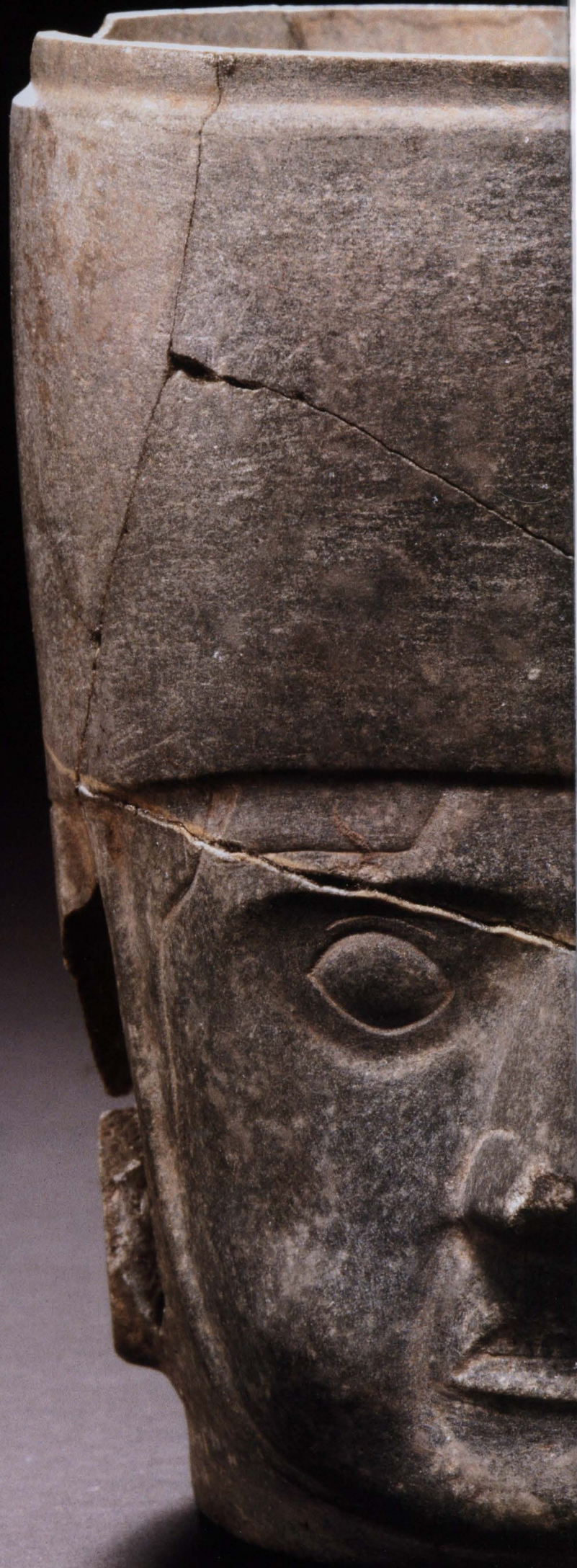


The Flow of Cosmic Power
*Religion, Ritual, and the
People of Tiwanaku*

Alan L. Kolata





The Past Is Present

When the indigenous people around Lake Titicaca look out on the landscape that envelops them, they do not see what you or I do. Of course, the ice-clad peaks of the Andes and the reflected colors of the great lake, fusing subtle hues of gray, cobalt blue, and, at sunset, vermilion-gold, are natural wonders all humans perceive. Anyone who spends time in the Andean altiplano, the ever-rolling high plains checkered with small patchworks of cultivated fields, will feel the visceral power of wind, rain, and hail that lash the countryside, a power often intensified by violent strikes of lightning and awe-inspiring peals of thunder. But the descendants of the ancients who created and lived in the society we know as Tiwanaku, the Aymara, experience, understand, appreciate, and interact with these raw elements of nature in ways significantly different from our own.



FIG. 4.1 **Crowned and Winged Feline**

Tiwanaku style, A.D. 400–1000

Puno, Peru

Dark blue stone

Staatliche Museen zu Berlin,

Ethnologisches Museum

Aymara minds shape the physical perception of these forces of nature through a deeply embedded filter of shared social, cultural, and historical experience. The philosophical principles, social behaviors, and cultural meaning that connect the Aymara to their environment are fundamentally different from ours. Where we see evident discontinuity and categorical differences (between, say, humans and certain animals), they often perceive unity and connectedness (fig. 4.1). The Aymara see the possibility of humans and the natural world in a relationship of mutual transformation (mountains are kin and have individual humanlike personalities; humans can turn into mountain deities). They see the visible, material world interpenetrated by animating spiritual forces with which they have intimate relations.

In stark contrast, contemporary Western societies conceive of body and mind, the material and the mental, nature and culture as separate realms. They think of nature as a physical object, a thing to be controlled, manipulated, and ultimately dominated. They imbue

this understanding of the human/nature relationship with an almost religious fervor, a moral obligation to exploit nature for the benefit of humankind (or at least for those with the technical skills and capital to achieve this objective). Here the evolutionary hierarchy is clear: humans alone possess true consciousness and therefore have the moral right to dispose of the “objects” of nature in any way they see fit. Humans can exploit them, consume them, genetically manipulate them, admire them, conserve them; they are, in short, legal possessions.

The Aymara, for their part, think of nature not as a physical object or a human possession, but as a social subject. They perceive in nature another aspect of human reality. From this perspective, nature is dynamic, volatile, and connected to humans through a personalized relationship of mutual communication and reciprocity. Nature is not something to be possessed and exploited, like a set of tools to be deployed and discarded when no longer useful. Rather, like humans themselves, nature is a vibrant social actor. The Aymara, therefore, are socially enmeshed in their environment and dependent on establishing continuous communication with the reproductive forces of nature.

This fundamental difference in philosophical principles renders attempts by outsiders to understand the Aymara and their deeply rooted ancestral culture of Tiwanaku all the more difficult. How can those raised in a contemporary European or American culture ever grasp the divinatory power of coca leaves cast on the ground? Can they truly understand how spilled llama blood and burnt offerings relate to the growth of food crops? What do they make of Aymara farmers who successfully predict the weather by observing the behavioral idiosyncrasies of fish, frogs, birds, and serpents? How do these same farmers determine the time for planting their quinoa, potatoes, wheat, and barley by gazing at the stars? Why do the Aymara believe that they are related as kin to the mountains that surround them? Why is pilgrimage to remote mountain shrines an essential part of religious worship? How do the dead, relatives and distant ancestors alike, maintain the power to shape the social imagination of these indigenous Andean peoples?

The answers to these questions, however partial they may be, are to be discovered in the historical and social roots that link the present-day Aymara to their ancestors. Our best archaeological and historical evidence tells us that the Aymara people are descended from Tiwanaku (Kolata 1993, 1996a, b, 2003d). Some scholars, based on historical-linguistic analysis, suggest that the Aymara are relative latecomers to the alti-plano, that they did not form part of the ethnic matrix that shaped Tiwanaku society. This argument, however, does not bear close scrutiny when compared against archaeological evidence of considerable cultural relatedness between the Aymara and Tiwanaku. In all probability, Tiwanaku was a multicultural and multilingual society in which the Aymara, along with other ethnic groups such as the Uru-Chipaya and now-disappeared Pukina, played significant, complementary social roles.

Just like contemporary Euro-American culture, which betrays deep historical connections to Greco-Roman civilization in art forms, architecture, legal systems, languages, and even modes of thought, Aymara culture, although massively transformed by centuries of European colonization, still reflects an indigenous heritage grounded in a more remote antiquity. In the Aymara world, the past is palpable in the present. The mental landscape of the Aymara, their philosophical principles, and their social behavior were all shaped by the cultural heritage of Tiwanaku. By exploring contemporary Aymara rituals and beliefs, as well as the testimony of Tiwanaku material culture, we can begin to grasp the meaning of a deeply embedded Andean philosophy of social being that revolves around the reciprocal relationship between humans and their environment. Understanding this relationship provides the single deepest insight into the meanings that underlie Tiwanaku's rich legacy of architectural and artistic production.

