Stanish 1992, 87-88; Stanish 2003, 208, 237-238, 272; Sutter 1997, 96-97).

The Incas established administrative centres in the middle and higher reaches of the coastal valleys of the

southern Andean region. In the Estuquiña heartland, Inca settlements have been identified at Camata, Sabaya, and Cochuna (probably at Torata Alta), while in the middle drainage, the administrative town Moquehua was founded near Tiwanaku's centre of Chen Chen. Maize appears to have been the main product for the Inca tribute payment (Garcilaso 1966 [1609]; Lib. 3, Cap. IV, 144; Stanish 1992, 92).

Intensive surveys of the coastal Osmore area by Miranda (1992), Owen (1993), and Umire (1998) resulted in the identification of only one site with Inca architecture and ceramics. Pueblo Tacahuay, located in a small pocket of agricultural land and near the coast to the south of Osmore, probably functioned as an administrative centre for the agro-maritime exploitation of the larger coastal region (Covey 2000, 131-133). The presence of just one Inca centre in this area confirms that the Inca administrators maintained primarily indirect control relationships with coastal elites via Lupaqa colonies. In the Sama valley south of Osmore, a Lupaqa settlement was found at Sama Grande, specialized in agricultural and maritime production. The colonial '*Visita*' for the Lupaqa territory by Diez San Miguel's (1567) confirms that the Lupaqa exploited the Sama valley, as well as the Osmore middle valley and Torota valley, for products such as maize, peppers, cotton, and dried fish, the latter supplied by specialized fishermen. In turn, the Lupaqa had to hand over part of their income to the Incas. The coastal population received coca, camelid wool and dried meat, as well as llamas for guano transportation in exchange. The main interest of the Incas in this region, however, laid in the mineral resources of the region (copper, lapis lazuli and obsidian) (Covey 2000, 122-126; Stanish 1985, 71-72).

6.9 Early Spanish colonial period

Spanish armies conquered the Inca empire in 1532 and made use of the Inca administration to exploit their new colonies. The southern coastal area was known as '*Colesuyu*'. It stretched from the river of the city of Arequipa along the coast for some 600 kilometres towards Chile, and from the Cordillera to the sea for some 100 to 150 kilometres, that is, from the midvalleys to the coastal area of Camaná, Moquegua, Tarata, Arica and Tarapacá. However, the existence of Colesuyu does

not necessarily imply the existence of a political unity of several coastal valleys, but rather an Inca space demarcation. When the Spanish divided the conquered empire of the Incas among their faithful soldiers in the 1530's, the Osmore region was given as '*encomienda*' to Lucas Martínez. From then on, the '*principal de pescadores de Ilo*', that is, the chief of Ilo's fishing folk, had to provide the Spanish a certain amount of dried fish every four months as tribute payment, as they had done during the Inca rule. Around 1573, the 226 widely distributed villages in this mountainous desert land were concentrated into 22 '*reducciones*' for easier control. Colonial administrative documents state that in the higher regions of the western valleys, settlements of altiplano people coexisted with coastal agriculturalists and even fishermen. At the coast, the population consisted of both agriculturalists known as '*Cole*' or '*Koli haque*' in the Aymara language, and '*Camanchaca*' or '*Chango*' fishermen. It is not known if the two groups claimed to have a common ancestor but they appear to have spoken a common language, Coli, until the early 19th century (Julien 1979, 5-11; Rostworowski 1993, 222-225; Rostworowski 1986, 127-135).

Although this historic overview was very extensive, hardly any mention was made of the stylistic characteristics of each phase's material culture. Therefore, the following chapter will describe the characteristics of those cultural periods that are relevant for this study, with emphasis on their textile tradition.

NOTES

1. At Puripica in Atacama desert, evidence of domesticated llamas and alpacas has been dated 4,885 B.P. Evidence of domesticated plants such as maize in northern Chile is controversial, but at Camarones 14 and at Quinani, the dates average 6500 B.P., with more reliable dates for maize taken from Pichasca, dated 4,700 B.P. (Rivera 1980, 105; Rivera 1991, 10).
2. The cultural epicentre of the coastal Chinchorro people was located around the modern town of Arica in northern Chile. The earliest Chinchorro mummies found have been dated 5050 B.C. Apparently, the artificial mummification procedure was first applied on the corpses of children, although in time, the bodies of both men and women, adults, children and even fetuses were mummified. Up to present, 282 Chinchorro bodies

