# Tradition Brought to the Surface: Continuity, Innovation and Change in the Late Formative Period, Taraco Peninsula, Bolivia

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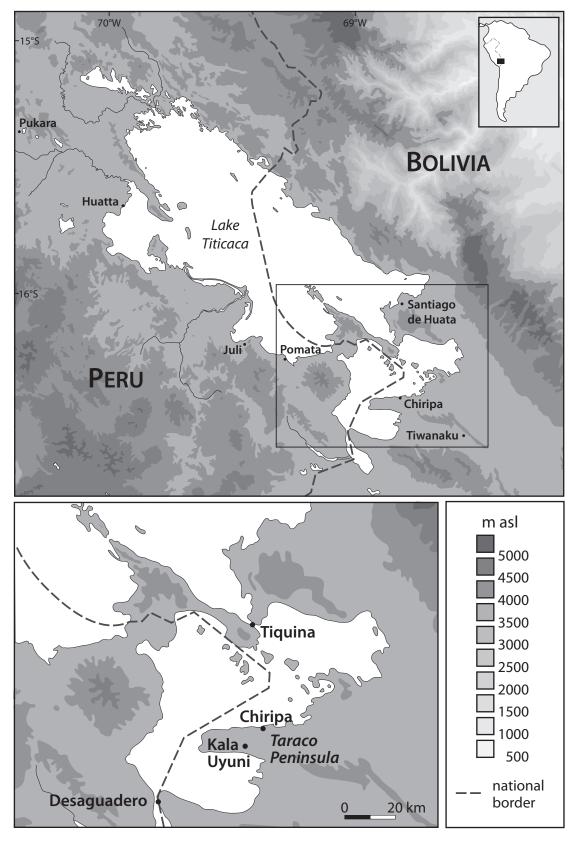
Based on more than a decade of research on the Taraco Peninsula, Titicaca Basin, Bolivia we discuss the role of memory, tradition and ancestral participation from the earliest settled communities to the founding and influence of the Tiwanaku order. We examine the shifting role of social memory vis-à-vis public ceremonies, pottery and food production. While the earlier phases give a sense of familial community and the construction of place through ancestor veneration, the later phases suggest stronger lineage commemoration, with families acting as gravitational forces in the burgeoning political developments. Our diachronic study on the Taraco Peninsula tracks these practices illustrating the movement along a discursive—non-discursive continuum, with some practices brought to the surface and politicized.

Paul Connerton begins his book How Societies Remember with the sentence 'All beginnings contain an element of recollection', creating new out of old (1989). His thesis focuses on the central importance of commemoration and bodily practice in building and maintaining society while forming social identities. This quote reminds us how memory permeates every aspect of social existence, every act of consciousness. From the tales, histories and societal values over the long term, to the experienced, commemorative events and family practices of the short-term, social memory is essential to an individual's sense of self. Building on cognitive psychology, Connerton's work on bodily practices includes a discussion of 'inscribing practices' that encourage and sustain knowledge over time and in new circumstances (semantic memory). He also stresses the mundane, habitual actions of daily existence, those 'incorporating practices' that are equally rich in signalling a social past and heralding a future (the episodic memory of Tulving 1983; Connerton 1989, 72-3).

Any bodily practice, swimming, typing or dancing, requires for its proper execution a whole chain of interconnected acts, and in the early performances of the action the conscious will have to choose each of the successive events that make up the action from a

number of possible alternatives; but habit eventually brings it about that each event precipitates an appropriate successor without an alternative appearing to offer itself and without reference to the conscious will. (Connerton 1989, 101)

In this paper we further develop and move beyond Connerton's, somewhat simple dichotomous ideas of commemorative and bodily (inscribing and incorporating) practices to reconsider the role of 'tradition' and its discursive and non-discursive aspects within the social dynamics of early settled life in the Lake Titicaca Basin, Bolivia, prior to the development of the Tiwanaku state (AD 500–1100). In our case-study of Formative Period sites (1500 BC-AD 400) from the Taraco Peninsula, we track the long-term, multi-generational bodily practices of the everyday, illustrated most evidently with pottery production and food consumption as well as those more periodic commemorative uses of space concerned with burial practices and public architecture in pursuit of their intersection with and illustration of tradition. Building on recent scholarship about craft production and bodily memory (Dobres 2000; Hendon 2006; 2007; Joyce 2000; 2004), food and memory (Holtzman 2006; Sutton 2001; Hastorf & Weismantel 2007), and the construction and use of space (Edmonds 1999; Pauketat & Alt 2003), we see 'tradition' as an active and socially