Living with Nature: The Earth Shrines of Tiwanaku

"What meaning does your construction have?" he asks. "What is the aim of a city under construction unless it is a city? Where is the plan you are following, the blueprint?" "We will show it to you as soon as the working day is over; we cannot interrupt our work now," they answer. "Work stops at sunset. The sky is filled with stars. There is your blueprint," they say.

—Italo Calvino, *Invisible Cities*

Italo Calvino's eloquent fable reveals a truth common to many capitals of ancient empires: these cities of religious and political power were often patterned after celestial archetypes or other images derived from the natural world. These cities drew a sense of authority and legitimacy from being created in the image of natural phenomena. Tiwanaku was no exception.

The architectural mimesis of observable natural processes, such as those expressed in hydrological regimes, the biological rhythm of plants and animals, and the periodic cycles of celestial bodies, was a key element in the concept of Tiwanaku's urban environment. This urban environment, in turn, became the principal template for Tiwanaku's social and moral order as conceived by the elites and a public expression of its social values. Tiwanaku's social organization drew its moral authority, and therefore inevitability, directly from the observation, symbolic replication, and enculturation of the physical world. Tiwanaku was understood by its architects and its inhabitants to be at the generative center of social, political, and religious power. This understanding materially shaped their political capital and their social practices.

This does not mean that the urban concept of Tiwanaku was a static, repetitive congeries of temples and sculptures that conveyed a single, invariable symbolic message. Tiwanaku's preeminence as a cultural and political capital had its origins in the late formative period (ca. 500 B.C.–A.D. 400), and its secular and religious authority grew throughout the seventh to twelfth centuries. Over such long spans of time, it is not surprising that the design, production, and meaning of civic architecture and related ensembles of sculpture and religious art changed. Tiwanaku experienced at least two major episodes of massive urban renewal that reflected significant transformations in social and political relationships, including the emergence of royal lineages and the deepening of social inequalities during the late Tiwanaku IV phase, between about A.D. 600 and 800 (Kolata 2003d). But the social and physical experience of living in Tiwanaku, at any time, was always conditioned by the configuration of public spaces in the city (the sites of congregation), which gave material form to prevailing social values.

The very form of the city, together with its ensemble of monumental stone sculptures, intensified the mythic aura of Tiwanaku, imbuing it with a supernatural quality that linked its rulers and royal patrons to divinity. The city was oriented spatially to the cardinal directions, aligned to the temporal rhythms of the daily passage of the sun

across the sky, and designed to replicate the imagined landscape of cosmogonic myth. At Tiwanaku, ecological time, the rhythm of nature, was the model for and was encoded in sociological time, that is, the sense of temporality experienced by people in their day-to-day lives. According to several sixteenth-century accounts written in the aftermath of the Spanish conquest of the Inca Empire, the native inhabitants of the Andes believed that humanity had its origins at Tiwanaku and nearby Lake Titicaca (Betanzos [1551] 1987; Sarmiento de Gamboa [1572] 1907; Molina [1553] 1916). In the narrative of these myths, Tiwanaku was simultaneously the place of human emergence and the origin point of space, time, and society. The Spanish cleric Bernabé Cobo's claim that the original name of Tiwanaku was Taypikala, or "Stone in the Center" ([1653] 1956), emphasizes the native belief in Tiwanaku's transcendental role in the emergence of human society. The architects of Tiwanaku translated this belief into concrete reality.

Today, visitors to the ruins of Tiwanaku cannot fail to notice the eroded mounds of earth that emerge from the deceptively flat urban landscape of this ancient capital. Two of the largest of these mounds, the Akapana and the Puma Punku, now covered in the ubiquitous native grasses of the altiplano, look, at first glance, like ordinary hills. In fact, some early explorers described these mounds as completely natural features, geological outcrops only slightly modified by the people of Tiwanaku, perhaps as platforms for astronomical observation or for periodic ritual practices. We now know that these mounds are entirely artificial, terraced structures, built and repeatedly modified over the centuries during which Tiwanaku exercised political power in the Lake Titicaca Basin (Kolata 1993, 2003d). Intensive archaeological research over the past two decades leaves little doubt that these structures were the principal temples of ancient Tiwanaku. Early in the history of the city these mounds were earth shrines that evoked and harnessed the life-giving forces of nature for the benefit of Tiwanaku's population. Later they accreted new meaning as the temple-mountains of the Tiwanaku elite, emblematic of an emergent royal dynasty. Throughout their long history, these temples retained an intense, mimetic relationship with the surrounding landscape that intimately linked Tiwanaku's natural and social worlds.

These temple-mountains carried extraordinary symbolic power. A large moat demarcated the ceremonial core of the city, creating an image of the city center as an island (fig. 4.2). This visual metaphor evoked the

sacred islands of Lake Titicaca that are themselves central to Andean myths of human origins. By moving from the landlocked outer ring of Tiwanaku's vernacular architecture across this moat into the interior island of temples and elite residences, the visitor to the city moved from the space and time of ordinary life to the space and time of the sacred. At the center of the capital's metaphorical island stood the Akapana, the largest and most imposing building in Tiwanaku. The Akapana, an artificial construction of earth, gravel, and cut stone, rises in seven superimposed terraces nearly 56 feet high and approaches 660 feet on a side (fig. 4.3). The foundation of this structure is a monumental terrace of cut-stone blocks laid between vertical pillars placed at regular intervals along the façade. The façades of the six uppermost terraces incorporate highly visible stone panels. These panels were likely covered with metal plaques and textiles, and some were clearly painted in vibrant colors.

Behind the retaining walls of these seven superimposed terraces, the builders of the Akapana laid tons of earth and clay. But one type of material used in the construction of the Akapana is unique and provides us with an intriguing insight into the meaning of this structure for the people of Tiwanaku. Thin, distinct layers of blue-green gravel cover the uppermost terraces of the Akapana. This gravel seemingly had no practical role and would have been exceedingly tedious to collect and transport to the construction site. Why would the architects of the Akapana go to such elaborate lengths to incorporate this gravel into the temple?

The answer lies in the origin and distinctive color of this gravel, which occurs naturally in ravines and intermittent streams flowing down from the Quimsachata range to the south of Tiwanaku. The unusual green color of these stones linked them with the life-giving springs, streams, and subterranean seeps that have their origin in this mountain range. Not only is the gravel itself the color of flowing water, but it is brought down to the broad plains of the Tiwanaku Valley by the same surface streams and subterranean flows that furnish fresh water to most of the valley. This green gravel symbolically condensed in one material the essence of two elements sacred to Tiwanaku: earth and water. The gravel on the Akapana was infused with the essence of the mountain *huacas*, shrines of spiritual power associated conceptually with agriculture, and therefore with human fertility and well-being.

The Akapana's architects selected this gravel for inclusion in the structure precisely because of its potent



FIG. 4.2 Aerial view of Tiwanaku's moated civic-ceremonial core

FIG. 4.3 Oblique aerial photograph of Tiwanaku showing the Akapana and Kalasasaya Pyramids and the Semi-Subterranean Temple





symbolic associations with the mountains of the Quimsachata range, which were important spiritual points of reference for the people of Tiwanaku (Reinhard 1991). Multiple Tiwanaku shrines, small in scale but associated with unusual rock outcrops, springs, and caves, materially express the social and religious importance of these mountainscapes. These same mountains, and even some of the old Tiwanaku shrines and sacred spaces scattered along peaks and saddlebacks, retain their importance today as places of ritual pilgrimage among the contemporary Aymara (Kolata 1996a). We can infer with reasonable confidence that sacred expeditions to mountain *huacas*, so characteristic of Andean indigenous society past and present, were fundamental to religious and social practice among the people of Tiwanaku. Beyond daily acts of worship that occurred in the intimate confines of households, periodic pilgrimages to distant mountains to worship the life-creating and life-destroying forces of nature were surely one of the principal spiritual exercises undertaken by the people of Tiwanaku.

