The Archaeology and Politics of Food and Feasting in Early States and Empires

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Chapter 6

From Stew-Eaters to Maize-Drinkers
The Chicha Economy and the Tiwanaku Expansion

PAUL S. GOLDSTEIN

They make chicha from a lot of things... with every nation accommodating to those seeds and fruits that their land produces in abundance... but the best chicha of all, the one that is most generally drunk in this land, and the one that, like a precious wine, takes first place above all the other Indian drinks, is made from maize.

—Cobo 1590 [1653]:347

INTRODUCTION

In this paper, I consider the close correlation of dramatic changes in culinary traditions with the political development of one of the New World's earliest expansive state societies. A comparison of Tiwanaku's ceramic assemblages with those of its antecedents, as well as settlement pattern and household archaeology and preliminary isotopic data on diet, suggest that the Tiwanaku phenomenon was accompanied by revolutionary new patterns in food, drink, and daily domestic life. In examining these changes in the Tiwanaku core region and in its peripheries my goal is to consider the intersection of shifts in culinary traditions with changes...

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The Archaeology and Politics of Food and Feasting in Early States and Empires, edited by Tamara L. Bray, Kluwer Academic/Plenum Publishers, New York, 2003,
not only in domestic and political economy, but in the social and cultural realities and identities signified by quotidian daily life. I argue that radical cultural change was a crucial aspect of the incorporation of disparate peoples into the Tiwanaku civilization. The growth of Tiwanaku as a polity and a shared corporate identity was accompanied by three simultaneous and related phenomena: 1) the development and rapid diffusion of a hitherto unseen functional assemblage dedicated to preparing and serving maize beer; 2) the successful long-term colonization of maize-producing regions, and 3) the promulgation of a shared corporate identity among federated ethnic groups and clans linked by a common ideology. This incorporation appears to have been largely consensual, rather than coerced, and the principal cultural factor was a mania for maize beer that took root everywhere Tiwanaku influence was accepted.

The archaeology of Andean states and empires has benefited from a flood of new research on Tiwanaku political and domestic economy. Much of the recent work has explicitly privileged household archaeology (Bermann 1994, 1997; Goldstein 1989, 1993a; Janusek 1994, 1992; Kolata 1993; Stanish 1989) and regional settlement pattern studies (Abaracin-Jordan 1996; Goldstein 2000a; Higueras 1996; MeAndrews et al. 1997; Stanish 1992; Stanish and Steadman 1994) as our most reliable indicators of changes to the political economy. This emphasis represents a necessary departure from an earlier era's over-reliance on artifact styles to understand the expansion of state societies and the development of their political economies. It is possible to take a good thing too far; however, some discussions of Tiwanaku expansion have emphasized household continuity even in cases where there are dramatic changes in material culture. While it is a tenable position to downplay the political importance of cumulative stylistic change, important assemblage changes in ceramic form and function (and the shifts in domestic lifeways that they represent) are sometimes dismissed along with stylistic shifts as not germane to significant social or political processes (e.g., Bermann 1994:32, 252). The same tendency is evident in settlement pattern studies, which tend to see constancy of site location as the supreme indicator of cultural continuity, regardless of changes in material culture (Stanish 1992). One recent study even promotes a model of “status quo” simply because dramatic domestic changes in material culture, mortuary practices, and architecture are not matched by a major shift in settlement pattern (Higueras 1996).

When household and settlement studies do address widespread domestic assemblage change, it is often analyzed entirely in the context of state tribute extraction. Changes in the domestic economy—an extra spindle whorl here, an enlarged storage bin there—are evaluated first and foremost as markers of supra-household production to support state political economies. This is seldom the entire story. State hegemony is not simply a matter of tinkering with subject peoples’ households in order to increase tribute. Participation in an expanding state brings with it an array of cultural changes that may relate only indirectly to the extraction of tribute. Some of these, such as changes in family size and structure evident in the reconfiguration of household units (Bermann 1994), or the segmentation of craft production among enfolded ethnic guilds (Janusek 1999) have been addressed by studies in the Tiwanaku core region. In what follows, I argue that popular responses to developing state ideologies like that of Tiwanaku can have a complex transformative effect on cultural practices and identities. These identities, in turn, are structured and reified in daily social practice in the habitus of domestic routine (Bourdieu 1977, 1990), and specifically, in new ways of thinking about food and drink.

FOOD AND DRINK IN THE ARCHAEOLOGICAL RECORD

The contributions in this volume all approach state political economy by examining the intrusion of political economy into one of the most important domestic routines of all—cuisine. If we accept that food and beverage choices can be sensitive indicators of political and cultural identities, the functional selection made by household pottery assemblages may be seen as direct reflections of those identities. If we accept that culinary choices are embedded in both the domestic and political economies, the growth of either hierarchical state institutions or supra-household corporate intrusions should also impact the household by modifying diet and culinary technology.