**Figure 1.** Map of Titicaca Basin and the Taraco Peninsula Formative settlement locations.

embedded process of practices, a material manifestation of different types of memory construction. In this article, we consider traditions and their practices on a continuum between the discursive and the non-discursive. This perspective serves as a useful heuristic, directing our analysis to address several questions: how were practices replicated relatively unchanged over the long term? How and when was the unquestioned nature of these practices brought to the surface, challenged, politicized and modified? And finally what do these specific moments tell us about the social world of the people who lived on the Taraco Peninsula?

We begin by presenting the archaeological sequence in the southern Titicaca Basin, drawing on recent research of the Taraco Archaeological Project, before briefly considering the role of tradition in recent archaeological scholarship of the region. We then turn to literature of social memory, examining the range of these memory-producing practices from the discursive forms of overtly communicative and symbolically invested conventions to the less discursive manifestations of daily practice, embodied knowledge and unconscious habits. Here we develop an archaeological approach to the dynamic sectors of Connerton's model, focusing on long-term and embodied social memory. After offering several modern examples, we turn to the implications of applying this concept of tradition archaeologically by examining the embodied practices of pottery production and food preparation and consumption during the Formative Period of the southern Titicaca Basin. Making pottery is a bodily practice, in which the subtle cultural choices in production are seen in changing paste recipes, firing patterns and surface finishes. Long-term stability in potting traditions represents close maintenance of a range of bodily practices. The process of food preparation and consumption is also embodied and highly routinized; it is truly the most common bodily and social act, being both discursive and non-discursive (or practical: Giddens 1984). Our diachronic study on the Taraco Peninsula tracks these practices as they reflect this discursive-nondiscursive continuum, with some practices brought to the surface and politicized at certain times and others not. This sequence informs how people intersected with their memories. We finish by examining the underlying practices of social memory operating within the changing commemorative role of ancestors and ceremonial space on the Taraco Peninsula during this important moment in the Lake Titicaca basin. Here we contribute to the strong scholarship within archaeology examining the inscription of social memory on prehistoric landscapes.

# Continuity, change, production and incorporation in the Titicaca Basin

The Taraco Peninsula sits in the Lake Titicaca Basin plateau at 3800 m asl. This is the largest mountain lake in South America (Fig. 1). For four thousand years the Titicaca Basin has been a place of social, economic and political dynamism. Research in both the North (Peruvian) and South (Bolivian) Basin of Lake Titicaca over the past 50 years has documented a densely occupied region beginning in the Formative Period. The Formative Period precedes Tiwanaku, one of the earliest large polities in South America. The Formative Period has recently received a significant amount of attention, greatly improving the local chronology. The Early (1500–900 BC), Middle (900–200 BC) and Late (200 BC-AD 475) Formative phases are characterized by shifts in pottery technology (Janusek 2002; 2003; Lemuz Aguirre 2001; Steadman 1999), the increasing control of plants and animals (Aldenderfer et al. 2007; Bruno 2008; Bruno & Whitehead 2003; Moore 2007; Whitehead 2007) as well as the early building of ceremonial gathering places (Beck 2004; Hastorf 2003; 2006; Janusek et al. 2002; Stanish 2003). Recently John Janusek has divided the Late Formative into two phases, Late Formative I (200 BC-AD 250) and Late Formative II (AD 250–475). The focus of our study is on the Middle Formative and these two Late Formative phases (Fig. 2).

The Taraco Archaeological Project (TAP) has been studying the Formative Period on the Taraco Peninsula since 1992 (Bandy 2001; Bandy & Hastorf 2007; Hastorf 1999; 2003; 2005), and has excavated at the sites of Chiripa, Kumi Kipa/Sonaji and Kala Uyuni (see Fig. 1). One of TAP's stated goals was uncovering domestic contexts. Domestic middens have been found at all sampled sites, but no undisturbed Formative domestic architecture has been identified. Chiripa was one of four centres on the Taraco Peninsula in the Early Formative phases (Bandy 2001). The archaeological evidence suggests that these communities flourished as independent but interacting entities. This conclusion derives from divergent artefact styles within an increasingly shared iconography (Bandy 2001; Stanish 2003; Steadman 1995; 2003). These communities built permanent architecture where supra-family groups could congregate. People from adjoining settlements periodically participated in gatherings in these spaces, eating together, and honouring the ancestors (Hastorf 2003; Roddick 2002).