The Akapana was conceived as a simulacrum of the highly visible peaks of the Quimsachata range (fig. 4.4). The temple mimics the form of a mountain, and the layers of green gravel directly link the Akapana with the Quimsachata range: pieces of the natural mountains are built into the structure, transforming it, quite literally, into a temple-mountain. More subtly, certain structural features of the Akapana intensify not only the mountain

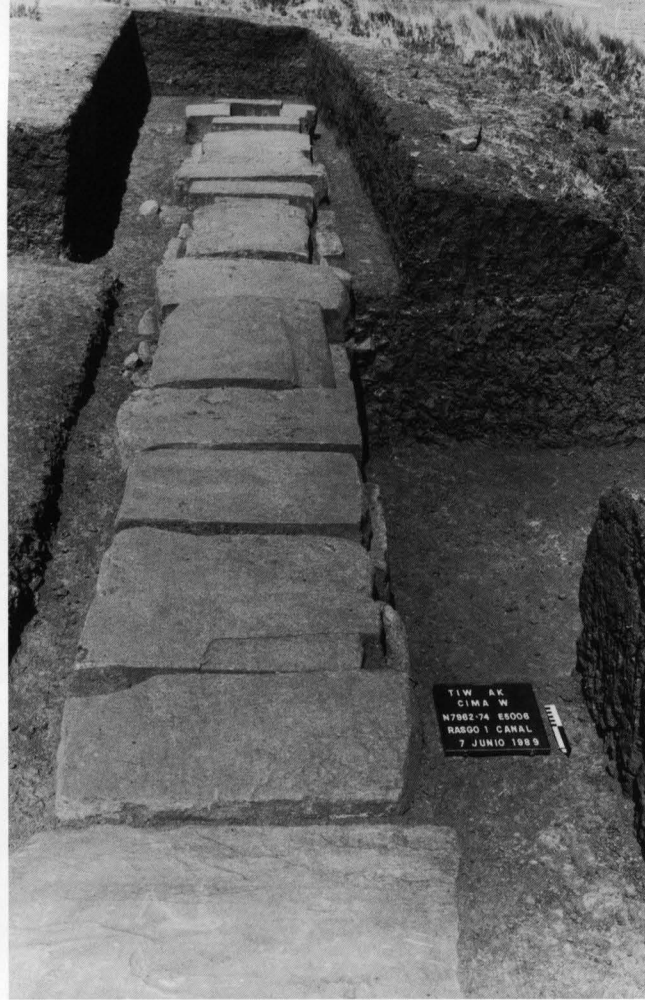


FIG. 4.4 View from the top of the Akapana temple to the Quimsachata range

FIG. 4.5 Drainage canals on the summit of the Akapana

association but also the link between mountains and sources of water. An unroofed sunken court on the Akapana's summit collected copious amounts of water during the altiplano's rainy season. Excavations on the summit revealed a massive system of channels that drained this water in a complex and symbolically significant fashion (Kolata 1993).

The system begins on the summit with sets of small, buried, stone-lined channels that originally drained the Akapana's central sunken court. These channels conducted water from the sunken court to a major cut-stone trunk line that was buried beneath the surface (fig. 4.5). This trunk line, in turn, collected and diverted the flowing water inside the structure to the next-lower terrace. Here the water gushed through drains tenoned into the side of the structure, flowed for a few yards in stone-lined channels on the surface of the terrace, and then disappeared back into the interior of the structure on its course to the next-lower terrace through vertical drains. This alternation of subterranean and surface flow on the stepped terraces repeated itself until the water finally surged from the base of the Akapana through beautifully

constructed tunnels. Eventually, water flowing from the Akapana's summit merged into a large subterranean drainage system that was installed deep under the civic-ceremonial core of Tiwanaku (fig. 4.6). This system itself drained into the Tiwanaku River and, ultimately, Lake Titicaca.

Why was rainwater repeatedly and alternately threaded inside and on the surface of the structure? The answer lies in the profound visual and conceptual relationship between the Akapana and the natural mountains of the Quimsachata range. During the rainy season, thunderstorms sweep the slopes with torrential rain, driving hail, and violent claps of thunder and lightning. Water rapidly pools in the saddles and peaks of the Quimsachata, from where it flows down to the valley floor. But the flow is not direct. Surface water quickly drains into subterranean streams that periodically reemerge downslope, gushing and pooling in natural terraces, only to tumble down again inside the mountain. The peculiarities of mountain geology and the erosive power of water combine to create this natural alternation between subterranean and surface streams. Runoff from the rains finally emerges from the foot of the mountains in streams, springs, and marshy seeps. This freshwater recharges the aquifer of the Tiwanaku Valley that is the source for virtually all of the valley's irrigation and drinking water. In fact, the altiplano rainy season is also the principal growing season for major food crops, and the success of agriculture is tied to this critical period of rainfall. Vast tracts of raised agricultural fields developed by the people of Tiwanaku were dependent on this seasonal recharge of surface streams and groundwater (Kolata 1993, 1996b). At the most primal level, the mountains were sacred because they were the source of the water that nourished people and their fields.

The water flow on the Akapana replicated the pattern of nature: pooling, dropping out of sight, gushing onto terraces, emerging at the foot of the mound. The sight, sound, and feel of a temple animated by turbulent water coursing through hidden interior veins, then spilling out in surface torrents, must have been an awe-inspiring experience for the inhabitants and visitors to the capital. This was no static space, no simple backdrop for ritual activity and offerings. The temple itself kinetically engaged the senses of Tiwanaku's religious worshipers and evoked direct comparisons between nature, the body, and the social world.

The Akapana was Tiwanaku's principal earth shrine, an icon of fertility and agricultural abundance. Although

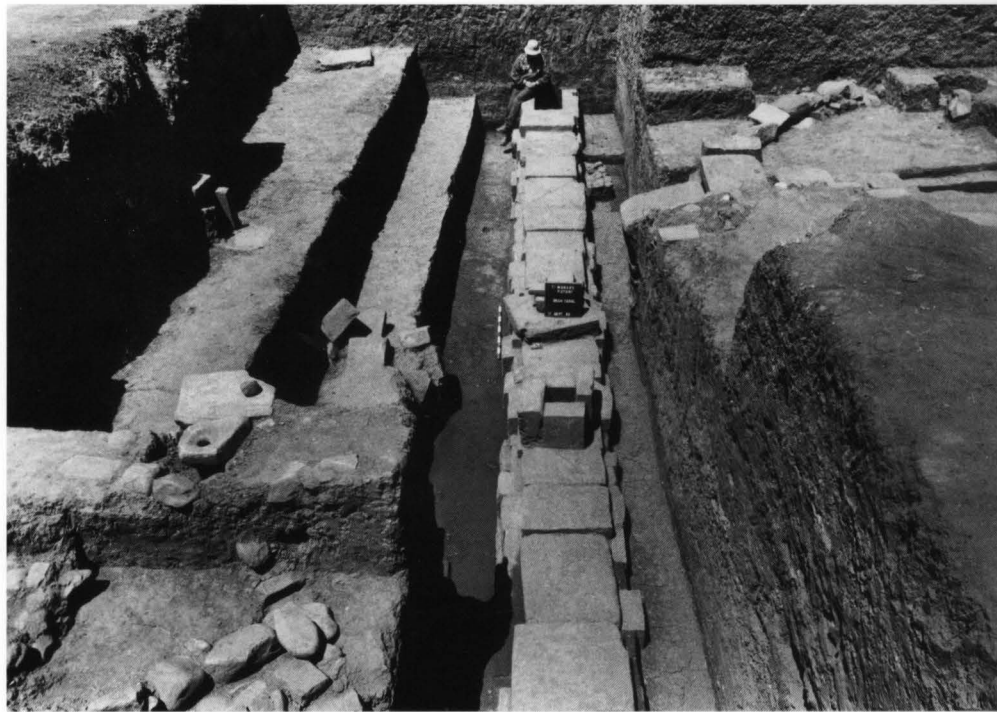


FIG. 4.6 The massive subterranean drainage system underlying Tiwanaku

it may have had a particular association with the mountains of the imposing Quimsachata range through its stepped-terrace shape, its green gravel mantle, and its clever, constructed mimicry of the natural circulation of mountain waters, the Akapana's specific location in the civic-ceremonial core of the city suggests another layer of symbolic significance. The temple rests in the center of the island carved out by Tiwanaku's great ceremonial moat. The Akapana was the Tiwanaku shrine of world creation, the mountain of human origins and emergence. Viewed in the larger context of its urban setting, the Akapana was the life-giving mountain at the center of the island-world and may have evoked the image of the sacred mountains on Lake Titicaca's Island of the Sun. An extraordinary landscape where natural rock outcrops interweave with highly elaborated agricultural terraces in visually stunning patterns, the Island of the Sun was one of the major pilgrimage centers of the south-central Andes. We know, for instance, that the island, and specifically the unusual rock formation of the Titikala, was one of the most important shrines in the imperial cults of the Inca (Ramos Gavilán [1621] 1988; Cobo [1653] 1956). According to Inca origin myths, the sun, or in slightly different versions, the Inca creator-god Viracocha, emerged from the rock of Titikala in the middle

