

The changing 'nature' of Tiwanaku religion and the rise of an Andean state

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Abstract

The means by which past complex societies thrived at high altitudes remain puzzling. In this paper I suggest that religious ideology and ritual practice shaped the cultural processes that fostered Tiwanaku state rise in the south-central Andean highlands. Physical changes in the monumental core of the state's principal centre are particularly revealing. Material transformations in monumental axiality, spatiality, materiality and iconography were critical elements in a changing religion that sought to integrate the symbolism of prominent generative forces such as mountains, vital elements such as water and recurring celestial cycles. After AD 500, Tiwanaku's innovative religion meshed imposing natural features with timeless solar cycles. This embodiment and objectification of nature was increasingly critical for a polity that thrived precariously on an effective coordination of fishing, herding and new technologies of high-altitude farming. The symbolic appropriation of the natural world and its immanent spiritual forces was constitutive of Tiwanaku's political integration of diverse societies and productive landscapes.

Keywords

Altitude; religious ideology; monumentality; Andes; Tiwanaku.

Introduction

Salient to the broad inquiry into how humans thrived in high-altitude environments is how such environments gave rise to and sustained past complex societies. If archaeology once enjoyed an optimistic era in which explanations for emergent complexity emphasized linear evolutionary trajectories or singular prime movers, gradual awareness of the complexities involved in increasing complexity has encouraged a turn towards interpretations that consider multiple interwoven processes. Increasing complexity at high altitudes is a particularly intriguing problem. Such environments present great challenges for human societies, such as restricted productive potential, as well as unique opportunities such as fortuitous conjunctions of landscapes and resources.

Located at 3800 metres in the southern Lake Titicaca Basin of the Andean high plateau, or *altiplano*, Tiwanaku thrived as the centre of an incorporative political formation and a vast religious complex between AD 500 and 1100 (Albarracín-Jordan 1996, 1999; Janusek 2004b, in press; Kolata 1993, 1996b, 2003a; Ponce 1981 [1972]; Stanish 2003; Young-Sanchez 2004). Few studies have systematically addressed the processes involved in Tiwanaku's rise to pan-regional power and prestige. To a significant degree, this is because until very recently we knew so little about the preceding time span, a chronological period termed the Late Formative (200 BC–AD 500). Conventional culture history for the basin presented very early Middle Formative (800–100 BC) cultural complexes such as Chiripa and Wankarani as Tiwanaku's immediate precursors (Kolata 1993; Ponce 1981 [1972]). It is now clear that the dynamics that fuelled Tiwanaku's emergence were set in motion somewhat later during the Late Formative, and continued through Tiwanaku's early expansive phase (Tiwanaku I, AD 500–800) (Bandy 2001; Janusek 2004a, 2004b; Lemuz 2001).

In this paper, I consider the importance of religious ideology in the rise of the pre-Hispanic state of Tiwanaku. In many archaeological approaches to cultural change, religious representation and practice take the back seat as redressive or superstructural elements in the dynamic interactions and processes that drove state emergence. According to many cultural ecologists, religion provides means for adapting to a new environmental situation; for systems theorists, it provides stability and social coherence for a cultural-political system; and, in political perspectives, it is a tool for building or legitimizing a hegemonic political situation. There are many notable exceptions (e.g. Demarest and Conrad 1992; Dillehay 1995; Drennan 1976; Grove and Gillespie 1992; Joyce and Winter 1996; Miller and Tilley 1984; Moore 1996), yet relatively little archaeological research has robustly treated religious practice as truly constitutive of cultural change, sociopolitical transformation or the construction of political authority.

I argue that religious practice, interwoven with other domains of Andean culture and environment, recursively shaped the sociopolitical interactions and cultural processes that fuelled the rise of this high-altitude state. I examine the changing physicality of the monumental core of the state's primary centre, the site of Tiwanaku, focusing on its shifting axiality, spatiality, materiality and sculptural iconography. I find that Tiwanaku's built monumental complexes, which housed key religious icons and provided dynamic spaces for ritual procession and activity, ultimately made visual references to prominent mountain peaks, embodied vital natural elements such as water and marked timeless celestial cycles. In appropriating and expressing specific natural symbols and forces, ceremonial complexes embodied the immanent generative power of nature in a human-wrought, ritual-political landscape. They were experiential landscapes that celebrated cosmic cycles as well as material symbols that presented ideals for worldly ritual, productive and sociopolitical practice. Such embodiment of environmental features was critical to the increasing influence and prestige of this high-altitude polity, which depended on the effective co-ordination of farming, herding and fishing regimes, and on new forms of agricultural intensification after AD 500. Tiwanaku's religious embodiment of nature paralleled its political integration of diverse societies and productive landscapes, and was constitutive of its political ascendance as a primary Andean state.

Religious centre or political state: revisiting the ceremonial centre model

Early archaeological interpretations of Tiwanaku were inextricably grounded in the experience of its high-altitude setting. One of the earliest and longest-standing ideas was that the central site was a vacant ceremonial or pilgrimage centre. President Abraham Lincoln's Commissioner to Peru, Ephraim Squier, was struck by Tiwanaku's stark environment and hard soils. Because of Tiwanaku's altitude and 'harsh' setting, and for lack of obvious 'traces of habitations', Squier concluded that it had been a vacant pilgrimage centre consisting of isolated monumental structures. As he put it (1878: 300) 'Tiwanaku may have been a sacred spot or shrine, the position of which was determined by an accident, an augury, or a dream', but it was not 'the seat of dominion'. Even early systematic archaeology at the site located extensive refuse deposits rather than clear 'houses', leading influential researchers to support this conclusion (Bennett 1934; Rydén 1947).

A sweeping paradigm shift followed Bolivian revolutionary reform and the institutionalization of national archaeology in the late 1950s. Bolivian archaeologists under the leadership of Carlos Ponce Sanginés not only impeded most foreign research but also completely eschewed the 'vacant ceremonial centre' model (Ponce 1978, 1980, 1981 [1972]). Based on excavations in Tiwanaku's monumental core and re-considering Tiwanaku 'influence' in other regions, Ponce and colleagues interpreted Tiwanaku as an expansionist high-altitude empire that conquered and colonized lower regions of what is today Bolivia, Peru, northern Chile and north-western Argentina.

On Ponce's invitation in the 1980s, Alan Kolata initiated a large-scale interdisciplinary project that built on this epistemological foundation. With the goal of clarifying 'the relationship of Tiwanaku as a total cultural phenomenon to its surrounding environmental matrix' (Kolata 2003b: 3), this research collectively shed light on Tiwanaku's chronological, productive and sociopolitical complexity (Kolata 1996b, 2003a). Much of it focused on Tiwanaku's integration of a productive 'troika' in fishing, herding and farming (Kolata 1993) and the construction and cultivation of vast systems of raised field agriculture on Titicaca's water-logged shores (Kolata 1986, 1991). New research agendas effectively debunked the 'vacant ceremonial centre' model, but, in the process, religion was now considered to legitimize Tiwanaku's emergent political institutions and its innovative, labour-intensive productive systems.