There can be no more fundamental change in cuisine than the introduction, acceptance, and social embedding of alcoholic beverages. The serving of food and drink at feasts large and small, like the exchange of gifts that often occur in the same contexts, are a form of commensal hospitality that can establish and maintain social relations (Dieterle 2001:74). Drink is arguably the critical social lubricant in both formal and informal feasting contexts, simultaneously facilitating social interaction and reinforcing institutionalized status distinctions within a society (Abercrombie 1998). Drinking can play a significant economic role as well, and fermented beverages can be the quid pro quo for the mobilization of labor in small-scale societies ranging from Tarahumara agriculturists, to the Samia and Luo ironworkers of Kenya, to the chiefdoms of Cahokia. Indeed, feast-driven labor mobilization is so widespread that it can be regarded as a nearly universal pattern in traditional societies (Dieterle 1990:360, 2001:79; Kelly 2001:355). Traditions of sponsored work-party feasting reinforce extant relations of production whether egalitarian or hierarchical. Characterized by the easy convertibility of surplus grain into drink, drink into public labor, and control of labor into individual prestige, feasting enables the emergence of social inequality. As wealthier or more powerful corporate groups promote larger and larger feast, fewer and fewer participants can shoulder the growing burden of sponsorship (Dieterle 1990:368).
Recently, researchers studying the origins of social complexity have argued for more attention to the role of individual and factional competition among corporate groups (e.g., Blanton 1998; Brumfiel 1992, 1994; Brumfiel and Fox 1994; Crumley 1995; McIntosh 1999). One discussion of chiefdom formation in Mesoamerica suggests that the adoption of alcoholic drink represents an important element of the process. Using carbon nitrogen isotope analysis to measure maize intake, Clark and Blake (1994) conclude that maize cultivation was relatively insignificant through the Early Formative period. Only in the Middle Formative (850–650 B.C.) was maize added to the diet in considerable quantities. In particular, one maize-based drink, chicha, appears to have played an important role in status differentiation. Based on concurrent changes in the ceramic assemblages, the low productivity of the co varieties adopted, and the rarity of seed-processing implements, the authors suggest that maize was consumed in the form of an alcoholic drink (Clark and Blake 1994:28). Maize cultivation is thus seen as part of a package of external technology that was borrowed by local “agrarians” for personal advantage in competitive feasting (Clark and Blake 1994:25).

This form of chiefly competitive feasting follows the pattern described as “entrepreneurial” or “empowering” feasts by Dietler. Accepting that feasts are inherently political, Dietler (2001) describes empowering feasts as those where host or participant manipulate hospitality towards the acquisition and maintenance of symbolic capital (Dietler 2001:76). Empowering feasts may take place on a wide variety of scales, ranging from pots of beer shared among small groups of friends to the sponsorship of major life-crisis ceremonies and religious festivals. Hosts may be individual households, kinship units, or entire communities.

In the latter cases, there are usually certain individuals who act as managers and derive prestige from their role in successfully organizing and executing feasts that represent the group to outsiders; hence prestige accrues to both the hosting group as a whole and to certain influential individuals who can mobilize group activities (Dietler 2001:30).

In larger scale politics with institutionalized inequality, feasting behavior falls under the pattern described by Dietler as “patron role” feasts. While they embody the same idiom of reciprocal hospitality that operates in the relatively fluid social relations of empowering feasts, patron role feasts differ because they rely and legitimize fixed relations of asymmetrical social power (Dietler 2001:82). In what has been described as “exploitation beneath a mask of reciprocity” (Plath 1986:257), the Inca, for example, stimulated communal corriente on a grand scale by exacting labor tax (ayllu) in a context of elaborate feasting, drinking, and symmetrical gift-giving (Goddard 1977; Morra 1980, 1982). The Inca, as permanent patrons, thus modified traditional Andean work-party feasting practices to the end of legitimizing imperial power. Thus the essential elements of an Andean administrative center under this “Inca mode of production” should include specific facilities for largely political public feasting and drinking, as well as storage, transport, and command.

Most discussions of Inca style feasting concentrate on large-scale events that took place at various ceremonial centers. At the provincial center of Huanuco Pampa, Morris (1982, 1986: also Morris and Thompson 1985) documented the dietary paraphernalia necessary for ritualized hospitality on a scale commensurate with Inca administration. The ceremonial feasts and drinking sessions that accompanied mita labor required extensive storage and brewing facilities to supply large numbers of subjects. Drinking for these patron role feasts was assigned to state-supported enclaves of “chosen women” (uellag) established in attached institutions known as the aukhawasi. Most importantly, the best-known Inca feasts took place in public locations under conditions of ceremonial display, in order to define and legitimate lines of patronage and fealty.

Though probably they were at least nominally religious, they were a way of establishing and maintaining a relationship between the leaders and the led. They were the chiefly generosity that could bring together political stability and the labor to till fields and build cities. That the elaborate space provided along with the thousands of jars of beer represents one of the principal investments made by the Inca state at Huanuco Pampa. In terms of state-local relationships, this may even have been the key function (Morris 1982:166).

Since Morris's work at Huanuco, other archaeological studies have also demonstrated the use of large-scale public contexts for Inca ceremonial feasting. In the Mantaro Valley, for instance, concentrations of large storage vessel sherds recovered near the ceremonial core of Hattin Xauri suggest feasting ceremonies in public spaces of Inca provincial capitals (Costin and Earle 1989:710; D'Altroy 1981:83, 1992:174). Generally, then, our conception of Andean feasting is colored by the imperial model of Inca feasts that were provisioned by institutional brewers, took place in public contexts, and were closely associated with an extractive imperial political economy (see also G. and G. this volume).

Nonetheless, the significance of chicha feasting to Inca society went beyond public political display. It should be stressed that the effects of a political economy with such emphasis on chicha drink and feasting were not limited to an isolated public ceremonial sphere. With both a ceremonial and a financial reliance on maize as a medium for supporting followers, the Inca introduced the capacity for maize storage on a massive scale by building extensive storehouses at strategically located provincial centers. In regions that had had no central governance before Inca control, the new state-local relationship under the puca incachaca and the demands of Inca political economy also brought major shifts in settlement to maize-producing lands from fortified highland sites (D'Altroy 1992:193, 214; Hastorf 1993). People brought into the Inca political economy had many ways to consume maize, and
work-party chicha drinking was only one of them. Whole cobs or shelled maize may have been a staple for the Inca armies because of its ability to be stored in bulk (D’Altroy 1992: 174, 217) and alternate modes of preparation are likely. Provincial diet was clearly affected by the Incas conquest and Haster found the ubiquity of maize to increase in Inca-contemporary domestic botanical remains. Carbon isotope analysis of vessel residues and human skeletal remains also bear out a decided shift to maize consumption in Sausa society under Inca control (Haster 1991: 1993: 177). As Bray (this volume) suggests, the increasing importance of chicha and other maize-based recipes in Inca-contemporary cuisine is also reflected in the adoption of Inca culinary equipment, both in contexts of ceremonial feasting and daily life.