have been identified from at least ten sites (Arriaza 1995a, 49, 135-137). Between 4980 and 2800 B.C., the mummification techniques reached their maximum complexity with the so called 'Black Style' mummies, buried on their back with the legs and arms extended or in semi-flexed position in shallow graves in the desert sand. The Black Style Chinchorro mummies had their head, arms and legs separated, the skin rolled down as a sock, after which all organs, the flesh, and brains were removed. Then the bones were cleaned and dried and reassembled in anatomically correct position. The skeleton was reinforced by sticks attached to ankles, passing through the pelvis and thorax, joined at the neck and finally inserted into the cranium through the foramen magnum. Next, the extremities were given volume and reinforcement with reed mats and cords, while the cavities were filled with a mixture of grass, ashes, soil and animal hair. Then the body was remodelled with white-ash paste, including the genitals and breasts, and the skin and scalp with hair were replaced. Finally, the body was painted with a black manganese paste, and a mouth, nose, and eyes were modelled on the facial mask (Arriaza 1995b, 43-45). The preparation of the body and the renewed layers of paint applied to some facial masks, indicate that the deceased remained among the living for a long time after their death, and were probably even kept on display. Sometimes, they were dressed in skin breechcloths (for men) and short fringed skirts (for women), some of them with cords wrapped around heads. Some bodies were accompanied by offerings like harpoons, shell and cactus fishhooks, stone knives, throwing sticks, or reed basketry (Arriaza 1995a, 93; 1995b, 36). During the third millennium B.C., a more simplified Red Style and Bandage Style mummification (using strips of human or animal skin to wrap bodies in otherwise Red style pattern) were in vogue, followed by the so called Mud-coated Mummification Style (2,620 to 1,700 B.C.). Now, the bodies were smoked dry and covered by a 1 to 2 cm thick layer of a grey concrete-like substance after which they were immediately buried. The coating would fix the bodies to the grave floor, and as such has been thought to express a transformation in ideology related to a sense of land ownership (Arriaza 1995b, 45-46). Nonetheless, throughout the whole Chinchorro culture time span, 47% of the dead would be buried without any mummification treatment, and natural mummies occurred in association with all varieties of artificial mummies. This indicates that no higher ranking was implied for the artificial mummies in comparison to natural mummies. The group burials seem to indicate that the artificial mummies, especially those of children, may have been physically present in the settlement for years until the death of a last

family member (Allison et al 1984; Standen 1991; Arriaza 1995a, 17, 36-37, 95-98). Guillén explains the maintaining of mummies for display as a reflection of cult of kin members. The larger the group, the more guarantee there was to maintain access to productive zones such as shellfish banks, fresh water areas, to meet the needs of the living descendants. As such, the need to conserve bodies would have been greater than the need for formal disposal areas (Guillén 1992, 174). The Red Style Chinchorro individuals commonly had their heads deformed in annular shape. During these millennia, the Chinchorro people survived with a highly conservative maritime tradition that reflects a successful specialization in obtaining maritime foods in stable coastal environment (Arriaza 1995a, 85). The archaic Chinchorro culture ended around 1100 B.C.

3. Lithic artefacts, such as the Tambillo rhomboidal points, and marine remains were found in Cuevas and Patapatane, dated 7,550-6,000 B.C., and in Tiliviche dated 7,810-5,900 B.C., 40 kilometres inland (Arriaza 1995a, 47).
4. Anthropological studies show that a modern herder of Paratía in the south Andean highlands can lead 15 to 20 pack animals and cover 15 to 20 kilometres daily, with llamas carrying 25 to 30 kilos of merchandise. The items are traded with regular partners ('*compadres*') along a known route (Flores Ochoa 1977a, 144-145; Stanish 1985, 65).
5. Snuff tablets and bolsas indicate that nasal inhalation of hallucinogenic substances stood central in the incipient Tiwanaku cultural development. This practice is thought to originate from the jungle regions. Later, the Tiwanaku anthropomorphic monoliths are represented as holding a tablet in one hand and a *kero* (cup) in the other, indicating the introduction of a typical highland costum in which relationships with other people are fortified in drinking feasts (Uribe and Agüero 2000).
6. Radiocarbon dates were taken from wood and charcoal samples from the Tiwanaku Omo style sites of Omo M12 and M16, Río Muerto M70, and La Cantera. All radiocarbon dates have been calibrated by OxCal version 3.5 (Goldstein and Owen 2001, 145; Owen and Goldstein 2001, 171).
7. Radiocarbon dates were taken from wood, charcoal and wool samples from the Tiwanaku Chen Chen style sites of Omo M10, Río Muerto M43, Chen Chen M1, and Cancha de Yacango (Goldstein and Owen 2001, 147-149). These dates fall

within the ranges of earlier radiocarbon dates for Chen Chen contexts. Geyh (1967) published radiocarbon ranging between A.D. 910 ± 65 and 1040 ± 65 , (Disselhof 1968, 216) gave the date A.D. 970 ± 75 , while Rivera (1985) dated Loreto Viejo A.D. 980 ± 70 . A posthole from a Chen Chen phase context at Omo M10 was radiocarbon dated A.D. 830 ± 60 and dendrochronologically corrected to A.D. 900 ± 60 (Goldstein 1989, 69).