Kolata's own interpretation of Tiwanaku's monumentality foregrounds Tiwanaku religion (Kolata 1996a, 2003c; Kolata and Ponce 1992). For Kolata, Tiwanaku's monuments gave formal expression to an 'enculturation of nature' that focused on elements critical for farming in this high-altitude setting (Kolata 2003c: 186). He draws on archaeological evidence and ethnographic analogy with contemporary Aymara communities to support his model (Kolata 1996a: 233). For Kolata, Tiwanaku elites were 'appropriating images from the natural world and merging them with their concepts of hierarchical spatial order'. Most significant for him was construction in the Akapana and Pumapunku temples, which Kolata considers 'twin ceremonial centres' spatially divided by the daily east-west path of the sun and built as human-wrought simulacra of nearby mountain peaks such as Kimsachata, at the south edge of the Tiwanaku valley (Kolata 2003c). Significantly, both temples were fitted with intricate, 'over-engineered' drainage

systems that threaded rainy-season runoff through their multiple terraces. Like imposing mountains today, which contemporary Aymara communities believe embody ancestral generative forces that nourish crops, herds and humans, Tiwanaku platform temples, Kolata argues, were sacred, generative icons of agricultural production and cosmological reproduction. Through ritual practices focused on the two temples, Tiwanaku elites appropriated the potent symbolism of the temples to glorify their own positions in Tiwanaku society (Kolata 2003c: 194).

In this paper I revisit certain aspects of the traditional focus on Tiwanaku's religiosity to supplement current emphasis on its productive and political dimensions. Based on a great deal of recent research on the critical Late Formative-Tiwanaku Period transition, I essentially seek to put Kolata's model in motion by investigating the religious incorporation of *altiplano* natural features and cycles as a critical dynamic that fostered Tiwanaku's emerging political influence and productive expansion. Elsewhere, I argue that the Tiwanaku polity transformed from a community-focused cult in Late Formative 1 (100 BC–AD 250), to a regional polity in Late Formative 2 (AD 250–500) and then a pan-regional theocratic state in Tiwanaku 1 (AD 500–800) (Janusek 2006). The symbolic appropriation of prominent landscape features, vital natural elements and recurring celestial cycles to an ever-evolving built ritual landscape shaped this long history.

Changing monumentality and religious ideology

Early in the Late Formative in the southern Lake Titicaca Basin, Tiwanaku was one of several 'multi-community polities' with fluid boundaries and overlapping interaction networks (Bandy 2001; Janusek 2004b). By AD 500, Tiwanaku was the largest ritual-political centre in the Lake Titicaca Basin and, by 800, it was the urban ceremonial centre of a state that controlled or influenced vast regions of the south-central Andes. As I argue elsewhere (Janusek 2004a, 2004b), the Tiwanaku state emerged as an incorporative sociopolitical formation that effectively integrated vastly different groups that nevertheless maintained local identities, practices and regional affiliations. Key to Tiwanaku's emergent sociopolitical integration was commensalism and recurring bouts of ritual consumption (Janusek 2002, 2003, 2004b), which centred on abundant food and fermented drink served in an innovative 'feasting technology' of ceramic wares. Changes in several overlapping dimensions of Tiwanaku monumentality, and in attendant religious ideals, were also significant for Tiwanaku's transition from a local ritual-political centre to an integrative, pan-regional phenomenon.

To flesh out these transformations, it is most useful to compare Tiwanaku with another early centre that is currently under intensive investigation, Khonkho Wankane, located in the upper Desaguadero basin some 30km to the south (Fig. 1) (Janusek et al. 2003; Janusek 2005). Khonkho incorporated a major ceremonial complex and its inhabitants interacted with Tiwanaku throughout the Late Formative period, after which it waned in importance as Tiwanaku began to expand its political, economic and ideological influence across the south-central Andes.

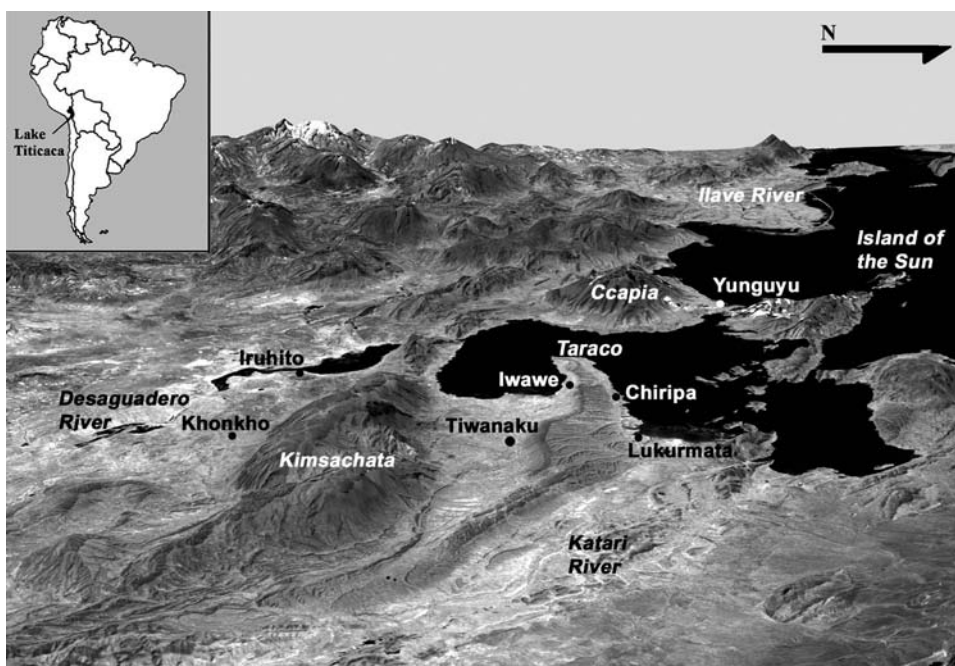


Figure 1 View of the Southern Lake Titicaca Basin showing the location of Tiwanaku and Khonkho Wankane in relation to prominent sites and landscape features.

Changing axiality: north–south and east–west

Critical to altiplano religious experience was a vivid sense of spatial order that established visual pathways and metaphorical references to natural features and cycles. Early in the Late Formative, architectural constructions at Tiwanaku and closely affiliated centres followed directional orientations skewed a few degrees right of north. Ceremonial constructions at earlier Middle Formative sites such as Chiripa demonstrate the same orientation. Thus, by the Late Formative it had already endured centuries. Yet this orientation underwent a dramatic axial transformation in Late Formative 2.

Late Formative 1 ritual structures and residential compounds at Khonkho and Tiwanaku manifest similar spatial orientations. Each site centred on a sunken court and adjacent high-status residential compounds (Fig. 2A and Plate 1A) (Janusek 2004b); one entered the court by descending into a primary stairway in its south wall. The orientation of each court establishes visual pathways to local hills and mountains. Mount Kimsachata and the nearby Taraco range form the axis of Tiwanaku's court, and Mount Sajama and the nearby Kimsachata range form the axis for Khonkho's court. The Kimsachata range, a key alignment for both sites, is also the site of key springs and the source of local aquifers for both sites.