The Inca case reminds us that high profile public patronage feasts may be only the tip of the iceberg when we consider the society-wide transformative effect of feasting and imbibing. Despite the conspicuous public display of the great political feasts of Inca governors, it seems likely that the chicha drinking ceremony was far more pervasive, and that microcosms of similar feasting behaviors were frequently enacted at the smaller scales of community, and even household contexts. In what follows, I will suggest that the state level feasts of the Inca were the culmination of a history of increasing political value attached to maize and chicha in Andean societies that began with the expansion of Tiwanaku civilization into optimal maize producing regions.

TIWANAKU CULINARY EQUIPMENT IN THE CORE REGION

My thesis is that the Tiwanaku corporate ceramic assemblage arose from a rapid and dramatic shift in culinary and social practice some time between A.D. 350 and A.D. 600 at the type site of Tiwanaku. This change took place first in the core region of southern Lake Titicaca and spread shortly thereafter over a wide area of the south central Andes (Figure 6.1). This episode of rapid change followed a long and conservative sequence of Formative stylistic development that had seen relatively little change in utilitarian and serving vessel forms since the introduction of ceramics in the second millennium B.C. The result of this break was the emergence and rapid diffusion of not only a radically different Tiwanaku corporate ceramic style but also a new formal assemblage that was associated with a culinary and beverage tradition that was to survive through the Inca and Colonial periods and into modern times.

Formative pottery of the Kalasasaya style (also known as Tiwanaku I and dated between 400 B.C. and A.D. 100) represents the earliest ceramic style associated with the Tiwanaku site. The style includes a coarsely polished, deeply incised brownware and a burnished polychrome incised ware that has some similarities to contemporary fine wares of Pakara (Pucara) at the north end of the Titicaca Basin

Figure 6.1. Map of south central Andes.

(Tranquillini 1986; Kedder 1943; Ponce 1976). Typical Kalasasaya serving vessel forms include pots with globular or slightly flattened bodies, round bottom bowls with one handle, trumpets, and some modeled zoomorphic forms.

The subsequent Qeya style, originally described for the Qeya Qollu Chico cemetery on the Island of the Sun, but also known as Tiwanaku III at the Tiwanaku
site, is typified by vessels of a soft, light brown ceramic paste (Figure 6.2). Serving vessel forms include libation bowls, bulbous bottom vases with interlocking black and white triangle motifs, and crude incensario forms. Qeya and similar Late Formative styles are found in only some sectors of the Tiwanaku site and in minimal numbers in nearby survey collections, suggesting that both site and hinterland were smaller and sparsely occupied during the Late Formative. Ponce (1972) dated the Tiwanaku III/Qeya style to A.D. 100 to 375; although more recent reappraisal suggests a later span from A.D. 231 to 619 (Janusek and Alconini 2000). Throughout the Formative, the altiplano assemblages are dominated by low-fired globular alitas made in a variety of paste types. These unremarkable vessels are typical throughout the Formative, and account for as much as 91% of sherds in Late Formative levels below Tiwanaku’s Patoni palace (Janusek and Alconini 2000).

In sharp contrast to these Formative styles, Tiwanaku’s famed corporate ceramic style is remarkable for its standardization, its higher technical quality (denser pastes, impermeable slips, surface compaction, and higher firing), and its rapid diffusion, both at Tiwanaku and at sites throughout the Tiwanaku core region. The Tiwanaku style is characterized by red-slipped polychrome and reduced blackware serving vessels. The serving vessels are usually accompanied by hard-fired, sand-tempered utilitarian wares used for storage and cooking forms. Until recently, the Tiwanaku corporate style, subdivided into Classic and Decadent Phases (Bennett 1934), or Epicus IV and V (Ponce 1972), was believed to have begun at A.D. 150. Newer dates indicate that the Tiwanaku state style appeared ca. A.D. 500 and lasted for approximately 300 years. The style has been subdivided temporarily into Early IV, Late IV, Early V and Late V phases (Alconini 1995; Janusek 1994; Janusek and Alconini 2000).

Characteristic throughout the Tiwanaku IV and V periods is the kero form, a flared drinking goblet used for imbibing maize beer. Although transitional forms of the kero have been identified in late Formative contexts at Lukurmata (Bermuma 1994) and Tilata (Janusek and Alconini 2000; Mathews 1997), the kero form is uncommon in the Qeya style, and goblet-like drinking vessels are altogether absent from most Formative sites. In contrast, the kero and the related tecon (drinking bowl) and one-handle pitcher serving forms traquis become ubiquitous in domestic contexts during Tiwanaku IV and V (Figure 6.3). The same vessels are also standard mortuary furniture, and also appear in intentionally smashed offering contexts (Alconini 1993; Kolata 1993; Manzanilla 1992; River Casanovas 1994).

Concurrent with the appearance of the kero and related serving forms, a unified assemblage of high quality utilitarian plainware vessels for cooking, storage, and liquid transport replaces the all-purpose Formative neckless alita. All of the Tiwanaku plainware vessels were executed in a high-fired sand or grog tempered paste that is far denser than Formative antecedents. Vessel surfaces were sealed by self slip, wiping, or rarely, simple polychrome painted decoration. While the
pear-shaped Tiwanaku *olla* may have arisen from the spherical neckless *olla* forms common throughout the *altiplano* in the Formative, the Tiwanaku *ollas* are designed with vertical rim, strap handles, and out-flaring lips, features better suited to pouring liquids. The *tunaj,* a completely new vessel form with a constricting shoulder, narrow cylindrical neck, thickened lip, and body strap handles suitable for rope slings, was introduced for liquid transport. Wide-mouthed tall vessels, known colloquially today as *chumbas,* fulfilled in-place storage and fermentation functions.