8. Systematic surveys have been held in the three segments of the Osmore drainage. The higher reaches of the Torata and Tumulaca valleys, especially around the Wari settlements, have been surveyed by Owen (Catastro Arqueológico del Drenaje Superior del río Osmore; CADSRO) in 1994-1998. Goldstein examined the patterns and interaction of the settlements of Formative Huaracane, and Wari and Tiwanaku in the middle Osmore valley (Moquegua Archaeological Survey; MAS) started in 1993. Members of the Proyecto Colonias Costeras de Tiwanaku (PCCT) under guidance of Owen systematically surveyed lower Osmore valley between 1989-1990 (Goldstein & Owen 2001, 141).

9. When Diez de San Miguel inspected the Moquegua area in 1567, guano was considered essential as fertilizer, particularly for maize: “*The Indians of Moquegua grow a little wheat and maize, although not very much because maize cannot be grown unless bird dung from the coast, that they call guano, is put on the fields when the plants are somewhat grown. Without guano, the maize does not form kernels. They bring it 20 leagues (100 km) from some islands in the sea*” (Diez de San Miguel [1567] 1965, 245; in: Julien 1985, 185).

10. Unfortunately, practically no textile remains from the Tiwanaku Omo period were found, due to age and preservation conditions (Goldstein 1989, 68).

11. Blom examined the cranial and dental morphology of 1,000 skeletal samples from the Tiwanaku core in the Bolivian altiplano to those from the Moquegua Valley in southern Peru, to measure the genetic affinity between groups (Blom *et al.* 1998, 247-249; Blom 1999, 178-179).

12. The distance between the genes between Chen Chen and the earlier Osmore Huaracane populations was twice as high as between Chen Chen and the inhabitants from the Katara Basin in the altiplano, supporting Goldstein's migration hypothesis (Blom *et al.* 1998, 242-243, 252; Blom 1999, 182; Sutter 1997, 239).

13. In the Tiwanaku metropole, subtle regional and intra-site household differences in ceramic styles were identified, which seems to indicate that regional and household groups were actively displaying their local identity within the broader identity as a member of Tiwanaku society (Janusek 1992, 51-52). Nonetheless, various types of cranial modifications were found within households, which appears to indicate that individuals may change their affiliations and styles in material culture later in life, especially through marriage. Biological distance analyses do not indicate that the deformation styles marked genetically distinct groups (Blom 1999, 173-5).

14. The name ‘Puquina’ was used by Gherzi to describe Chiribaya-style artefacts.

15. ‘*Que en Moquegua en los yungas le* (that is, Martin Cusi de Hurinsaya) *dan 12 indios que le siembran y benefician nueve topos de tierra de maiz que les da aquellos indios carneros y costales para traer / estiércol (guano) para el beneficio de maiz porque no se coge de otra manera y les da para ellos coca y oveja y lana para que se vistan y charqui para que coman*’ (Diez de San Miguel [1567] 1964, 33, F.15v., F.16r.).

16. A similar rise of mean temperature was observed in Europe, in the so called Medieval Warm Epoch (Kolata 1993, 289).

17. The weaving tradition was localized by a student of the 2002 team, Sonya Swarte. A woman from Chaje showed a typical ch'uspa bag with a double-headed anthropomorphic figure filling the whole surface. One set of the complementary warps were of white colour, contrasting with predominant natural camelid wool colours.

18. The Ilo-Tumulaca/Cabuza middens contained 20.8% camelid remains versus Chiribaya 15.9% (Owen 1993, 156-157, 163). Guinea pigs are totally absent in Ilo-Tumulaca/Cabuza middens, although they do not need specific food. In Chiribaya and in earlier AEC middens, guinea pigs formed a significant diet component. However, whole guinea pigs were found in Ilo-Tumulaca/Cabuza burials, maybe indicating some privileged role of guinea pigs in Ilo-Tumulaca/Cabuza society (Owen 1993, 160-161). Tree crops are lúcuma, molle seeds that may have been used in *chicha* beer production or to ward off insects, guava, and leguminous algarrobo. Only the tree crop pacay is more common in Ilo-Tumulaca/Cabuza midden. However, the Ilo-Tumulaca/Cabuza populations used more wood for construction, fuel or craft like spoons and charcoal (Owen 1993, 161-163, 290).

19. High $\delta^{15}\text{N}$ values for human bones suggests that marine resources were important food sources. However, these values may be influenced by maritime guano fertilizer for maize production, or marine algae as camelid fodder. Fish and mollusk remains indicate that the Chiribaya consumed more diverse species that they caught from the accessible rocky intertidal zone with good shore fishing spots, while the Ilo-Tumilaca/Cabuza concentrated on species from deeper water where swimming and diving would have been necessary (Owen 1993, 160, 165-166).

20. Sutter (1997, 135-147) compared the genetically controlled discrete dental traits from the Archaic population of the sites of Yara and Kilómetro 4, and the Late Intermediate Period population from Chiribaya Alta, El Yara, and San Gerónimo, all from the coastal Osmore valley, with the traits from the Archaic, Formative, Middle Horizon and Late Intermediate Period population of the Azapa valley.