Adjacent to each court was a large residential compound that housed a high-status group which most likely tended the court and orchestrated its periodic maintenance and ceremonies. While Tiwanaku's compound requires more excavation, the main entrance to Khonkho's compound faced north. The spatial orientation of these early centres made

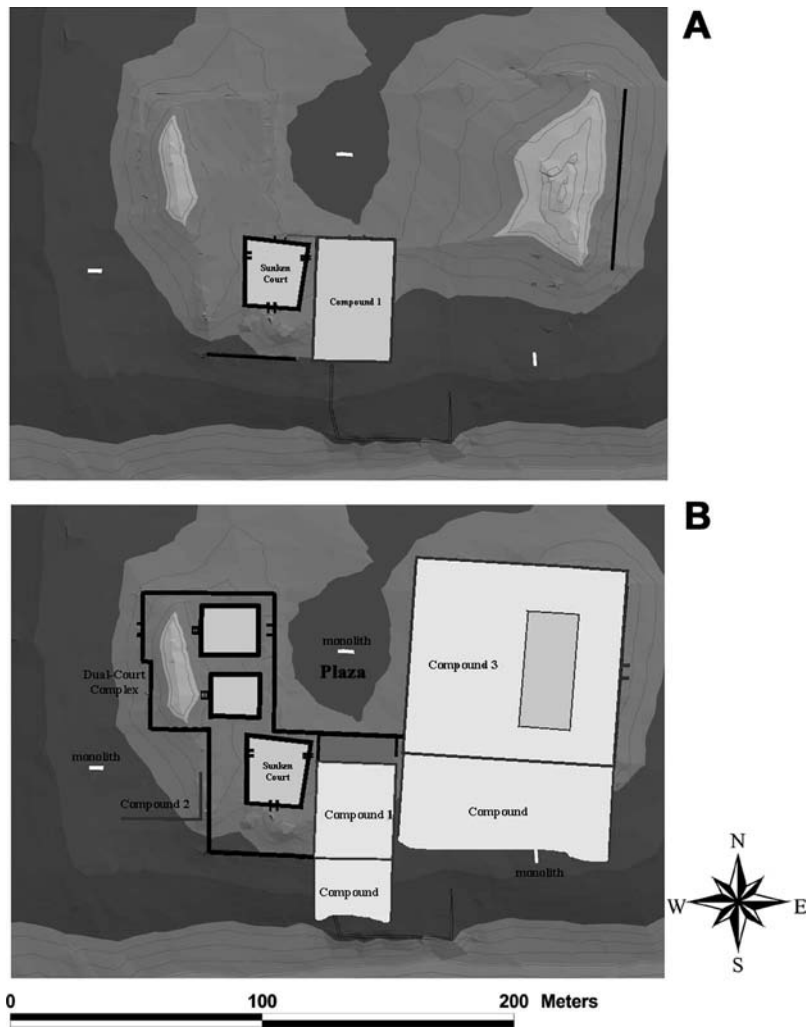


Figure 2 The ceremonial complex of Khonkho Wankane during A) Late Formative 1 and B) Late Formative 2.

visual reference to the local natural peaks that framed the valleys they inhabited and that housed perennial springs that fed local streams and water tables.

Late Formative 2 was characterized by a significant shift in the axiality of Tiwanaku and affiliated centres (Fig. 2B and Plate 1B). At Khonkho, new architectural constructions on the main platform established a clear east–west orientation and formed a bounded central plaza. A platform covered the early high-status compound. The east side of the platform housed a massive ritual-residential compound, and the west side housed a dual sunken court complex. In both, primary entrances faced east and west. At Tiwanaku, the Kalasasaya was built over the early high-status compound (Ponce 1981 [1972], 1990). While the early structure was modest (Janusek 2004b), later construction projects produced a massive architectural monument. Its primary entrance, a wide stairway framed

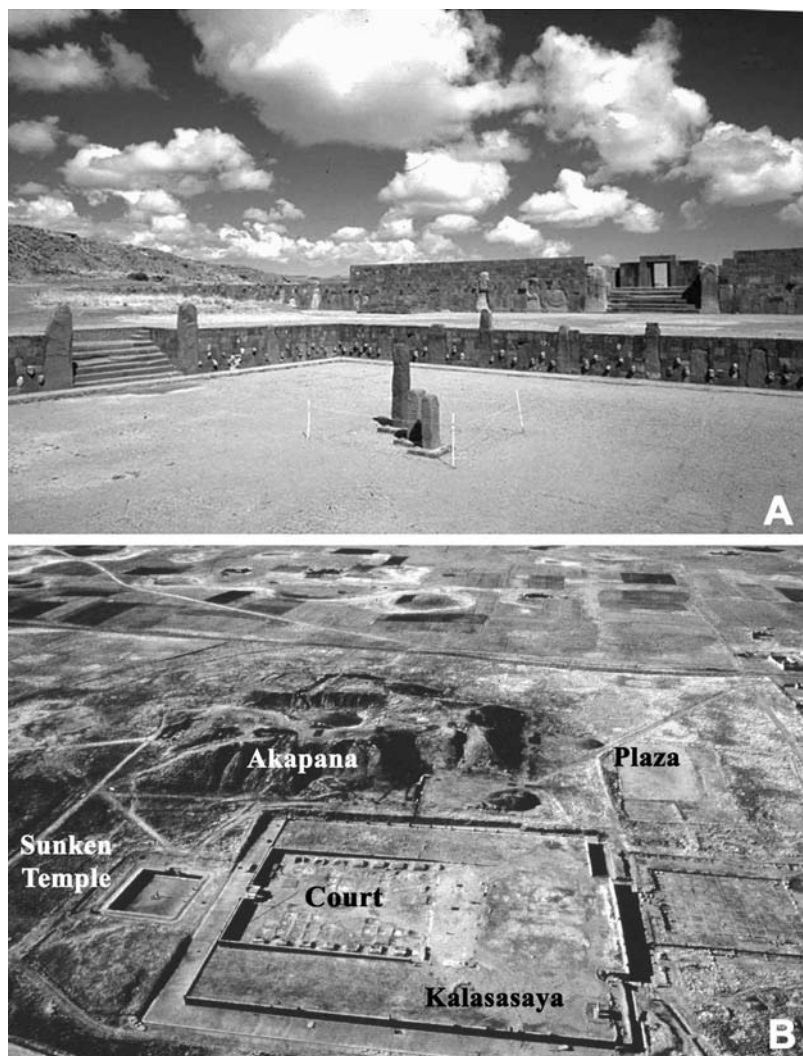
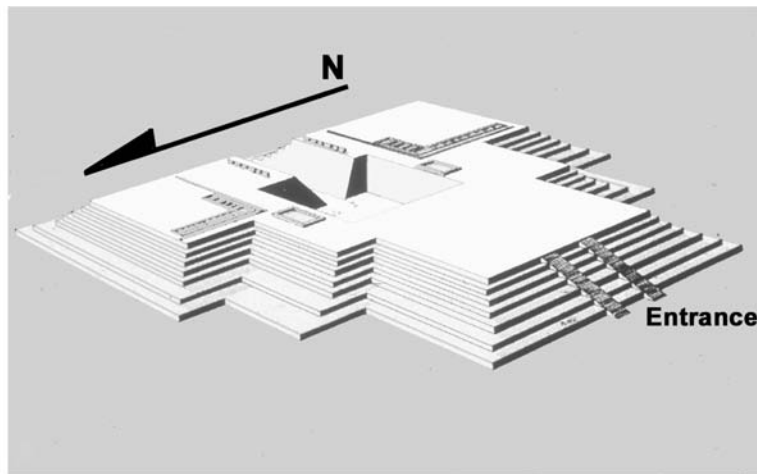