It is interesting to note that despite the formal, stylistic and technical differences between Tiwanaku and Inca pottery, most of the new function-specific Tiwanaku vessel categories that appear ca. A.D. 500 have parallels in the Inca assemblage. Most significant here are the Tiwanaku *kero* and *tunaj,* which functionally resemble Inca wooden and ceramic *keros* (Meyer's [1998:333] Form 14) and the characteristic storage and transport vessels known as *Cusco jars* or *aridobos* (Meyer's [1998:333] Form 1). We can infer from the prevalence of these functionally specific types, i.e., drinking goblets and narrow-necked liquid transport and storage vessels, that both Tiwanaku and Inca ceramic assemblages included substantial numbers of vessels dedicated to liquid consumption and transport (see Bray, this volume for Inca). Considering the absence of similar functional types in pre-Tiwanaku contexts, the sudden development and spread of this kind of specialized sub-assemblage in the second half of the first millennium suggests that it is not only the hallmark of a new ceramic tradition, but also a signal of remarkable culinary, social, and political change that accompanied Tiwanaku expansion.

**TIWANAKU CULINARY EQUIPMENT IN THE PERIPHERIES**

San Pedro de Atacama

The town of San Pedro in the Atacama desert is located 105 km northeast of the modern city of Calama, Chile, at an altitude of 2430 m, and approximately 800 km south of the Tiwanaku site. A small number of Tiwanaku vessels were included as offerings in elite tombs in cemeteries in San Pedro's thirteen small agricultural estates, known as *ayllus* (Ll Fogtera 1996). The few Tiwanaku vessels found in local museum collections are polychrome *keros,* *tazones,* and small pitchers that correspond to Tiwanaku IV and V in the core region. There appears to be a high rate of repair in these imports, and no Tiwanaku utilitarian pottery is found in San Pedro. Moreover, trade pieces of the *Isla Trescol* and black-on-red style of northwest Argentina have also been identified in many cemeteries in the Atacama region, and isolated examples of other unidentified styles are also found (Tarrago 1977:56–62). This diversity suggests that local elites continued to enjoy relatively open exchange relationships throughout the Tiwanaku period.

Both before and after the appearance of Tiwanaku imports, the vast majority of ceramic grave offerings were vessels of the local San Pedro tradition. In the San

Pedro III or Quitor Phase (A.D. 400–700), these assemblages are dominated by local forms such as face neck bottles and incising bowls in the black polished (*negra pulida*) ware that accounts for roughly 82% of the total funerary pottery in San Pedro (Tarrago 1976:61). Further discussion of San Pedro culinary change must await excavation of household contexts. However, if serving vessels in tombs are typical, the Quitor Phase inventory did not include any drinking goblet forms, suggesting that *chicha* drinking had not yet developed to the point of demanding specialized culinary equipment.

In the later Coyote phase (A.D. 800–1000), the San Pedro style continued with relatively few changes in style or technology. One of the few dramatic changes in the later San Pedro phase is the emulation of Tiwanaku *keros* in local red slipped or black *ceramica pulida* wares (Berengier and Daraels 1989:160). As no Tiwanaku-contemporary domestic site has yet been excavated, the frequency of these imitation *keros* in household contexts is not clear, although they are quite numerous in grave lots. This would appear to be an attempt to duplicate extremely rare original Tiwanaku *keros* with a functionally equivalent vessel form.

I would argue that the significance of this emulation of the *kero* form goes beyond mere stylistic influence. Rather, the adoption of the *kero* in the San Pedro ceramic assemblage suggests a new demand for specific vessels designed for functions that had not been worthy of specialized culinary equipment before exposure to Tiwanaku. This suggests that contacts between San Pedro and Tiwanaku, indirect as they may have been, highlighted the importance of *chicha* drinking in local feasting behavior. One interpretation might suggest that Tiwanaku contact catalyzed the competitive hosting of feasts by local elites, creating greater demands not only for beer itself, but also for specialized beer-drinking vessels.

**Cochabamba Tiwanaku**

The Mizque, Capinota, Santiváez, Sacaba, Valle Alto and Central Cochabamba valleys of Eastern Bolivia lie approximately 400 to 600 km southeast of the site of Tiwanaku, at elevations from 1800 to 2800 m (Higmenas 1996). Unlike San Pedro, the region overall is considered extremely fertile and was a major area of agricultural production under Inca control. In the absence of household excavations, it is unclear whether the political economic relationship of Cochabamba to the Tiwanaku core region was one of direct administration, colonization, or hegemony through religious proselytizing or long distance trade. The low frequency and local association of most sumptuary Tiwanaku goods like tapestry tunics and snuff kits suggests that these were long distance trade imports for local elites (Brownman 1997:232; Oakland 1986:245). On the other hand, Bennett (1936:353) noted that the burial offerings of ceramic *keros* and *tazones* at the Atani site were of exclusively Tiwanaku style, as are the grave offerings at Pilami (Cespesdes Paz 1993:63). Oakland (1986:246) reports that Tiwanaku textile bags and textiles from
Manzanami, Omereque, and Perez were found in burial association with Tiwanaku pottery, suggesting interments by culturally Tiwanaku colonists or fully acculturated local populations.

As in both the Tiwanaku core region and San Pedro, Cochabamba ceramic traditions prior to Tiwanaku show little evidence of a specialized feasting sub-assemblage. Formative pottery of the Eastern Cochabamba valleys was dominated by bowls, globular neckless ollas, and urn forms. Keros are not found, and although it is possible that urn forms were used for chicha fermentation. Brockington et al. (1995:123) believe there was no chicha production in this maize-producing area before 700 B.C., and only limited production thereafter. Once again, the Tiwanaku period appears to mark a watershed in the development of a function-specific ceramic kit for chicha production and feasting.