During the Late Formative I times on the peninsula (200 BC-AD 250) agriculture, animal husbandry and trade intensified. Populations were drawn to

	HORIZONS OF SOUTH CENTRAL ANDES	SOUTHERN LAKE TITCACA BASIN	APPROXIMATE NUMBER OF GENERATIONS
	LATE HORIZON	INCA PACAJES	5 Generations
ad <b>1400</b> —	LATE INTERMEDIATE PERIOD	EARLY PACAJES	20 Generations
1000 —	. 205	TIWANAKU V	17 Generations
600 —	MIDDLE HORIZON	TIWANAKU IV	20 Generations
300 —	EARLY INTERMEDIATE	LATE FORMATIVE II (QEYA)	12 Generations
0 —	PERIOD	LATE FORMATIVE I (KALASSASSAYA)	20 Generations
200 — 500 —	EARLY HORIZON	MIDDLE FORMATIVE	30 Generations
1000 —	INITIAL PERIOD	EARLY FORMATIVE (MIDDLE CHIRIPA)	10 Generations
		EARLY FORMATIVE (EARLY CHIRIPA)	25 Generations
1500 BC —			

Figure 2. Lake Titicaca Basin chronology.

several central sites, such as Kala Uyuni, which gained demographic prominence in the region during this time (Bandy 2001). These centres maintained many of the practices of the earlier phases including constructing public architecture that stressed activities of procession, performance, and communality (Moore 1996). The shift to the later Late Formative phase has been difficult to define (see below), however at the end of the Formative Period, around AD 475, settlements are stylistically associated with the emerging centre, Tiwanaku, as seen in pottery styles, political practice and architectural space.

Tiwanaku potters displayed their political and/ or ethnic identities through complex iconographic systems (Janusek 1999). Tiwanaku residents used large ceramic ollas to ferment corn into beer (chicha), imported from the western valleys, which was then consumed in finely painted ceramic drinking cups (*geros*) (Hastorf *et al.* 2007). These public moments of commensality, also involving the consumption of vast amounts of meat and potatoes, occurred in both public plazas and more domestic spaces (Couture 2002, 209; Janusek 2003, 279). Stone-masons constructed large architectural complexes, elaborate enclosures, cut stone pathways, and stone representations of important personages (Couture 2002; Protzen & Nair 2000; 2002). One early sunken enclosure includes many stone tenoned heads, perhaps representing a collective mythic past (ancestors) that later became materialized in the carved monoliths of leaders at Tiwanaku (Arnold & Hastorf 2008; Couture 2002; Janusek 2006, 483; Ponce Sangines 1981). The materialization of the ancestors and their lineages within Tiwanaku's enclosures, suggests an increasing role for the dynamic and politicized local mytho-histories of communality across the region.

### Tradition making in the Lake Titicaca Basin

The practices that define the earlier Formative Periods could be discussed as independent traditions, punctuated by moments of social and technological change. For instance, Karen and Sergio Chávez bundled the sunken enclosures, carved monoliths with iconographic imagery and painted and specialized pottery of the greater Titicaca Basin into an inclusive package of ceremonialism named the 'Yayamama religious tradition' (Chávez 1988; Burger et al. 2000). This complex includes incense-burning ceramic braziers, tubes for ingesting powdered mind-altering plants, drink tumblers and mobile carved stone surreal images that seem to have been the materialization of supernatural powers. While the Chávezes did not significantly explore the social nature of this tradition, some researchers have since tried to map its occurrence through time and space, specifically tracking hallucinogenic use, stone carving, specialized ceremonial wares and sunken-court traditions (Cohen 2009; Hastorf 2003; Janusek 2006; Roddick 2002). Others have argued that the religious tradition was employed by emerging hierarchical elites to legitimize their rule (Bandy 2001; Beck 2004; Stanish 2003, 131–2). This parallels architectural interpretations elsewhere in the Andes where archaeologists have concentrated on the potential socio-political power that could be mobilized from a shared religious tradition (see, for example, the Kotosh Tradition and the Mito Tradition in Bonnier 1997 and Burger & Salazar-Burger 1980).