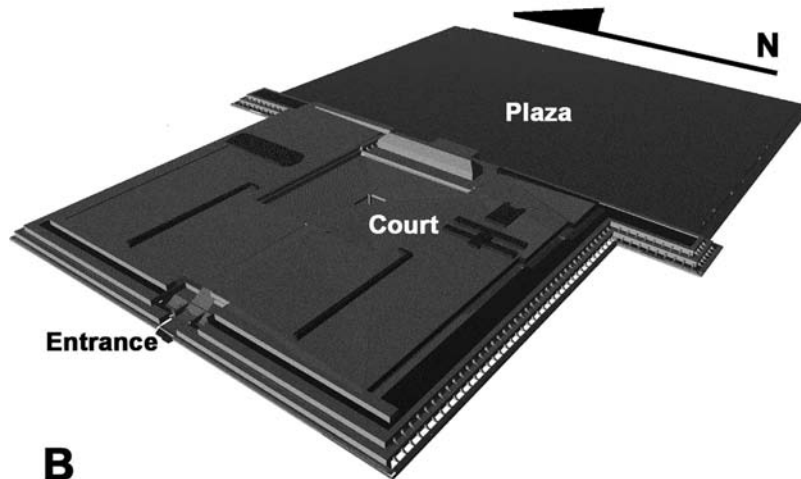
Plate 1 The A) early sunken court at Tiwanaku in relation to B) the later Kalasasaya, the Akapana and other structures (the Late Formative 1 compound was located underneath the inner sunken court of the Kalasasaya) (B, photo: Johann Reinhard).

by a stone portal, faced east. In striking contrast to the neighbouring sunken court it now dwarfed, the Kalasasaya followed an east-west axial orientation.

During Tiwanaku 1, Tiwanaku builders initiated several new constructions around the sunken court and platform complex. Building on the visual impression of the Kalasasaya, some took the idea of monumentality to an explosive scale. The towering Akapana was laid out on the south side of the early platform-sunken court complex, attached to a massive plaza on its west side (Fig. 3A). The main stairway scaled the west side of the structure from the plaza, leading people towards a sunken court that most likely graced its summit (Escalante 1997; Kolata 1993).¹



A



B

Figure 3 The A) Akapana and B) Pumapunku complexes of Tiwanaku (A, adapted from Manzanilla (1992); B, courtesy of Alexei Vranich).

A second massive temple complex was initiated several hundred metres south west of this architectural group (Fig. 3B). The Pumapunku platform sprawls over a half-kilometre on the south-west edge of the site (Kolata and Ponce 1992; Vranich 1999). Recent survey indicates that a Late Formative settlement occupied the sub-Pumapunku area in addition to that under the Kalasasaya (Lemuz 2005). Thus, it is possible that the Pumapunku covers a Late Formative ritual complex. A massive stone portico that now lies in ruins bounded the east side of the Tiwanaku-period platform, joining it to an extensive plaza to the east. The main stairway rose from an earthen esplanade that juts out from the shallow bluff on the west edge of Tiwanaku. The stairway funneled people eastward from outside the site, up onto the platform, through a narrow corridor and into a paved sunken court

(Vranich 1999). Vranich suggests that the Pumapunku may have been an entry point for pilgrims, diplomats and others who came to the centre (cited in Morell 2002).

In summary, ritual construction changed significantly between AD 1 and AD 800. During Late Formative 1, communal ritual focused on relatively intimate courts built into the earth. Their axiality made visual reference to local peaks and ranges. In Late Formative 2, the spatial orientation shifted to emphasize a predominant east–west axis, which continued through the history of Tiwanaku as a ceremonial and urban centre. This orientation, Kolata points out (1993, 2003c), makes clear reference to cyclical solar movements. The cycles included both the daily solar path, visible every day to everyone, and a more esoteric annual solar path, marked by the rising and setting points of solstices.

Key to keeping track of the latter was a ‘balcony’ platform added to the west side of the Kalasasaya early in the Tiwanaku period (Ponce 1981 [1972], 1990). Recent observations by Cesar Kalisaya (pers. comm. 2005) and Leo Benitez (2005) indicate that the balcony served as a solar observatory for calendar-keeping priests. On the west side of the platform are eleven massive andesite pilasters. From the point of view of a person standing at the centre of the east side of the platform, the pilasters mark the annual movement of the sun at its setting points from solstice to solstice.

Mountains remained pivotal for aligning monumental temples during the Tiwanaku period. The east–west orientation of temple complexes in Tiwanaku made reference not simply to local ranges that bounded the valley, but more directly to distant snow-capped peaks in the cordilleras that frame the altiplano. The massif of Ccapia rises from the lake shore due west of Tiwanaku and Illimani, of the eastern Andean cordillera, is visible to the east. Only the peak of Illimani is visible from Tiwanaku, yet the particular places in the built landscape where it becomes visible are significant. It appears from atop Akapana, and even more prominently as one scales the west stairway of the Pumapunku towards its summit. If Vranich (1999) is correct, a visual reference to Illimani as pilgrims scaled the Pumapunku fostered a dramatic entrance to Tiwanaku.

By the Tiwanaku period, the built environment of the centre incorporated visual and metaphorical references to timeless celestial cycles and prominent natural features. The orientation of temple complexes referred to the recurring daily path and annual cycle of the sun. It simultaneously facilitated breathtaking glimpses of the prominent distant peaks that join earth, mountains and sky.

For most ritual participants, more important than its conceptualization was the experience of Tiwanaku. Physically, Tiwanaku was unlike other Andean cities. First, it was spatially more permeable than Wari (see Isbell et al. 1991), a contemporary city to the north, as well as later coastal centres such as Chan Chan (Kolata 1990; Moore 2003; Topic 2003). Relatively inviting, Tiwanaku was built to facilitate movement through manicured landscapes of ceremonial complexes. The stairways that provide entry into Tiwanaku’s principal temples were wide and well-trodden (Janusek 2004b, 2006). Second, both those inhabiting and visiting Tiwanaku experienced a grand spatial order that temporally transcended and spatially overwhelmed living individuals. By mimicking recurring cycles and making reference to ancient peaks, planners sought to render Tiwanaku’s spatial order timeless and inviolable. Third, Tiwanaku’s spatial order conditioned specific paths of movement and, indeed, specific ways of moving through the centre. From a journey following winding roads that traversed the vast altiplano landscape, pilgrims and others

entered a dense, highly ordered built landscape. The landscape facilitated religious experience by fostering highly ordered paths towards, into and out of inner sancta. These paths compelled people to replicate timeless, inviolable cycles, so that their own movements would approximate the sacred as they approached Tiwanaku's most sacred icons, oracles and teachings.

Changing spatiality: sunken courts and platforms

The built forms and embedded contexts of Tiwanaku's monumental landscapes made reference to recurring cycles, natural features and spiritual forces. Like Tiwanaku's evolving axial orientation, the spatial organization of its monuments changed significantly from Late Formative 1 through the early Tiwanaku period.

The sunken court was the centre of community ritual at ritual-political centres such as Khonkho and Tiwanaku in Late Formative 1. As noted, both courts establish visual pathways with the nearby Kimsachata range that houses springs and gives rise to local aquifers at both Khonkho and Tiwanaku. Court walls consisted of non-worked and roughly worked stones derived from quarries located in these very mountains. The walls of Tiwanaku's court are fixed with the stone heads of beings that may represent the ancestral personages of constituent groups or communities (Couture 2002; Kolata 1993). No two heads are alike, many present impassive deity-like faces and some depict desiccated crania. Lining the floor of Tiwanaku's court were intricate drainage networks that would have been visible to ritual participants. In summary, sunken courts, and specifically Tiwanaku's early court, made reference to local mountains, appealed to the ancestors of local communities and visibly moved liquids through and out of their surfaces. Their orientation, form and spatial contexts emphasized the earthly and aquatic dimensions of the environment and cosmos, in keeping with the early stone monoliths they housed (see below).