Further research is required on the typology, chronology, and relative frequency of Tiwanaku serving vessels, utilitarian plain wares, and local wares at Cochabamba domestic sites. Cochabamba Tiwanaku polychrome serving pottery has been described as a “derived” style of Tiwanaku, although pottery of classic Tiwanaku style is also found. Functionally, the assemblage includes the standard kero, tazón, and small pitcher forms known from the core region, and funnel-shaped keros with narrow “can’t-pull-it-down” bases are considered characteristic for the Cochabamba region, although frequencies are not available from either mortuary or domestic assemblages. It appears that Tiwanaku pottery came to co-exist with contemporary regional styles like Omereque (also known as Mizque and Nacozito), a polychrome with unusually opaque and colorful pigments, and local forms such as tripod vessels. Later Omereque polychrome displays a strong Tiwanaku influence (Bennett 1993:387, 403; Byrne de Caballero 1984). Omereque and local gray ware pottery is commonly found in association with Tiwanaku wares in the Capinota and Mizque valleys (Higueras 1996). Other local styles include Yampara in the southern valleys and Mojocoyo in the east (Brown 1997:231; Ibarra Grasso and Quezada 1986). Trade pottery of Cochabamba’s local styles appear in low frequencies at the Lukurmata and Tiwanaku sites (Bennett 1994, 1997; Janusek 1993:16; 1994:127; 1999:122-123).

Interpretations differ on the nature and intensity of Tiwanaku political economy in Cochabamba. Céspedes Paz (1993:65), citing the overwhelming adoption of Tiwanaku stylistic elements, the sheer quantity of Tiwanaku material culture, and the construction of administrative centers, suggests that direct Tiwanaku expansion began as early as A.D. 350 and was followed by full provincial incorporation after A.D. 750 (see also Anderson et al. 1998). Others point to continuity in local settlement patterns, Cochabamba Tiwanaku’s “derived” pottery style, and the presumed prevalence of Tiwanaku materials in mortuary, rather than domestic contexts, to support an interpretation of indirect trade and stylistic emulation of Tiwanaku by the region’s indigenous societies (Brown 1997:231; Higueras 1996; Oakland 1986:246).

In either case, the transformation of the ceramic assemblage in Cochabamba indicates profound change in culinary practice and a modification of the previous social order. This transformation was marked by the widespread adoption of Tiwanaku feasting practices, specifically the imbibing of chicha using a specialized ceramic assemblage borrowed from Tiwanaku models. Whether this took place in inca-style provincial feasts sponsored by Tiwanaku hosts, or, as is likely in San Pedro, in feasts sponsored by local elites who merely adopted Tiwanaku forms, is not yet known.

Azapa Valley, Northern Chile

The Pacific-draining Azapa valley of Northern Chile, and the neighboring Chaca, Camaques, Lluta, Sama, and Capilina valleys, all lie approximately 300 km west of the site of Tiwanaku at elevations ranging from sea level to 1000 m. Climate in the Azapa Valley region is temperate and hyper-arid, with virtually no precipitation. The distribution of both Azapa Tiwanaku sites and those of Cabuza, a contemporary local style, shows a preference for floodplain areas optimal for maize agriculture in “sweetwater,” or less mineralized valleys like the lower Azapa. Azapa Tiwanaku and Cabuza sites concentrate near natural springs at Las Riberas and Sucachene and larger irrigable plains like Alto Ramirez, suggesting a preference for zones that were optimal for irrigated cultivation of maize, beans, fruits, and coca.

The Azapa valley provides another example of a dramatic Formative/ Tiwanaku break in ceramic assemblages consonant with adoption of different culinary equipment. Previous to the appearance of Tiwanaku vessels, the region’s Formative tradition, known as Alto Ramirez, consisted primarily of globular neckless or short-neck ollas, and included no drinking or serving vessels (Muñoz 1996).

Tiwanaku pottery in Azapa, also known in Chile as the Loreto Viejo style, corresponds stylistically to Tiwanaku IV and V in the core region and the Oror and Chen Chen styles of Moquegua. Azapa Tiwanaku polychrome ceramic keros, tazones and small pitchers, as well as wooden spoons, keros, pitchers, and serving vessels appear in mortuary sites in Azapa. Tiwanaku utilitarian utilitas and tinaja forms are found at a few habitation sites, but these cooking, brewing, and storage wares were also adopted by households who used serving pottery of the Cabuza style. The later Cabuza fine wares emulated Tiwanaku keros and other serving forms in local pastes, with decoration in black over a purpurine-red slip. Users of the Cabuza ceramics also emulated Tiwanaku practices such as cist burials in seated flexed position, and elements of the Tiwanaku textile style.

The most likely explanation of Azapa Tiwanaku occupation is as small enclaves of colonists from the Tiwanaku core region coexisting with a larger local population who emulated aspects of the Tiwanaku tradition. A recent systematic survey indicates that settlements and cemeteries affiliated with actual Tiwanaku
colonists were limited in number and size as compared to larger numbers of Cabuza and related sites (Goldstein 1996). Interpretations of this coexistence have ranged from a symbiosis of ethnic groups (Rivera 1985; 1991) to a vision of marked social stratification, with the Azaqa Tiwanaku representing a powerful ruling elite ("capula dirigente") (Berenguer and Danelsberg 1989:151). Higher status is attributed to Tiwanaku individuals based on the quality of Azaqa Tiwanaku pottery and textiles and the presence of stone tablets, spoons, and four-pointed hats of elite Tiwanaku style associations (Berenguer and Danelsberg 1989:151; Foucacci 1981:70). The idea of enclaves of Tiwanaku ruling elite imposed on a Cabuza substrate could explain the wide adoption of Tiwanaku style and cultural practice. Specifically, the shift of the late Cabuza ceramic assemblage to include a set of drinking and chicha drinking in indigenous populations after the arrival of Tiwanaku emissaries. As in Cochabamba, it is not yet known whether Tiwanaku colonial elites sponsored feasting events themselves, or whether local elites were spurred by Tiwanaku example to a competitive spiral of feasting.