of the lake. This island shrine became the premier Inca pilgrimage site focused on a solar cult and, just as importantly, around the worship of life-giving waters, agricultural abundance, and human fertility. Barely 110 yards from the sacred rock of Titikala, some eight hundred years before the appearance of the Inca, a massive platform and temple complex in the architectural style of Tiwanaku was built over the remains of earlier habitations. Today this site, called Chucaripupata, is littered with polychrome Tiwanaku ceramics, particularly the ritual drinking cups known as *keros* (Seddon 1998). Throughout this part of the island at the turn of the twentieth century, Adolph Bandelier (1910, 225–26) discovered elaborate, finely crafted Tiwanaku objects of gold, silver, copper, and bronze, including an extraordinary silver mask. This archaeological evidence suggests that the Titikala rock outcrop attained its reputation as a center of pilgrimage and religious worship at least by the Tiwanaku period (see figs. 5.15 and 5.16 for examples of objects discovered on the islands of Lake Titicaca).

Much of the symbolic interpretation of the Akapana applies as well to the temple of Puma Punku. Puma Punku was a multitiered, terraced structure with a

central sunken court, axial staircases, lavishly embellished gateways, and an identical, if smaller, internal drainage network. In fact, the architectural arrangement of a stepped-terrace mound located in the center of an artificial island-city extends well beyond the boundaries of Tiwanaku itself. The regionally important city of Lukurmata, several miles to the northwest of Tiwanaku, possesses a ceremonial core of temples and elite residences constructed on an artificially modified rock outcrop surrounded by a moat (fig. 4.7). Lukurmata's central ceremonial complex, organized around a terraced mound, was furnished with a drainage network like those at the Akapana and Puma Punku. Here, too, rainwater that was collected on the summit of the terraced mound was threaded through carved stone drains to the base of the rock outcrop on which the complex was constructed. This water flowed into the moat that drained an adjacent sector of raised fields, unambiguously associating the summit ceremonial complex with agricultural productivity through the connecting stream of flowing water.

FIG. 4.7 The Lukurmata acropolis



The implications of this symbolic pattern are clear: the Tiwanaku elite who lived within the moated precincts of their cities appropriated images from the natural world to publicly demonstrate their intimate affiliation with the life-giving forces of nature. The temple-mountains of Tiwanaku were earth shrines, meant to invoke by symbolic replication the fertilizing power of rain. At the same time, these structures were icons of elite authority, and their meaning changed significantly as the power of the elite grew. When the elite eventually emerged as a court society with a true royal dynasty, they appropriated the temple-mountains such as the Akapana as emblems of their unchallenged authority, sublimating, although never erasing, the primal significance of these structures as earth shrines.

The temple-mountains and palaces within the civic-ceremonial core of Tiwanaku, as well as the surrounding residential neighborhoods of lower status, were aligned in a larger pattern of urban organization to the cardinal directions and along a solar axis defined by the rising and setting of the sun over major landscape features. The division of the city by a solar axis was simultaneously a physical experience and a rich cultural concept laden with symbolism. The intersection of the solar path with the central point of the city may have been perceived as the place of union between the earth, the sky, and the subterranean worlds. This place of conjunction was physically represented at Tiwanaku by the image of the sacred mountain that links earth and sky, an image powerfully evoked by the temple-mountains of the Akapana and Puma Punku. The perceived solar path established an east-west axis that bisected the city and furnished the principal axis of orientation.

This solar path emerges from and dissolves back into two salient geographic features to which indigenous peoples in the valley of Tiwanaku still orient themselves: the glaciated peaks of the Cordillera Real to the east, particularly the three peaks of Mount Illimani, where the sun emerges, and Lake Titicaca to the west, where the waning sun finally sets. The mountains and the lake are readily visible from the flanks of the mountains that enclose the valley, but both can be glimpsed simultaneously from the valley floor only from the summit of the Akapana, the tallest terraced platform mound at Tiwanaku. The summit structures and central sunken court of the Akapana (and the elites who resided there) must have possessed considerable symbolic power derived, in part, from this specific visual frame of reference. From this summit alone could one track the entire

celestial path of the sun from its twin anchors in the mountains and the lake.

The elites of Tiwanaku deployed culturally specific notions of sacred geography that entwined observable natural phenomena with imagined landscapes encoded in mythic history to invest their capital with social, spatial, and temporal meaning. These cultural meanings, made tangible in large-scale architectural and sculptural programs, were mobilized for political and social purposes through intense ritual activity that took place in and around commissioned public monuments. These monuments were not simply static stage sets on which the drama of public ritual was enacted. Rather, they were kinetic spaces that engaged all of the participants' senses in the creation of Tiwanaku political and religious culture. People, objects, temples, and natural landscapes were social actors interlinked in reciprocal relations of production and consumption in this creative process.

Living with the Dead: Sacrifice and Sacrament in the Tiwanaku State

Archaeology has revealed artifacts that were used in the culturally ingrained ritual activity that animated and articulated Tiwanaku's civic spaces. These rituals involved highly structured dedicatory offerings at the Akapana and other elite architectural complexes. Offerings included animal and human sacrifices and a rich range of luxury goods, especially fine polychrome ceramics with a distinctive iconographic repertoire. The placement of these ritual offerings was accompanied by mass consumption of food, drink, and other socially valued goods. Such material manifestations of ritual behavior give considerable insight into the cultural preoccupations of the Tiwanaku elite. These offerings hold distinct social meanings that can be inferred from their different contents and contexts.

The people of Tiwanaku literally lived with the dead. Some of these dead were revered ancestors who became the subjects of intense sacramental ritual and were kept socially alive through constant engagement with the living, a pattern still common today in rural Aymara communities. The mortal remains of these ancestors, swaddled in precious textiles, were curated as if they were irreplaceable museum objects. But these remains were not kept isolated in pristine splendor for the pleasure of a viewing audience. Rather, they were adored, feted, and consulted by the living, just like the mummy bundles of Inca kings, which were constantly paraded around the city of Cuzco and its surrounding countryside



FIG. 4.8 On the first terrace of the Akapana, human remains are splayed across ritually smashed ceramics.

because of their capacity to communicate with the forces of nature (Cobo [1653] 1956). Inca royal mummies were regarded as members of the human community who had been transformed into avatars of supernatural forces. When not moved about the countryside in ritual peregrination, these mummies were kept in niches in the Qoricancha, the famous Golden Enclosure in the heart of Cuzco. We have direct archaeological evidence that a similar pattern of preserving and interacting with revered ancestors shaped Tiwanaku ritual behavior.

Other dead (and dying) humans at Tiwanaku were not treated with such reverence. Far from being subjects of devout social memory, considerable numbers of people were treated instead as objects of sacrifice. For instance, excavations on the northwest corner of the Akapana unearthed a complex set of ritual offerings linked to the foundations of the temple and to structures on the surface of the first terrace. Here archaeologists uncovered twenty-one human burials commingled with llama bones and associated with elegant polychrome ceramics that date to the late Tiwanaku IV phase (ca. A.D. 600–800), a time when Tiwanaku became the preeminent regional

power and extended its political and economic influence well beyond the confines of the altiplano. Several of the skeletons bore evidence of deep cut marks and compression fractures that could only have been produced by forceful blows. Speaking less delicately, these people had been literally hacked apart with a heavy blade before being buried at the base of the temple. Other remains consisted only of skulls, torsos, or whole skeletons with individual bones removed. The regular spatial arrangement of these burials suggests that many more exist in currently unexcavated contexts around the perimeter of the Akapana. Based on the number of individuals recovered in this relatively small area, hundreds of humans may have been interred in this manner at the base of the temple.