In Late Formative 2, attendant on the changing spatiality of ritual-political centres in the southern Lake Titicaca basin, large artificial platforms incorporated sunken courts. While early platforms at Khonkho and Tiwanaku were relatively small in scale, the ultimate incarnation of the Kalasasaya surpassed anything built to date in the region. Elaborate drainage canals carried water through and off the platform into above-ground canals that circumscribed the structure (Ponce 1990). As in the earliest sunken court, the movement of water around and off the platform was visible and most likely a key feature of rainy season rituals.

Built during the early Tiwanaku period, the terraced platforms of Akapana and Pumapunku were constructed as human-made icons of mountains (Kolata 1993, 2003c; Kolata and Ponce 1992). Their terraced form figuratively domesticated natural mountains and ritual procession onto and through them made visual reference to the peaks they indexed. Metaphorical and visual references were now not local mountains, but more distant, imposing and regionally prominent snow-capped peaks of the Andean cordilleras. Like the life-giving streams that flow from mountain glaciers and springs, the monuments were fitted with highly elaborate, over-engineered drainage canals (Kolata 1996a; Ohnstad and Janusek 2004). The canals carried seasonal rainwater from summit courts and buildings down onto and over superimposed terraces. As in earlier structures, the movement of water would not

only have been visible, but also distinctly audible to participants in rituals conducted in the temples. Furthermore, the Pumapunku was located near a local spring known as Choquepacha (Janusek in press; Kolata 1993). Portals covering its main stairway supported lintels depicting carved bundles of *titora* (Plate 2), a multi-purpose reed cultivated for centuries on the swampy edges of Lake Titicaca. Another reference to water is made in the summit courts of both monuments. Abundant offerings and sacrifices at the foot of these structures (Kolata 1993; Manzanilla 1992) indicate that their significance centred, at least in part, on the reproductive success of crops, herds and humans alike.

Massive artificial platforms now incorporated sunken courts as central inner sancta. Sunken courts had been spatially and conceptually re-configured to evoke specifically chthonic vitality in complement to the spiritual forces inherent in distant peaks and celestial bodies. The specific rituals that occurred in the different ceremonial spaces of a ritual cycle or procession most likely emphasized those complementary elements of the cosmos. Tiwanaku's emergent religious spatiality meshed ancient cults focused on the earthly domain and its aquatic life-giving elements with an emergent cult oriented to the sun and sky.

Changing materiality: monumental composition

The lithic construction of monumental structures also made reference to natural features and forces. The use of stone facings, revetments, stairways and pavements afforded ceremonial complexes a sense of mass and permanence. Megalithic stones were quarried from hills and mountains, the natural features they symbolically domesticated and whose immanent productive power they sought to appropriate. In consecrating sacred temples and icons of stone, Tiwanaku builders sought to appropriate the generative forces of nature. Yet the use and working of stone changed in significant ways in relation to other



Plate 2 Segment of a *titora* reed lintel from the Pumapunku's main entrance (photo: Wolfgang Schüler).

transformations in monumental physicality. Most notable was a shift in emphasis from sandstone to andesite, and commonly a combination of the two stone materials (Janusek 2006).

During most of the Late Formative, major temples and icons at Khonkho and Tiwanaku consisted of red sandstone and smaller quantities of other sedimentary (e.g. limestone) and volcanic rock. Tiwanaku's early sunken court and Kalasasaya (pre-balcony) platform are prime examples. Most of the main icons housed within and around sunken courts in these early structures also consisted of sandstone.² Red sandstone derives from quarries in the Kimsachata range between Khonkho and Tiwanaku (Ponce et al. 1971). The colour makes reference to visible bedrock in the mountains to which early structures made visual reference, and may well have invoked blood, *wila* in Aymara, the powerful fluid that today affords life for camelids and humans alike. Red was also the ground colour of most Tiwanaku ceremonial vessels, the potent material vehicles for critical fermented liquids and foods that fuelled Tiwanaku's lively rituals of consumption and thus its ongoing political activities (Janusek 2002, 2004b).

Sometime during Late Formative 2, craftsmen learned to quarry and hew massive blocks of andesite into exquisitely carved pilasters, portals and monoliths. Quarrying and working andesite required an entirely new chain of production. Andesite most likely derived from several distant quarries near the edges of the southern portion of Lake Titicaca. Important Tiwanaku quarries include Yunguyu near Copacabana and the foothills of Mount Ccapia (Bandy 2001; Ponce 1981 [1972]; Stanish 2003). If roughly carved sandstone blocks were hauled to Khonkho and Tiwanaku from quarries in the nearby Kimsachata range, roughly carved andesite blocks were rafted from these further lake shore quarries and then hauled overland to Tiwanaku. Many still lie along the lake shore near Iwawe, which clearly served as a landing dock and port (Isbell and Burkholder 2002; Ponce 1981 [1972]). An important aspect of andesite's materiality was its bluish-grey colour, which was probably as meaningful as sandstone's bright red hue. The colour, I speculate, conjured the colour of Lake Titicaca specifically, and the life-giving properties of water more generally. It may be significant that name '*Titi Kaka*' translates as 'grey-haired' feline. Grey is precisely the colour of many of the felines that traditionally inhabited local mountains, and a rare ceramic colour typically employed to depict felines on Tiwanaku *keros* or ceremonial drinking vessels. Just as the materiality of sandstone invoked the bedrock stone of local mountains, I argue that andesite, if it indexed the more distant mountainous places from which it derived, also invoked the complementary life-principle of water in Lake Titicaca.

By the Tiwanaku period, Tiwanaku incorporated sandstone and andesite constructions, and some comprised both types of stone materials. During this time, I argue, sandstone and andesite came to represent complementary symbolic qualities (Janusek 2006). Sandstone visually indexed and symbolically represented the ancestral generative forces of local mountains. Andesite invoked more distant mountains and the life-giving properties of the lake as the origin of life-giving water. It was during the Tiwanaku period that leaders began to incorporate the more distant lands that hugged the lake shore and provided access to andesite outcrops. Also, after AD 600 vast lake-shore floodplains were transformed into anthropogenic landscapes focused on raised field systems, which depended on a critical range of lake and water-table levels (Janusek and Kolata 2004;

Kolata 1986, 1991; Seddon 1994). Andesite invoked and propagandized Tiwanaku's new political horizons, productive power and signature agricultural systems.

Sandstone now invoked Tiwanaku's re-fashioned historical consciousness, while andesite gave material expression to its imperial destiny. Jointly employed to form Tiwanaku's built monuments, they presented complex social relations and dynamic historical moments as inseparable natural elements and spiritual values.

Changing iconography: monoliths and portals

Located at the ends of concatenated pathways that wove people through Tiwanaku's ceremonial spaces, and perhaps for many at the end of long pilgrimage, the stone sculptures punctuating temple complexes provide a more intimate perspective on changes in the representation of key natural features that were elemental to the emergence and reproduction of state society in the altiplano. Carved stone monoliths are found in and around monumental structures at Khonkho and Tiwanaku, though most are arguably *ex situ*. In light of the few believed to have been found *in situ*, it appears that they stood inside sunken courts and open plazas. Much like Classic Maya stelae (Martin 1998), monoliths were to a degree mobile, and were perhaps transferred occasionally from one prominent ceremonial space to another at key historical moments.