Moquegua Valley, Southern Peru

The Moquegua (also known as the Middle Osore) valley of southern Peru lies approximately 300 km west of the site of Tiwanaku and ranges in elevation between 900 and 2000 m. An optimal region for temperate agriculture, Moquegua provides the strongest evidence for expansive Tiwanaku colonization. In Moquegua, the radical changes in domestic assemblages between the local Formative ceramic tradition known as Huaracame and subsequent Tiwanaku assemblages also suggest major differences in the way indigenous Formative and Tiwanaku households, and particularly, household and community beer halls functioned. Represented by 169 habitation components, the Huaracame domestic occupation was dispersed across tiny hamlets closely associated with small-scale flooding agriculture (Goldstein 2000). Much like the Early Formative Mesoamerican contexts cited by Clark and Blaske (1984), Huaracame populations appear to have had only a minor and unspecialized interest in maize cultivation. Cob varieties of maize from Huaracame sites appeared noticeably smaller than those seen in Tiwanaku sites, and the available microbotanical evidence recovered from site survey supports the view of a mixed farming and herding economy. Huaracame habitation sites also exhibited few large seed-processing tools like the metates, batanes and manos that are so numerous in Moquegua Tiwanaku sites.

The prevalent vessels of the Huaracame ceramic assemblage were globular neckless ollas, examples of which are usually soot-blackened (Figure 6.4a). This suggests the direct cooking of stews on hearths. There are no vessels in the inventory that are specifically suited for liquid storage, fermentation or transport (i.e., none with strap handles, tall necks, or pouring lips). Shallow hemispherical bowls, unsuitable for drinking, are virtually the only serving vessel form (Figure 6.4b). The absence of drinking goblets or easy-to-pour storage vessels suggests that maize beer was not a major part of the cuisine, or at least that no formalized assemblage for brewing or mashing existed.

Ceramic assemblages changed entirely with the arrival of Tiwanaku colonial settlement after A.D. 600 and the establishment of large enclosures at previously unoccupied locations in the valley. Two stylistic assemblages, termed Omo and Chen Chen, have been identified in Moquegua Tiwanaku corresponding to late Tiwanaku IV and V pottery in the Tiwanaku core region. Fifteen Moquegua Tiwanaku site components, covering nearly 30 hectares, have ceramics of the Omo style, while 55 hectares of habitation area and 10 hectares of cemeteries are characterized by Chen Chen style ceramics. In sites with both styles, fine serving vessels including keros, tazones, small pitchers, portrait vessels, zoomorphic censors and

Figure 6.4. Huaracame style vessels from the Moquegua valley. Archaeological Survey project: a globular neckless olla, b serving bowls.
Figure 6.5. Layout and overview of Omur site M12 showing community plaza groups.
Figure 6.6. Layout and overview of Omo site M16 showing community plaza groups.

Figure 6.7. Examples of Tiwanaku tinas from special Omo household complexes believed to represent characona.

jars are found. Extensive household excavations at the Omo, Chen Chen, and Río Muerto sites confirm that both ceramic and wooden keros and other serving vessels are ubiquitous in domestic, as well as mortuary contexts. In terms of plain wares, standard Tiwanaku utilitarian forms prevail in all Moquegua Tiwanaku household contexts, and indigenous vessel forms like neckless ellas are no longer represented (Goldstein 1989, 1993a, 2000a, 2000b).

Occupations at the Omo M12 site (Figure 6.5) and the Omo M16 site (Figure 6.6) consisted of freestanding multi-room buildings, arrayed around large plazas. These plaza-centered residential groups correspond to intentionally segregated ayllu communities. Although keros were found in every household, each community also included at least one household complex with numerous storage tinas (Figure 6.7) and in-situ feature installations of chicha brewing chambaras set.
feasting and drinking took place at significant points on the landscape outside of town and temple. At least one of these sites, located on a distant hilltop in direct alignment with the Omo temple's gateways, appears to have had a long and substantial history of feasting activities.

As in later household clusters in the Tiwanaku core region, autonomous household clusters at the Chen Chen style sites were organized in patio groups, with associated storage units and roofed and unroofed activity areas. This suggests family-organized domestic production, and the amassing of surplus in response to increasing outside demands on the colonial household. Additional banks of stone-lined storage units were distributed throughout the Chen Chen style habitation sites, usually in association with large grinding stones, *manos*, and a profusion of stone hoes. This evidence suggests that maize was stored and processed beyond the demands of the household, and possibly exported to exchange partners in the highland Tiwanaku core. Nonetheless, it is yet unclear whether this exaggerated maize production indicates a centralized state tribute system of Inca scale or exchange relationships articulated through *ayllus* as corporate units.

**FEASTS, CUISINE, AND THE IMPLICATIONS OF DIETARY CHANGE**

Research on ancient culinary practice and diet through vessel assemblages can offer only indirect insight into actual consumption. Vessels may be multifunctional. Similarly, the faunal and botanical record may be biased by preservation, or if consumption patterns were seasonal or eating and feasting took place outside of the settlement. For this reason, analyses of human bone chemistry can provide an important clue to the relative contributions of major food groups throughout the life of an individual.