Who were these people, and what was the manner of their death? Why did the people of Tiwanaku remove individual bones, particularly the skulls and leg bones, from these burials? Of course, given a lack of personal testimony and historical texts, we cannot determine for certain what the social status of these victims was, nor what ultimate meaning their violent fate may have held

for the people of Tiwanaku. But, given the extraordinarily precise manner in which these individuals were slaughtered and dismembered, we can make some reasonable conjectures. For instance, we can infer that these bodies were violently dismembered prior to or shortly after death. Many of these individuals were adult males from seventeen to thirty years old, although there are significant numbers of children as well. One plausible explanation for these numerous partial burials comes from a large offering of purposely broken polychrome ceramics within a destroyed room of a structure on the Akapana's first terrace. Across the ceramics were splayed the remains of an adult male, along with fragments of a juvenile's skull (fig. 4.8). Weathering patterns on the bone suggest that these remains were exposed to the elements for some time after death. The ceramics from this offering are associated with the Tiwanaku IV phase, and three radiocarbon dates fix the episode between about A.D. 590 and 640. These dates, along with the similar deposition, indicate that this offering was contemporaneous with that of the partial skeletons excavated along the foundations of the Akapana. These two distinct offerings (at the base of the Akapana and on the surface of the first terrace) appear to relate to a single event, although it is also possible that they represent periodic, sequential events of human sacrifice, ritual display, and burial. The ceramic offering on the surface of the first terrace consists of hundreds of fine polychrome *keros* (ritual drinking cups) and recurved *tazones* (an elite serving ware) that were found shattered into small fragments. Many of these fragments have standardized motifs: painted bands of stylized human trophy heads and profile puma figures (fig. 4.9). Cut and polished human skulls have been found in excavations at Tiwanaku, leaving little doubt that the practice of taking heads in battle as trophies was a central element of Tiwanaku warfare and ritual sacrifice (Ponce Sanginés 1980, 1981a). The partial bodies and skulls recovered at the Akapana may very well represent the violent aftermath of a particularly large-scale conflict.

We know that the Inca took heads in battle and later transformed the skulls of particularly important enemy warriors into macabre drinking cups used to celebrate victory over the vanquished foe (Rowe 1946, 279). It seems that the people of Tiwanaku held similar beliefs regarding the ritual efficacy and social power that adhered to the physical remains of captured enemies. If we can judge from the testimony of state art, the elites of Tiwanaku were obsessed with decapitation and the

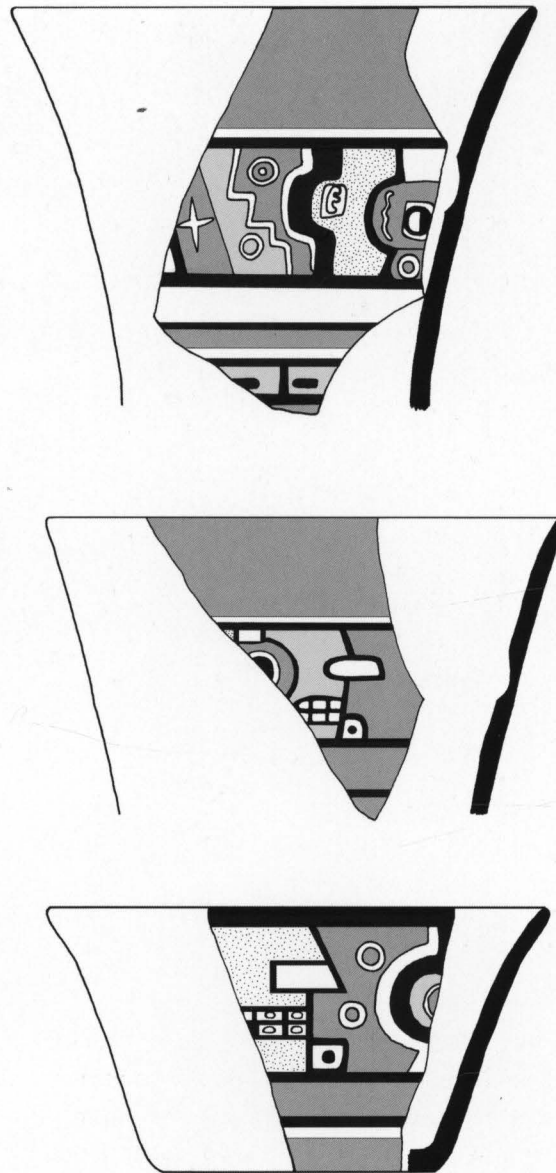


FIG. 4.9 Drawings of *kero* and *tazon* fragments displaying trophy head iconography

ritual display of severed heads. Images of decapitation abound in Tiwanaku art, on ceramics, stone sculptures (fig. 4.10), textiles, metalwork, basketry, carved wood, and pyroengraved bone. Many of these representations feature animal-masked humans (warriors), resplendent in costumes studded with pendant trophy heads, carrying sacrificial knives and battle-axes (figs. 4.11, 4.12). A class of stone sculptures from Tiwanaku, referred to as *chachapumas*, portray puma-masked warriors holding a severed human head in one hand and a hafted stone battle-ax in the other. Archaeologists excavated a remarkable example of a *chachapuma* near the base of

FIG. 4.10 Trophy Head
Tiwanaku style,
ca. A.D. 200-1000
Bolivia
Stone
Staatliche Museen zu Berlin,
Ethnologisches Museum



the Akapana's western staircase, in the same archaeological context as the human offerings placed at the structure's foundations, that vividly captures the moment of decapitation. This sculpture (fig. 4.13), carved of dense black basalt, seems poised in a tense crouch, ominously displaying in its lap a human trophy head with long tresses of braided hair. Stone pedestals were found in close association with this sculpture, suggesting that multiple examples of the *chachapuma* were displayed near eye level at the base of the western staircase.

If my interpretation of directional symbolism in Tiwanaku ceremonial architecture is correct, the west is associated with the waning sun and death. Sculptures of puma-masked warriors holding decapitated human heads, displayed at the base of the Akapana in the same context as a ritual deposition of human body parts with evidence of cut marks, intensify this association. Given their selective state of dismemberment and their link to graphic images of head taking, the human remains at the base of the Akapana may represent the human

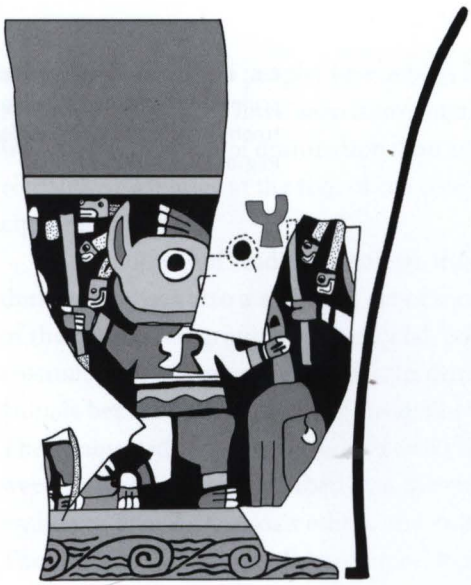


FIG. 4.11 Drawings of warrior figures with sacrificial knives on a ritual drinking cup (*kero*)



FIGS. 4.12a, b Decapitator Amulet
Tiwanaku style, A.D. 400-1000
Tiwanaku, Bolivia
Bone
Cleveland Museum of Art



FIG. 4.13 Tiwanaku-style basalt sculpture of a feline holding a trophy head. Museo Arqueológico Regional de Tiwanaku

relics of a conquered people. Few acts in the ancient Andean world could have been more intensely charged with the symbolism of domination than scattering the remains of enemies at the foot of the conqueror's principal earth shrine.