Most stone monoliths depict anthropomorphic figures decorated with elaborate imagery. They appear to depict mythical ancestors or their human impersonators, and the material objects themselves were most likely considered 'persons' much as were totem poles among many native North American societies (Hall 1997; Pauketat and Alt 2005). As such, they presented 'citational precedents' that idealized the corporeal forms, gestures and iconography of didactically narrated and collectively remembered ancestral personages (Bachand et al. 2003). In this sense, they were not simply 'models of' past persons or actions. They also provided idealized models for ritual attitudes in the present and future (Ingold 1993). They presented the ideal religious persons that living people could strive for or at least idealize in their lives and, indeed, their after-lives.

Large monolithic personages dating to the Late Formative are common at Khonkho and Tiwanaku (Fig. 4). All are crafted of soft sedimentary rock, and in nearly all cases of sandstone. Each features a single personage with an impassive expression and facial masks or decorations, who makes a distinctive arm gesture in which one arm is placed above the other across the torso. This gesture may approximate the arm positions of an interred and bundled human body. Decorating each personage are zoomorphic beings associated with earthy and watery realms. The forms and configurations of such creatures vary widely among the monoliths, but most include serpentine images with fish-like, whiskered faces slithering along the sides of the bodies (Browman 1972). The latter invoke water in multiple senses: their serpentine forms invoke meandering rivers and their faces the small catfish native to the lake and its tributaries. Today, the Aymara word *katari* refers to a river and a mythical serpent that inhabits the lake (Orlove 2002: 130). Other common beings include felines, inhabitants of the earthly realm and more specifically mountains. The back of the head of one stone personage in Khonkho depicts a decidedly generative theme with bizarre, amorphous forms that sprout vegetal pods (Ohnstad and Janusek 2004).

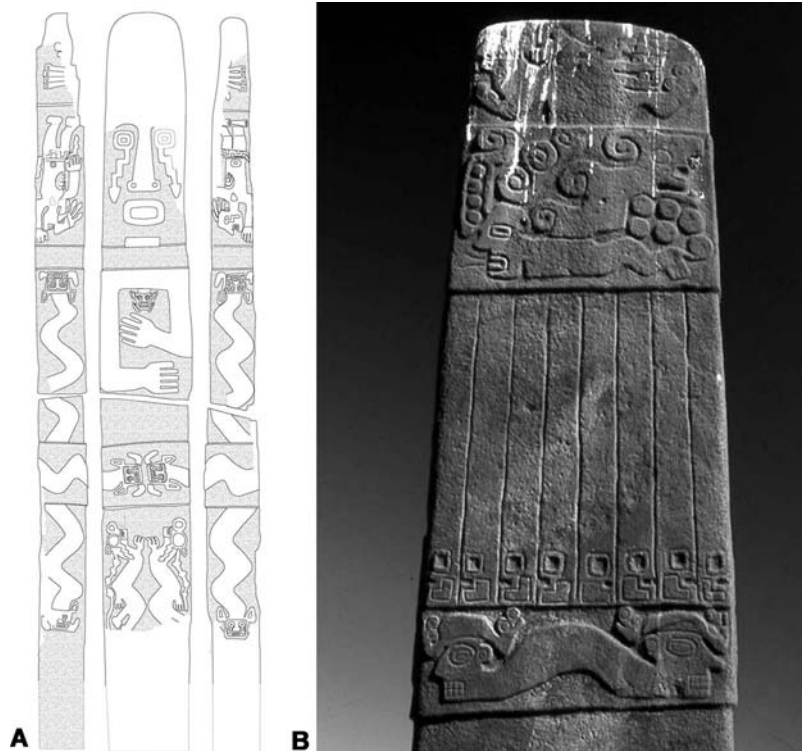


Figure 4 Late Formative sandstone monoliths from Khonkho Wankane: A) drawing of the front of the Wilakala (courtesy of Arik Ohnstad) and B) the upper back portion of the Jinchunkala monolith (the vertical strands represent tresses).

Stone personages formed corporeal landscapes. Each monolith can be read as a narrative that depicts the symbols and story of an ancestral personage and, by association, the community that identified with it (Ohnstad 2005). Specific symbols and elements may make reference to features of local landscapes and places in ceremonial sites. Navel designs may have indexed springs and sunken courts, respectively environmental and built places of natural and spiritual (re)generation.

Monolithic personages continued to be placed in ceremonial courts during the early Tiwanaku period, but their forms, gestures, iconography and overall meaning changed dramatically. Perhaps by way of sumptuary law, large monolithic personages were now restricted to Tiwanaku itself. In place of crossed arms, each personage now made a dual presentation. In one hand it held a ceremonial drinking vessel and in the other a tablet for ingesting psychotropic substances. These were vehicles for mind-altering substances that facilitated two dimensions of religious experiences, one relatively intimate and personal and the other relatively communal and social. They represented complementary ritual attitudes that defined the ideal Tiwanaku persona. I argue elsewhere that these complementary symbols and ritual practices mirrored the complementary materials (sandstone and andesite) that gave form to Tiwanaku temples and their iconic personages, which in turn indexed Tiwanaku's memorialized local past alongside its new, expansive mission (Janusek 2006).

Collectively, Tiwanaku monoliths were unlike earlier personages in that they did not simply depict deified ancestors (Plate 3). The impassive faces still denote deified status, but the bodily decoration had shifted from zoomorphic and generative imagery to the prestigious tunic, sash and headgear of an elite person. These personages now depicted either ancestral deities decked out as elite persons or elite persons decked out as ancestral deities, and it is likely that iconography deliberately played on this recursive tension. What we see in these icons is a lithic representation of social status that, through recurring ritual practice and by appeal to their didactic properties and spiritual powers, most likely helped to legitimize the crystallization of class differences after AD 500 (Couture 2002; Couture and Sapeck 2003; Janusek 2004b).

Unlike Late Formative monoliths, Tiwanaku monoliths now depicted imagery that indexed the celestial realm (Fig. 5). Iconography included deities wearing headdresses with radiating – probably solar – designs and a new emphasis on predatory avian imagery. Viewed from the back, the elaborate sculpted iconography of the Bennett monolith, a massive sandstone personage that probably stood in Tiwanaku's original sunken court, unfolds around a central figure with radiating headdress that conjures solar rays. Each stylized 'ray' ends with a feline head portrait. The central figure stands on a terraced

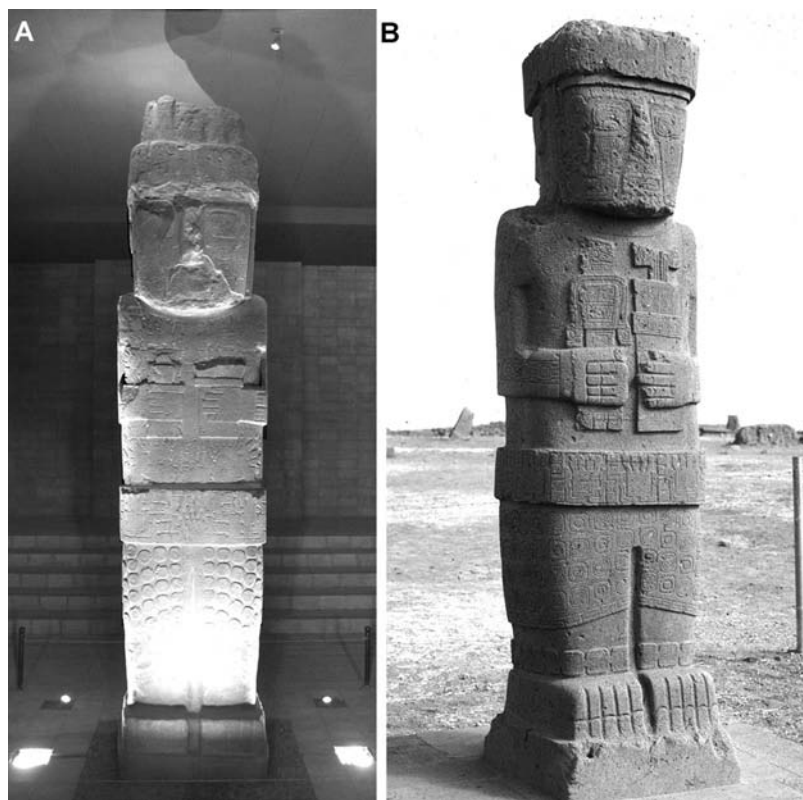


Plate 3 The A) Bennett and B) Ponce monoliths from Tiwanaku. The personages wear elaborate clothing and grasp a ceremonial drinking vessel in their left hands and a snuff tray in their right (A, photo: Clare Sammels).