In Moquegua, the distinction between Huaracene dietary lifeways and those of their Tiwanaku successors is manifest in skeletal biology. A series of Huaracene individuals from the "boot tomb" cemetery at Omo were included in a comparative carbon nitrogen isotope study with individuals from pre-Tiwanaku coastal sites and Tiwanaku skeletons from Omo (Sandness 1992). Results indicate that the Huaracene diet resembled that of Early Ceramic period individuals from other coastal sites (Owen 1993). Marine resources (fish, shellfish, and possibly algae) contributed as much as 23% to 50% of the diets of these Huaracene individuals. The carbon and nitrogen delta values of the Huaracene skeletal samples suggest substantial dietary quantities of C3 plant foods (approximately 50%) and/or animals grazing on C3 vegetation. Maize and C4 plants made only a minimal contribution to Huaracene diets, accounting for only 3% to 18%. Before the arrival of Tiwanaku and its emphasis on the *chicha* economy, maize was probably little more than a supplemental food in a diversified one-pot cuisine of neckless *olla* stews.
In contrast, analysis of Tiwanaku colonists associated with Chen Chen style pottery found that maize and C4 plants contributed between 46% and 76% of their diet (Sandnes 1992-49). Moquegua Tiwanaku colonists' emphasis on intensive maize cultivation to support the *chicha* political economy was no longer a matter of occasional drinking and feasting but a monotonously regular part of the diet. It seems unlikely that this entire maize intake is attributable to *chicha*. Nonetheless, an examination of Tiwanaku culinary equipment fails to find any vessels specifically designed for boiling, roasting, or toasting maize. This implies that Tiwanaku maize that was consumed as *chicha* was either boiled on the cob, or, more likely, considering the proliferation of grinding stones, ingested as some sort of porridge.

An interesting parallel with Inca maize cuisine is found when we examine the gendered nature of the *chicha* economy. The extraction of tribute from households under state political economies often was accompanied by accentuated household inequality. For the Inca, the chroniclers noted that women were often excluded from drinking and feasting activities (Guaman Poma 1993 [1615]; Randall 1993:25). Among the Susa of the Mantaro region, the previously balanced consumption patterns of men and women took on a decidedly gendered aspect with incorporation into the Inca political economy. Pre-Inca Wanka II skeletons showed no gender differences in carbon nitrogen isotope ratios, suggesting that both sexes participated equally in maize-concentrated feasting, and thus in ritual, community, and political events (Hasdorf 1991:150). In contrast, analysis of 21 Inca-contemporary Wanka III individuals found a marked difference (mean delta C values of -16.41 for females vs. -14.18 for males, with higher delta N values for the males). While both males and females exhibit better access to maize than their pre-Inca ancestors, the male diet was considerably more enriched in maize and meat than the female. Thus, even though *chicha* and other maize foods may have been produced by females, as is ethnographically common in the Andes, Wanka III males enjoyed significantly better access to maize products, as well as meat (Hasdorf 1991:152; Murra 1982:256).

A comparison of the Omo carbon nitrogen isotope results for males and females also showed significant gender differences (Sandnes 1992-42), suggesting that Moquegua Tiwanaku males may have disproportionately enjoyed both feasting and *chicha* drinking, and the political empowerment that it implied.

**CONCLUSIONS**

Considering the role of drinking vessels and the importance of drinking ceremonies in the integration of the Inca state, it is not surprising to find that the proliferation of the *kero* and plainware liquid transport and storage vessels coincides with the rise of Tiwanaku both as a complex urban site and as an expansive state. Yet, while some Inca and Tiwanaku *chicha* drinking practices and elements of ceramic assemblages appear similar, there are important distinctions. Notably, *keros* and *chichas*, though ubiquitous in domestic contexts, are not prevalent in use contexts within Tiwanaku temple structures (Goldstein 1993b). Likewise, Tiwanaku sunken court complex do not demonstrate specialized facilities for brewing and consuming maize beer comparable to the Lincancabur. Tiwanaku temples are characterized instead by assemblages that emphasize *incaputu* and *sakurumaro* (censors), vessels used for offerings, rather than for drinking ceremonies. When *keros* do appear in Tiwanaku public architecture, notably in the ceramic offering discovered in the Akapana pyramid, it is in the context of sacrifice, rather than commercial brewing (Aleconin 1995; Kolda 1993).

The absence of *keros* and drinking paraphernalia in temple use contexts suggests that Tiwanaku temple ceremonies may have been quite distinct from drinking ceremonies carried out at the household and corporate levels. This contrasts markedly with the public ceremonial nature of Inca patron role feasts like those at Huancayo Pampa, which are closely associated with public architecture. If Tiwanaku communal drinking took place in the home and in community settings, we may conclude that Tiwanaku did not fully develop the redistributive patron-role feasts of the Inca state-sponsored model. Accepting the politically charged nature of feasts, this suggests that the Tiwanaku diaspora relied on intermediate levels of social organization, rather than unitary state governance, for its articulation. The decentralized nature of Tiwanaku feasting suggests that Tiwanaku's *chicha* economy was not part of a fully developed centralized political economy, but a system run through a heterarchy of ayllu-like corporate groups operating within a loose confederative state.

In a comparative case, Moore (1989) details the physical and contextual correlates of *chicha* production at the Chimú provincial site of Manchan. Because Chimú was a state-level society, by analogy to the Inca state, Moore expected to find evidence of specialist producers, like the Inca *mamakuna* (female temple servants) or the *chichero* (male *chicha* maker) reported on the central coast. Instead, he found that *chicha* production at Manchan took place in non-specialized household contexts, similar to ethnohistoric *chicha* production in *ayllu*-organized communities (Moore 1989:691). Equipment was widely distributed throughout residential barrios, and there was no evidence of specialized institutional settings for *chicha* production. Nonetheless, the intensity of household *chicha* production varied at Manchan. One perfectly ordinary household, for example, had a production capacity of 513 liters, a supply estimated to have been sufficient for 171 people (Moore 1989:688). The implication that ordinary households in Andean states, rather than specialized institutions, might produce and serve *chicha* in quantities so far above household needs could help to explain three of the most puzzling aspects of the Tiwanaku phenomenon.