In the context of Andean ideology, this display of domination was also a symbolic act of incorporation of the conquered group into the social, political, and cosmological system of Tiwanaku. In death, these individuals became subjects of the Tiwanaku social world. The conquered group's kin (adults and children alike) were, in a real sense, absorbed into the shrine that was emblematic of Tiwanaku's ethnic and cultural identity. The more profound act of domination here was not the simple taking of enemy heads, but rather the incorporation and assimilation of the conquered group's autonomous social identity into the broader "body politic" of Tiwanaku society. The spectacle of public violence that resulted in the death and dismemberment of these sacrificial victims occurred in a celebratory display of conspicuous consumption—of humans, animals, alcohol, and food. Hundreds of exquisite drinking cups and serving vessels were used only once, then purposely smashed to commingle with and become part of the sacrifice. Blood and beer flowed liberally on the terraces of the Akapana temple-mountain. Homicide was not hidden, and the sacrificers celebrated their social dominance over their victims by feasting alongside the dead and dying.

The material remains at the Akapana tell a lurid tale, perhaps incomprehensible to us, but entirely logical in the conflict-ridden, hierarchical society of Tiwanaku. The intact sculptures as well as the human, animal, and material remains arrayed on and around the Akapana constituted a kind of public text glorifying the military and spiritual prowess of the elites who formed the apex of Tiwanaku's ruling hierarchy. Rituals of violence were clearly an essential element of Tiwanaku political ideology. The material expression of these beliefs was a highly mannered dismembering of human bodies, while an iconography of ritual homicide reproduced that ideology and underscored the power over life and death held by the Tiwanaku elite.

The symbolic message of the Akapana sacrifices, however, was not just an expression of social domination and political subjugation. That these sacrifices were publicly staged at Tiwanaku's principal earth shrine points to another layer of cultural meaning. Today, the Aymara and other indigenous peoples of the Andes spill animal blood and maize beer (*chicha*) in ritual acts intended

to stimulate the reproduction of food crops and herd animals. For centuries the Aymara have held the belief that the dead interred in the ground push up the potatoes that feed the living. From this perspective, the dead never truly die; they remain intimate, essential members of the community of the living. The living depend on the dead to provide their sustenance and so must maintain habitual communication with them through ritual practice. The flow of rainwater inside the Akapana temple-mountain and the copious quantities of blood and beer unleashed in acts of sacrifice at its foundations connected the people of Tiwanaku with the life-giving powers of nature and the dead. The blood, beer, and water that coursed through the Akapana earth shrine sanctified and "nourished" it, and by extension the earth itself was renewed. As in the case of the contemporary Aymara around Lake Titicaca, the notion that "we feed the mountain, and the mountain feeds us" (Bastien 1978) was not metaphor alone.

Of course, not all burials uncovered in excavations at Tiwanaku represent the remains of sacrificed enemies strewn about the state temples. Not all of the dead were interred in ways that emphasized subjugation to the Tiwanaku elite. We have compelling evidence that some of Tiwanaku's subjects were treated to elaborate post-mortem rituals during which their remains were carefully curated and converted into mummy bundles. In the midst of an elite residential district immediately east of the Akapana, we discovered a structure that can best be understood as a "house of the dead," a reliquary that held the remains of several individuals. The skeletal remains housed in this reliquary exhibited multiple light striations associated with the deliberate flaying of flesh from bone. Segments of joints were often crushed, indicating that bones bound together by tough ligaments were forcibly twisted and pulled apart. The bare and separated bones were then apparently wrapped in textiles or basketry and preserved as relictual bundles in this special house. Who were these individuals whose corpses were treated in such a distinctive fashion? An interpretation consistent with indigenous Andean tradition suggests that they were the members of a kin group whose bodies were converted at death into *huacas*, venerated objects of worship, propitiation, and direct communication with the divine. The living members of such kin groups maintained the reliquary in their compound as the principal venue for private worship centered on their own kin and ancestors. It is anticipated that future excavations in other residential districts of Tiwanaku will discover evidence

of similar reliquaries associated with ancestor worship of distinct descent groups.

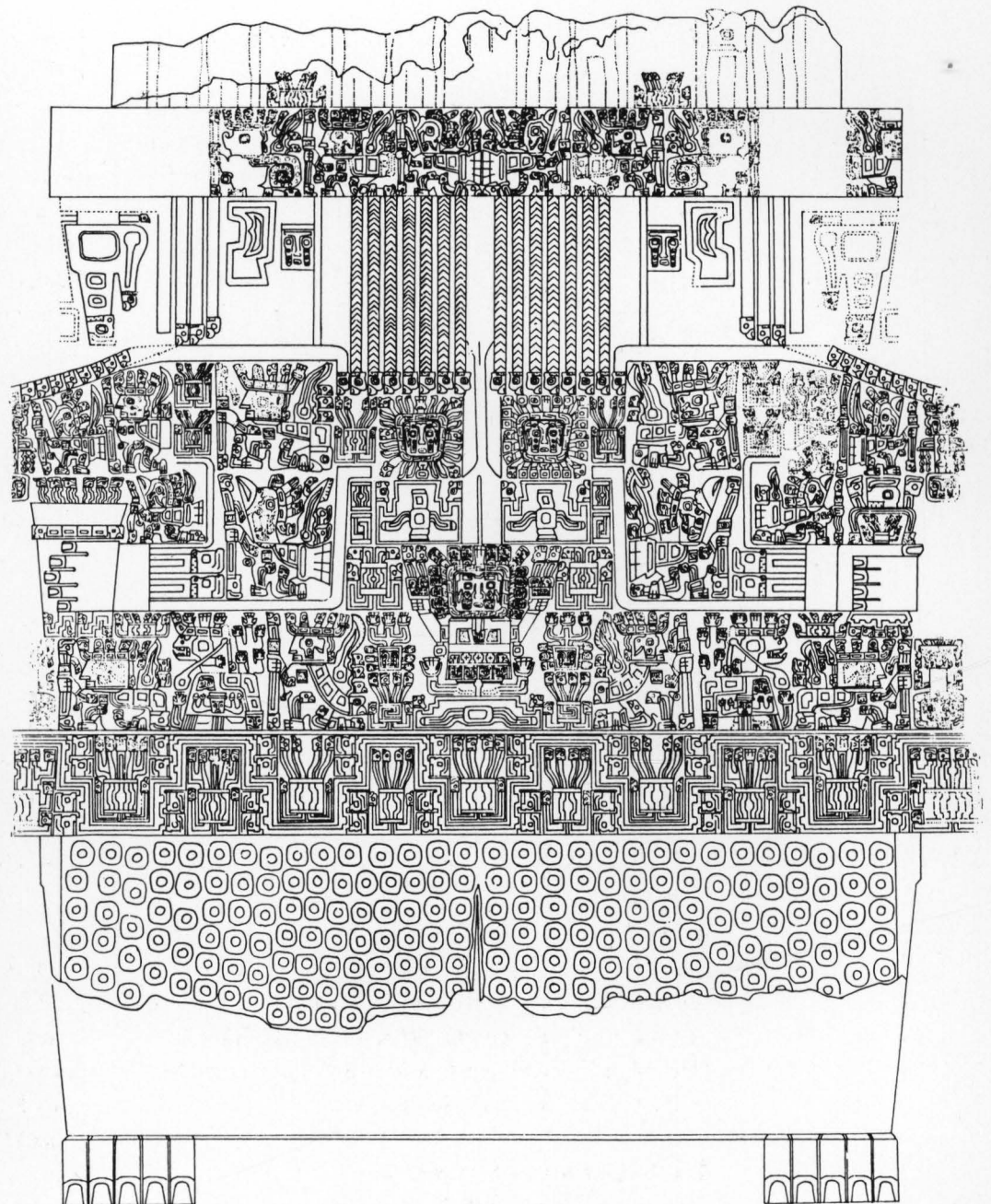
A similar emphasis on preserving the remains of dead ancestors apparently operated among the highest stratum of Tiwanaku society: the royal lineages. No burials of Tiwanaku's kings and noble lineages have ever been found. It is possible that the Akapana Pyramid once contained the bodies of Tiwanaku's kings, but massive looting in the sixteenth and seventeenth centuries irrevocably destroyed all evidence of any tombs that may have existed. However, it is just as possible (and perhaps even more likely) that the dead kings of Tiwanaku were never buried in elaborate, gold-stocked tombs like their Moche and Chimú contemporaries on the northern coast of Peru. Like the dead of the kin groups living in the city, Tiwanaku's kings may also have been converted into mummy bundles by their royal relatives and housed in the palace and temple precincts in the city's ceremonial core, where they were worshiped and consulted by their relatives. This was the treatment that was afforded Inca kings some four hundred years after the disintegration of the Tiwanaku state. These kings *never* truly died; on corporeal death they simply entered a new status in the cycle of existence. They died physically, but they remained a part of the social community of which they were the symbolic focus. The specific architectural complexes that may have held the mummy bundles of the dead royals are among the most important places in the city. These include the massive Kalasasaya Platform and the palace complexes of Kheri Kala and Putuni (see "Monumental Space, Courtly Style, and Elite Life at Tiwanaku," by Nicole Couture).