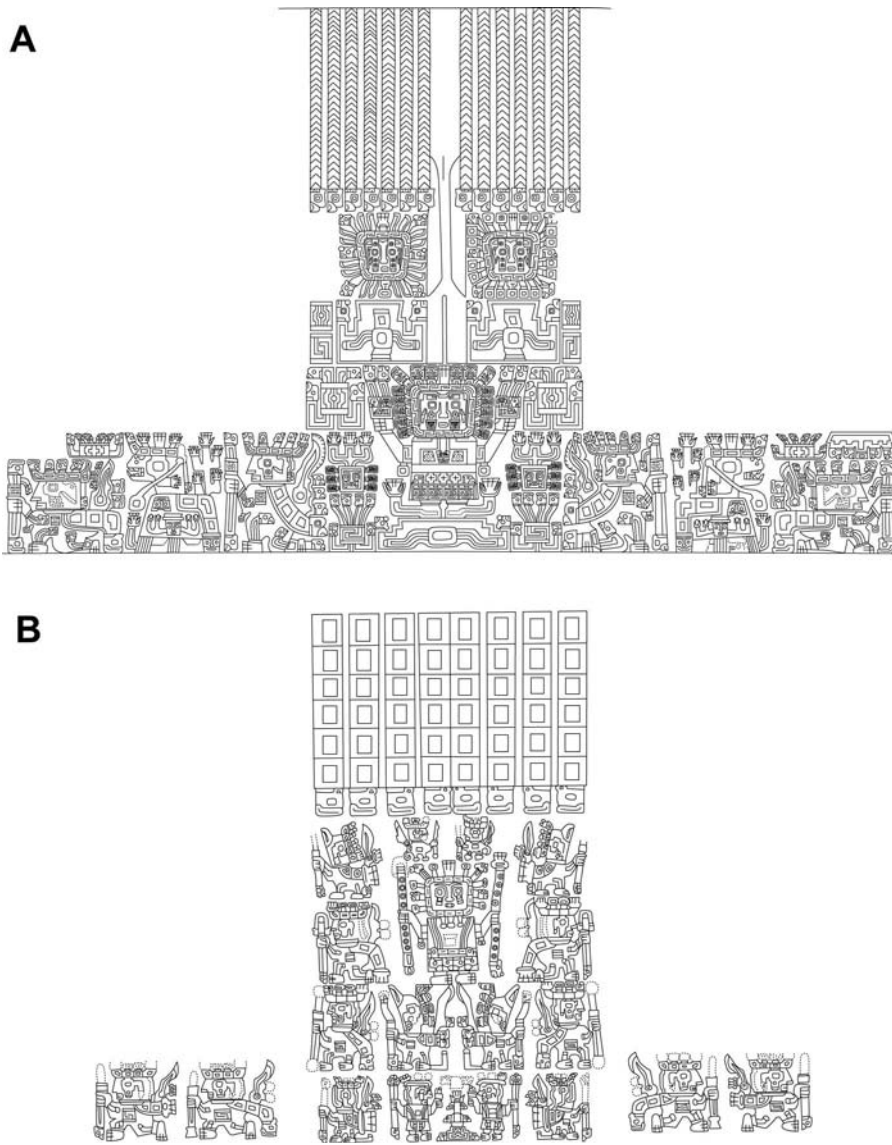


Figure 5 Iconographic details from the A) Bennett and B) Ponce monoliths (drawings by Jennifer Ohnstad).

platform, a stylized depiction of a Tiwanaku temple as stylized mountain. Surrounding him are elaborately decorated attendants and dressed and crowned llamas (Kolata 1993: 140). Above him, and hovering again over platform temples, are disembodied portraits of the same face with radiating headdress. Intermixed among them are attendants wearing beaked masks representing predatory birds. In all cases, in contrast to the forward-facing human and llama figures, the bird attendants face upward towards the sky. Furthermore, the braided tresses that hang from the back of the personage end in predatory avian heads, figures not seen on earlier known monoliths.

Found nearby in Kalasasaya's sunken enclosure (Ponce 1995), the Ponce monolith may well have stood in view of and perhaps facing the Bennett. Crafted of bluish-grey andesite, it presents a structurally similar scene, yet with a distinct and to some degree complementary iconographic repertoire. The entire scene that this personage 'wears' unfolds around a standing central figure with radiating headdress, as on the Bennett monolith. The central figure holds two staffs, as does the central figure on the Sun Portal, but he stands not on a platform temple and stylized mountain but over two skyward-facing beings wearing masks with long avian beaks. In clear distinction to the Bennett monolith, the braided tresses of the lithic personage end in profile representations of pupfish (*Oresitias* sp.), the largest genus of fish native to Lake Titicaca (Posnansky 1945).

As temple complexes became increasingly extensive and intricate, carved stone portals formed doorways that connected various gradients of built ritual space. A key innovation during the Tiwanaku period, they are known exclusively from Tiwanaku itself. Architectural analysis indicates that most opened into narrow chambers (Protzen and Nair 2002), instilling a sense of mystery, disorientation and esoteric power as a person entered increasingly sanctified spaces. Portals are commonly represented as decorative icons on the stone sculptures that decorated ceremonial complexes.

Further, the nested forms of the Akapana and Pumapunku mimicked the nested double-jamb moulding of a typical portal (Janusek 2004b; Posnansky 1945; Vranich 1999). Thus, the temples themselves served as metaphorical 'portals' that facilitated rapport with the spiritual forces inherent in the ancestral environmental features and elements they sought to channel. Portraying as much, an elaborate Tiwanaku-style textile radiocarbon-dated to Late Formative 2 (though of unknown provenience) appears to depict two courtyard enclosures in plan view, each with a front portal and each enclosing the image of an ancestral staff-bearing deity (Young-Sanchez 2004: Figure 2.26b). Ritual pathways through the temples, entered via stairways that rose up onto a high platform that facilitated views of the Illimani and then back down into a sunken inner sanctum, facilitated religious experience in a new key. Sprawled over a horizontal landscape like mountain peaks, these temples now mediated the natural forces of the earth and sky.