First, as compared to other proto-empires worldwide, Tiwanaku's *ayllus* individually or collectively embarked on adventure of expansion and colonization in distant peripheries remarkably soon after the consolidation of the Tiwanaku core region. The confluence of the Tiwanaku corporate style in the core region was
completed shortly after A.D. 500—merely a century before the Tiwanaku diaspora extended itself to the lowlands. This represents a remarkably quick transition from state formation to state expansion. Considering the high costs of transporting bulk carbohydrates in the Andean highlands, it is unlikely that resources from these peripheries could have had a significant impact on Tiwanaku core region subsistence. Instead, I argue that *chicha* played an important role in a pluralistic society whose political economy was based on competitive hospitality. As Bernabe Cobo tells us:

They make *chicha* from a lot of things... Some *chichas* are made from avocados, yuccas and other roots, others from quinoa and melon. The Indians of Tucuran make it from *algumbras*, those of Chile from strawberries (?). From the way they refuse to drink pure water, it seems that all the inhabitants of America have conspired against it. But the best *chicha* of all, the one that is most generally drunk in this land, and the one that, like a precious wine, takes first place above all the other Indian drinks, is made from maize (Cobo 1890 [1653]:347, my translation).

In a setting where political status revolved around the ability to attract followers through the sponsorship of empowering feasts, the introduction of drink would trigger an ever-tightening spiral of fractional competition. As each *ayllu* or individual sponsor vied to provide the best drink available, competition would have mandated *chicha* brewed with the uniquely high sugar content of maize, a cultivated that can best be grown at lower elevations than the Tiwanaku core region. Tiwanaku expansion abroad and political growth at home were both largely fueled by the accelerated cycle of political feasting that came about with the introduction of maize beer.

A second puzzling distinction of Tiwanaku expansion from Inca imperialism is the absence of evidence for overt military conquest and unitary rule. Nonetheless, Tiwanaku agricultural colonizers, traders, or at least the new concepts and values associated with Tiwanaku, were tolerated or even welcomed by indigenous populations in maize-growing regions. This "soft" variety of state expansion is puzzling when compared to the overt exercise of military power that characterized Inca imperialism. The Inca, for instance, developed an extensive network of storage facilities for maize to support their armies. Tiwanaku developed no such infrastructure. This difference implies a new emphasis among the Inca on maize varieties and recipes suited for military and migratory logistics.

The archaeological record indicates that Tiwanaku pursued a model of expansion that combined sumptuary craft skills, an attractive ideological system, and excellence in salesmanship with long-standing communal values under a flexible, rather than monolithic state system. Once the Tiwanaku type site became known as a metropolis center, an aura of cultural superiority certainly would have smoothed the way for Tiwanaku agents. However, it is becoming clear that the emergence of the Tiwanaku type as a metropolis and the rapid diffusion of the Tiwanaku formal ceramic assemblage in maize-growing regions occurred almost simultaneously. Perhaps some of the cachet of the Tiwanaku phenomenon lay in its association with feasting and innovative alcoholic beverages. This culinary cachet depended on access to a wide variety of maize types, an efficient and attractive ceramic assemblage for brewing, storing, and serving, and a fully integrated social context for imbibition. The "proof of the pudding" is that the culinary and beverage traditions of Tiwanaku were not only tolerated, but also actively emulated by indigenous peoples throughout the south central Andes. In many instances, pre-Tiwanaku culinary equipment was replaced by dedicated *chicha* drinking vessels like the *kero*, *tazones* for porridge, and sturdy brewing and storage *quina* vessels where none had existed before.

Dietler (1990) has observed that once societies have integrated alcoholic beverages into their economic production and social reproduction, they often reverse the trend and these beverages often become increasingly important. For centuries following the Tiwanaku collapse, maize beer remained a powerful drink. Late Intermediate Period artifact assemblages all continue to include large liquid transport and storage vessels and *kero*-like serving goblets. South central Andean culinary equipment never reverted to the days of the neckless *oka* pot, and new variations of the basic culinary equipment for *chicha* making persisted through Mollo, Churajon, Chiribaya, Yurac, and San Miguel post-Tiwanaku ceramic traditions. This suggests that *chicha* drinking remained important in a wide variety of post-Tiwanaku Andean political economies and feast sponsorship continued to be a critical political rite and right for local, regional, and state-level leaders of the Inca, Colonial, and modern era. *Chicha*'s long-term role as the lubricant of south Andean political economy and its powerful grip on the south Andean consciousness is one of Tiwanaku's most remarkable legacies.

NOTES

1. Most discussion of the advent of state pottery has focused on ceramic style as communication and on stylistic change as a marker for culture change. While pottery is, of course, a stylistic medium, those non-functional stylistic components that might be called "architectonic" represent only one aspect of pottery's role as a political category (Sackett 1980).

2. As Cock and Glowiaki (this volume) elaborate, feasts and drinking bouts in the Inca "read" can also be inferred for the provincial administration of the Wari empire of Peru's Middle Horizon (A.D. 500–900) (see also Lippert 1987b; Beltran 1980:103; Schroetter 1987).

3. Quilpo pottery is more common in the highlands of the Andes and southern Peru, and in other parts of the Andes south of the lakes (Bermant 1987; Bodeker 1987; Mathews 2002; in Juraszek and Akerstrom 2000; Rostas 1978; Wallace 1953).

4. Juraszek and Akerstrom (2000) describe the ceramic changes of this formative科尔瓦陶瓷 break in the following way:

   "The most noticeable innovations in ceramic wares point to the increasing importance of eating and ceremonial use of the Tiwanaku heartland. Cooking vessels changed least from the Late Formative
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