The Architecture of Power

Images of political and religious power occur throughout the civic-ceremonial core of Tiwanaku. In particular, the related structures of the Semi-Subterranean Temple and the Kalasasaya Platform, immediately north of the Akapana, still contain extraordinary examples of stone sculpture that add substantially to our understanding of the meaning and function of ceremonial architecture at Tiwanaku. The Semi-Subterranean Temple is a rectangular sunken court constructed of sandstone masonry that contains an eclectic assemblage of freestanding stone stelae and stone heads that project from the wall, carved in various styles and with varying degrees of formality. These stelae and projecting heads were arrayed around and oriented to a centrally located, monumental

sculpture: the twenty-three-foot-tall Bennett stela (fig. 4.14). The Bennett stela, like most major anthropomorphic sculptures at Tiwanaku, represents an elaborately costumed and crowned ruler figure pressing a banded *kero* against his chest with one hand and grasping a scepterlike object in the other. A compelling argument can be made that this monumental sculpture visually encoded the principal tenets of Tiwanaku state ideology and cosmology (fig. 4.15). The essential agrarian focus of this state ideology is recapitulated in several images on the sculpture, which Tom Zuidema provocatively interprets as a representation of a twelve-month, lunar agricultural calendar (1985). He suggests that the doughnut-shaped circles portrayed on the short pants worn by the anthropomorphic sculpture represent day signs. Tie-dyed versions of these circles appear on textiles preserved in coastal Peruvian and Chilean Tiwanaku tombs, indicating that the costume depicted on the sculpture accurately represents actual clothing that was worn by humans, presumably on ceremonial occasions. Zuidema interprets the sculpture's 177 circles as reflecting the number of days in six lunar months. Similarly, he suggests that the low-relief sequence of thirty figures who face the front but whose running legs are shown in profile correspond to the thirty days of a month.

Several of the figures on the Bennett stela are associated with flowering plants, most notably the anthropomorphic, ray-faced central deity, whose feet have been transformed into plants. The llamas on either side of this central figure bear numerous distinct flowering plants, both cultivated and wild, that conceptually link the animals with agriculture and plant life. This connection evokes the notion that deities are intimately related to the organic world of plant and animal reproduction and growth. Further, these images reveal the forms and substances of communication between the social (human) and supernatural (divine) worlds. In particular, the llama figures are draped with a textile that bears an emblem of a banded *kero* with a painted human face from behind which sprouts a maize plant. The association of the *kero* and maize plant immediately brings to mind the ritual drink *chicha*, which was central to indigenous Andean religion, politics, and social relations. A plant sprouting from the back of the caped llama may represent not a cultivated plant, but *Trichocereus pachanoi*, a mescaline-bearing cactus that was avidly sought for its psychotropic properties. Other images of this columnar cactus appear prominently on the Bennett stela, implying that the con-



sumption of hallucinogenic plants was central to religious and ritual expression among the people of Tiwanaku.

Snuff trays, inhalation tubes, miniature mortars and pestles, and other paraphernalia found at Tiwanaku sites (figs. 4.17–.21) make it clear that the processing and consumption of psychotropic substances were elements of religion worthy of public commemoration on monumental state art. Domesticated llamas, maize in the alcoholic form of *chicha*, and *Trichocereus pachanoi* appear together in a single, compressed image on the Bennett stela, signaling a convergence of native conceptions regarding

the social and natural reproduction of the organic world. *Chicha* is a fundamentally social commodity, the product of human labor applied to an enculturated plant: maize. *Trichocereus pachanoi* is a wild plant, the product of natural processes of organic reproduction that do not require human intervention. By processing maize and the mescaline-bearing cactus into psychotropic substances, humans created a social vehicle for facilitating communication with the supernatural or, perhaps more specifically, with the personified forces of nature responsible for the health and reproduction of the human community.

FIG. 4.14 The Bennett monolith

FIG. 4.15 Rollout drawing of the Bennett monolith's iconography



FIG. 4.22 **Miniature Llama**
Tiwanaku style, A.D. 400–1000
Peru or Bolivia
Stone and shell
British Museum, London

The broader meaning of the Bennett stela's rich iconography links and integrates agriculture, llama husbandry, and calendric systems. Zuidema demonstrates that this conceptual link reflected social, symbolic, and ecological relationships between pastoralism and agriculture in the Andean high plateau (1985). As he notes, farming and animal husbandry are related in a temporal rhythm of mutual dependence and benefit. While food crops are growing, animals are kept away from the fields in high pastures, but after harvest they graze on the field stubble, and their droppings contribute to the fertility of the fields.

The Bennett stela, along with other similar monuments at Tiwanaku, displays a text of social and natural knowledge that is based on the complementary relationship between agriculture and llama husbandry. At the same time, the public monuments on which these images of ecological symbiosis occur also represent idealized portraits of the ruling elite. That is, the representation of the body of the ruler communicates a message of the necessary collaboration between farmer and herder.

Displayed on the greatest sculptures of Tiwanaku, this message was integrated directly into the principal architectural ensembles at Tiwanaku and secondary urban centers like Lukurmata. The juxtaposition of images of agropastoral productivity with the representations of rulers, framed in the temporal context of a calendric system, conveyed both political and social messages. The Tiwanaku rulers claimed an essential role in mediating with the supernatural to organize the social world in order to guarantee the community's economic and reproductive success. The rulers of Tiwanaku also ensured reproductive success through the deployment of a pragmatic body of knowledge—an effective agricultural calendar. Furthermore, the ruling elite, ideally, harmonized the potentially disruptive competition between farmer and herder by formally synchronizing productive strategies, adjudicating land disputes, and redistributing the different products of these two occupational pursuits. The imagery on the Bennett stela extols the essential ritual and social roles of the rulers, emphasizing their personal attributes (especially privileged possession of an



FIG. 4.23 The Semi-Subterranean Temple with sculptures and the Kalasasaya in the background

esoteric but pragmatic body of calendric knowledge) and their ability to mediate between the natural, supernatural, and social worlds, thereby ensuring that the common people were sustained through the grace of royal power.

The multiple sculptures and projecting stone heads in the Semi-Subterranean Temple arrayed around the central pivot of the Bennett stela (fig. 4.23) intensified this ritual commentary. The sculptures themselves are highly diverse stylistically, and some of them were clearly carved several centuries before the Bennett stela itself. In other words, the architects of the Semi-Subterranean Temple deliberately assembled an eclectic collection of sculptures that were temporally, stylistically, and, most likely, *ethnically foreign to Tiwanaku*. These foreign sculptures were probably the emblems of the concentrated supernatural power or, in Andean terms, *huaca*, of distinct ethnic groups. In extending their hegemony over the Lake Titicaca Basin from the seventh century onward, the lords of Tiwanaku appropriated these ancestral *huacas* of distinct ethnic groups and incorporated them in subsidiary positions within the ceremonial core of their city. In so doing, this warrior elite concentrated the spiritual power of the developing state's diverse social and natural landscapes within their capital and thereby both demonstrated and legitimated the ideological and political superiority of the Tiwanaku state. The Semi-Subterranean Temple and its sculptural ensemble physically embodied a centralizing imperial ideology that fused multiple regional and ethnic ideological systems.