Portal friezes depict scenes that integrate watery, earthly and celestial imagery. One of the most concise and elegant summaries of key aspects of Tiwanaku religious ideology adorns the so-called Sun Portal (the 'Sun Gate'), located on the Kalasasaya platform (Plate 4). Configured as a 'textile that is draped over stone' (Stone-Miller 2002: 133), the frieze presents a central deity (or deity impersonator) that faces the viewer, surrounded on either side by three rows of winged, genuflecting attendants rendered in profile, all above a serpentine band that weaves around eleven repeating faces of the central figure. The top and bottom rows of attendants have human-like faces. From their headdresses, wings, arms, legs and staffs, heads of predatory birds and pupfish trail. The middle row consists of attendants wearing sky-facing masks with beaks. Fish heads hang from their headdresses, wings, arms, legs and staffs. The central figure they kneel towards and collectively face stands on a three-tiered platform holding an arrow bundle in the left hand and a spear thrower in the right. Most of the appendages that trail from the central figure's accoutrements and headdress end in feline heads. The radiant headdress makes reference to sunlight, and the figure may have been covered in gold lamina so that it would have dramatically reflected the sun's rays. The eleven radiant masks of the lower band,



Plate 4 Central frieze of the Tiwanaku Sun Portal.

Benitez argues (2005), forms a solar almanac that mimics the eleven andesite blocks of the nearby balcony that mark the sun's cyclical movement from solstice to solstice over the course of the solar year. It is likely that the portal once stood at the central east edge of the balcony where priests could monitor the sun's annual movement.

Discussion

Tiwanaku's shift from a local ritual-political centre to the centre of a pan-regional state materialized in several congruent transformations in the physicality of its monuments. It materialized in a significant shift in axiality from north–south-oriented structures that made reference to local natural features,³ to east–west-oriented monumental complexes that made visual and metaphorical reference to more distant mountains and celestial cycles. It materialized in new terraced platform complexes that sought to harness the water-providing generative forces of mountains to the human-built centre and in the use of construction materials that not only symbolically linked the temples to the mountains they sought to mimic, but also joined complementary ritual attitudes and imperial ideals. It materialized also in a major shift in iconographic themes on sculpted monoliths and portals. Collectively, these transformations mark a shift in emphasis from deified ancestral personages associated with earthly and watery realms to an emphasis on dressed elite personages associated with a richly dressed, supreme ancestral deity, celestial beings and references to solar cycles. As expressed in the overall pictorial organization of the Sun Portal, this new integration of environmental elements and religious themes was overtly hierarchical (Cook 1994).

Tiwanaku's rise as a centre with pan-regional political and religious influence involved the integration of diverse ritual cults into a seductive religious ideology that focused 'outward and upward'. Religious practice during the Late Formative focused on relatively intimate sunken courts and sculpted personages: these represent the materialization of local kin-based ancestor cults. Spatial patterns and iconographic themes emphasized

earthly and watery domains. Tiwanaku's emergent syncretism incrementally integrated these domains with more distant horizons. Changes corresponded chronologically with Tiwanaku's emergence after AD 200 as the most important ceremonial centre in the southern Lake Titicaca Basin, and after AD 500 as the urban ceremonial centre of a pan-regional state and pilgrimage cult.

As in the past, Tiwanaku religious ideology celebrated the natural features and cycles that were critical to various domains of productive economy at this high altitude. Yet Tiwanaku's innovative religious spatiality, materiality and iconography increasingly meshed non-local natural phenomena, including Illimani and Lake Titicaca, with timeless solar cycles. The latter was perhaps Tiwanaku's most important and transformative religious innovation. Attention to annual solar and other celestial cycles served to objectify seasonal time and create a reliable annual calendar. Such a calendar proved useful for coordinating diverse productive economies, and in particular for co-ordinating intensive raised field productive activities in Lake Titicaca basin floodplains. The leaders and specialists who coordinated the calendar had some purchase 'over the ritual production of cosmic space-time' (Turner 1993). To be sure, it provided emergent Tiwanaku religious elites a *raison d'être*. The objectification of seasonal time via attention to celestial cycles, in particular, was most likely instrumental in Tiwanaku's rise to power during the early Middle Horizon.

Two additional points about the incremental changes that characterized Tiwanaku's built monumental landscape and its relation to the polity's increasing importance merit notice. First, recurring transformations in monumentality were in part the outcome of continual construction, maintenance and rehabilitation (Janusek 2006; Vranich 2001). Massive terraced platforms such as the Akapana and Pumapunku demanded intricate buttress systems that most likely had to be frequently shored up and repaired. There is evidence in the Akapana for one or more major reconstruction events (Vranich 2001). Further, relatively fragile constructions such as sunken courts would have been severely damaged during heavy rainy seasons, and most likely demanded frequent renovation and repair. There is clear evidence in many structures that Tiwanaku monuments were constantly under construction. In addition to the major ritual occasions that drew people to these built spaces, maintenance and construction provided auspicious moments for group activity that transcended the diverse localized identities that characterized Tiwanaku's affiliated communities. In tandem with regional environmental, sociopolitical and ideological changes that played into the transformations (Bandy 2001; Janusek 2004b; Stanish 2003), ongoing ritual cycles and construction projects recursively shaped and continually re-oriented the worldviews of affiliated communities.

Second, the overarching cosmology and enculturation of nature that emerged during the Tiwanaku period was an integrative conjunction of diverse religious views and ritual practices rather than a monolithic, inflexible religious structure. First, the spatial orientations of Tiwanaku temples varied significantly. This emphasizes the very different times and regimes in which they were built, but also alludes to the simultaneous existence of slightly different versions of an emerging spatial cosmology. Second, no two platform and sunken court complexes were alike. Each presents a unique 'take' on Tiwanaku's constantly evolving religious ideology (Janusek 2004b, in press). Third, the form and iconography of no two monoliths or portals are alike. The common facial expressions and

presentation gestures of the monoliths, and the shared decorative format and solar iconography of the portals, highlight common religious themes. Yet the striking diversity of their iconographic imagery emphasizes the diverse productive practices and religious themes that Tiwanaku religion and ritual practice wove together. It is possible that the varied complexes that comprised Tiwanaku's monumental core formed a single, intricate cycle of movement and ritual practice for pilgrims and others. Yet, if so, and like the piecemeal chronological juxtaposition of Tiwanaku's platform and sunken court complex, this was a strategy promoted by Tiwanaku officiants to integrate diverse communities and their respective ritual cults, religious identities and productive practices. Spatial integration via ritual cycles and processions helped shape the sociopolitical integration of diverse social communities.

Conclusions

Tiwanaku's long rise to power in the Andean altiplano was predicated on the integration of diverse local ritual cults and various symbolic dimensions of the natural environment into a reasonably coherent, supremely elegant and powerfully predictive religion. The shifting physicality of Tiwanaku's religious monuments attests the construction and ongoing transformation of an urban landscape that not only visually expressed the altiplano's 'natural' forces and cycles, but, via recurring construction and ritual, simultaneously shaped new social practices and Tiwanaku's ever-increasing political influence and productive coordination, intensification and expansion. Tiwanaku was an imperfect and potentially volatile integration of religious cults, productive enterprises and societies (Janusek in press). The material objectification of a seductive religious ideology that infused the monumental centre with numinous natural forces and simultaneously projected those forces across distant Andean realms helped drive Tiwanaku's very worldly imperial mission.

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Notes

- 1 Nevertheless, because the top of the Akapana has since been gutted, the largely accepted idea that it held a sunken court remains speculative.

- 2 The Ponce Monolith that now stands in Kalasasaya's sunken court is carved in classic Tiwanaku style, and was without doubt carved and fixed in the structure's inner sanctum during the Tiwanaku period (Couture 2002; Janusek 2006).
- 3 Leo Benitez (2005) suggests that Tiwanaku's sunken temple may be oriented according to observations of particular moments of the lunar cycle.

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