Immediately to the west of the Semi-Subterranean Temple rises the imposing, elevated structure of the Kalasasaya Platform. Like the Akapana and other

pyramids at Tiwanaku, the Kalasasaya was furnished with a central sunken court. The structure's walls were built of rough-cut sandstone pillars that alternated with sections of smaller ashlar blocks of high-quality masonry (Ponce Sanginés 1969b). Principal entry to the Kalasasaya was through a monumental staircase that pierced the eastern façade. As astutely noted by Amy Oakland, the undifferentiated, massive façades of this structure must have conveyed a palpable psychological impression of "solidity, strength and overwhelming grandeur" (1986a, 12). The Kalasasaya forms a structural unit with the Semi-Subterranean Temple: both structures share canons of architectural design, orientation to the cardinal directions, and an astronomical alignment that marks the vernal and autumnal equinoxes, critical temporal indexes in the agricultural cycle. Specifically, on the morning of the equinoxes, the sun bisects the Semi-Subterranean Temple and appears in the center of the Kalasasaya's monumental eastern staircase. The Kalasasaya was visually linked to the Semi-Subterranean Temple through placement of a major stone sculpture (the Ponce stela) in its central sunken courtyard. This sculpture carries designs similar in iconographic content to those of the Bennett stela. These two monolithic sculptures, placed in counterpoint along the solar path that oriented the urban landscape, may have been intended as representations of the ancestors of Tiwanaku's ruling lineages: *huacas* par excellence of ethnic identity and continuity that evoked the mystique of the ruling dynasty. This sculptural ensemble brilliantly expressed the Tiwanaku elite's political legitimacy, their esoteric knowledge, and their moral authority. They were powerful visual statements

that overtly linked Tiwanaku's ruling dynasty with the mythic past, with the time of ethnic origins, and with the proper, and necessary, functioning of the natural world.

Flanking the central sunken courtyard in the Kalasasaya and facing the Ponce stela was a series of small stone rooms. Although the evidence is indirect, these rooms may have been associated with sculpted stone portrait heads of Tiwanaku males, frequently portrayed chewing coca leaf. These portraits, as well as portrait cups (figs. 4.24, 4.25), are highly expressive and render the individuality of human physical traits with considerable fidelity. As such, they may have been representations of individual Tiwanaku rulers or other members of elite lineages. An intriguing explanation for the use of these small rooms is that they were designed as mausoleums to hold the mummified remains of deceased rulers or elite lineage ancestors (the small stone chambers in the Putuni residential complex may have served a similar mortuary function). These stone heads, sculpted in the frame of a niche, may represent commissioned portraits of these deceased ancestors placed close to the bundles that contained their corporeal relics.

Ancestor worship and the physical preservation and manipulation of relictual bundles associated with the dead were fundamental ritual practices in indigenous Andean religions. We know that similar, larger, above-ground burial chambers for the mummified remains of the social elite were an important element of the Aymara chiefdoms (A.D. 1100–1450) and that these impressive stone and adobe mortuary towers, known as *chullpas*, are found throughout the old Tiwanaku homeland on the high plateau. Similarly, among the Inca elite of Cuzco, ancestor worship took the form of an elaborate cult that entailed preserving and curating royal mummies and involving them in complex social interactions with their living descendants. These social interactions frequently required ritual feasting and drinking bouts during which the royal mummies were feted and consulted about affairs of state. As attested by the Spanish cleric Bernabé Cobo, the elaborate feasting of the dead royals was often associated with seasonal agricultural rituals: "When there was need for water for the cultivated fields, they usually brought out [the dead king's] body, richly dressed, with his face covered, carrying it in a procession through the fields and punas (pastures), and they were convinced that this was largely responsible for bringing rain" (Cobo [1653] 1979, 125). The mummy bundles of the Inca rulers were kept in a number of places, including the temple of Qoricancha, where elaborate niches in the stone walls

held the relictual bundles. Unfortunately, we lack ethno-historical accounts of Tiwanaku's mortuary rituals and practices that would definitely associate the Kalasasaya's courtyard structures with such behavior. We must rely on archaeological evidence for our interpretations. In the case of the courtyard structures in the Kalasasaya, that evidence is largely negative: the rooms themselves were long ago emptied of their contents. However, we can conjecture from their distinctive form and architectural context that they at one time held objects of high cultural value: objects that were precious and designed to be periodically removed and displayed. Relictual bundles of ancestors, among other objects of prestige and power, fit this description well.

The Kalasasaya Platform's connection with the Tiwanaku elite, with their ancestors, and with the agricultural ritual in which they were the principal intercessors between the natural and supernatural worlds finds additional support in the iconographic record of another sculpture



FIG. 4.24 Tiwanaku elite ceramic portrait cup



FIG. 4.25 Portrait Cup
Tiwanaku style, A.D. 400–1000
Tiwanaku, Bolivia
Stone

Staatliche Museen zu Berlin,
Ethnologisches Museum

The bulge in one cheek indicates a wad of coca, a medicinal plant still widely used in the Andes.

in the temple: the Gateway of the Sun (fig. 4.26). The central figure of the Gateway of the Sun represented a celestial high god that personified natural forces like the sun, wind, rain, and hail—in brief, the atmospheric that most directly affect agricultural production (Demarest 1981). This god was most likely an ancient representation of Thunupa, the Aymara weather god (equivalent of the Quechua Ilapa), manifested majestically in the violent lightning and thunder that rip across the high plateau during the rainy season. This weather deity is portrayed standing on a triple-terraced, stepped platform mound perhaps meant to represent the Puma Punku or Akapana

Pyramids, holding a sling in one hand and an atlatl in the other. Warfare and agriculture are reciprocal metaphors, each simultaneously alluding to the other. The uppermost frieze of the sculpture depicts not only the forceful, projecting image of Thunupa displayed in full battle regalia but also eleven other frontal faces, each encompassed by a solar mask virtually identical to that of Thunupa, and thirty running or kneeling masked figures whose profiles face toward the central figure. These thirty subsidiary figures are arranged symmetrically, each side consisting of three rows of five figures each.

Arthur Posnansky (1945) interpreted this distribution of figures as a calendar in which each of the twelve solar-masked figures facing forward represented one month in a solar year. Zuidema (1985) agrees, although he and Posnansky differ about which positions correspond to which months on the Gregorian calendar. Zuidema suggests that the solar-masked figures stand either for the sun in each of the twelve months of the solar year or for full moons in each of these months. In this interpretation, the thirty running figures refer to the days of each (synodic or solar) month. However one reconstructs the precise structure of the calendric information embedded in the complex iconography of the Gateway of the Sun, it is apparent that this monument, along with the Bennett and Ponce stelae, distills the Tiwanaku elite's esoteric system of knowledge that was intimately linked to the elite's symbolic and pragmatic roles in sustaining agricultural production.

That Tiwanaku ideology was efficacious in establishing a societal structure is evident from its extraordinary spatial and temporal reach. In a real sense, the urban and rural milieus were intimately interconnected in the process of creating Tiwanaku civilization. Economy, landscape, and ideology thoroughly interpenetrated in Tiwanaku urban society. Tiwanaku's harnessing of the natural environment for productive ends and its symbolic enculturation of nature found concentrated social expression in the built environment of its cities.

The Aymara people today, although no longer architects of great cities and empires, retain some of the connections of individual, society, and nature that stem from habitual social practice in a small-scale agrarian economy. The intimate interplay of nature and society still resonates in rural Aymara culture. But the increasing dominance of Euro-American values and declining economic opportunity in the countryside have accelerated the erosion of this indigenous system of values. The sense of nature as a social being, as a defining element of what it means to be human, is gradually, and irrevocably, disappearing. The notion that humans—and human society—are physically and socially embedded in nature, that we are part of an interdependent cycle of being and becoming, is gradually fading from Aymara culture. Perhaps it is fortunate, then, that the material evidence of this indigenous Andean philosophy can still be found and appreciated in the ground that holds the testimony of their ancestors.



FIG. 4.26 The Gateway of the Sun