The interpretation of such an integrative religious tradition remains problematic. While there is certainly no question that the material practices of the Yayamama tradition co-occurred at some points in time and space, scholars have not attempted to explain the differential temporal changes within this bundle in association with other practices, let alone what they might have meant socially and politically. In fact the more Titicaca Basin scholars learn about the practices associated with Yayamama tradition, the more it appears that each trait had a different time line, entry into the Basin and distribution pattern. The broad assumptions of this tradition has led to an over simplification of the complex webs of social meanings that people negotiated in their paths of everyday life as well as in their ceremonial worlds. Furthermore the bundling of social, political and economic trajectories over the *longue durée* has resulted in the glossing over of some of the more subtle changes and continuities throughout the Formative Period that can inform us not only about lifeways but also about the values and meanings of these people.

One solution may be to consider the different rhythms associated with particular, local traditions at the scale of lived lives, or generations, along with the more typical archaeological phases (Fig. 2). This perspective places practices and changes in the hands of living, active agents. This approach embraces both the inscribing practices involved in discursive activities assumed to be at the core of the Yayamama tradition, as well as those embodied, incorporating practices such as motor skills involved in daily life. Here we build on recent work in social archaeology by harnessing some of the ideas of tradition and social memory. This literature may remind us how Connerton's embodied memories, and sometimes politicized discursive public social memories are central to a wide range of practices, enacted through time and over space. Specifically the social memory scholarship helps to elucidate the significance of the subtle changes in pottery, cuisine and architectural spaces that define the transitions from the Middle Formative through to early Tiwanaku periods. Before exploring the specific dynamics that became bundled within the Formative periods, we first examine the relationship between social memory and tradition considering the range of 'discursivities' involved in memory work. Furthermore, we suggest that the concept of tradition, familiar to most archaeologists, yet rarely developed theoretically, may serve as a useful axis to Connerton's well-used dichotomy of bodily and commemorative practices.

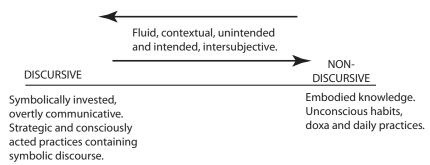
### Tradition: continuums and surfaces

In pursuit of problemitizing as well as exercising social memory, we focus on tradition as a useful entry into lived memory work (Nora 1989). We define tradition as learned and repeated practices that draw upon embodied knowledge, those constant moments of remembering and reenacting 'time-honored' ways of doing things (Bourdieu 1977; Pauketat 2001). In our usage, tradition encompasses both Connerton's inscribing practices, those used to sustain social memory over time, and those incorporating more personalized habitual practices. Tradition is the actualized practice of memory, that is to say it underscores the making of memory, not just the inheritance of one's past (Abercrombie 1998, 21). Traditions engage with both continuity and change, through an array of socio-cultural practices. Such habits and practices are especially visible to the archaeologist in artefactual change, where the processes of invention, emulation or appropriation are materialized. However, archaeologists also encounter tradition in other tempi of change, signalling habitual durability, a slowing of or resistance to innovation and even evidence for active strategies of maintenance. It is these moments of continuity, of cultural maintenance, that 'must be explained, not explained away' (Lightfoot 2001).

We suggest that through a consideration of tradition, the long-term material facet of social memory, archaeologists can contribute to the larger discussions of social memory. Archaeological work demonstrates that social memory is not simply a way of doing things or remembering things, but is constituted through material practice that leaves material traces. Material culture plays an essential, active role in this process. Social memory is not simply in one's head or even just in one's bodily practices, but it is also inscribed in objects, architecture and landscape. A consideration of social memory is also essential to archaeological investigations. People remember and forget selectively, and through this selectivity they create their history, identity and society (Fentress & Wickham 1992; Van Dyke 2009). Importantly, each person's acts reflect what they are paying attention to in what they remember and what they forget. With each 'new act', selective remembering and forgetting occur, producing a tangled and diverse memory path (Abercrombie 1998).

In order to highlight the continuities as well as the changes in traditions, it may be useful to consider a hypothetical continuum ranging between the discursive and the non-discursive. The discursive end of practice includes those performative, commemorative and semantic processes that actively and consciously draw

## A continuum of tradition-building practices



**Figure 3.** A discursive-non-discursive continuum. This continuum is only a heuristic; tradition-building practices shift along this whole continuum throughout a person's life. No one place along this continuum is the locus for our investigations, any person's life or archaeological investigations.

upon the long-term social memory of the group's past. In contrast, non-discursive practices include habitual, bodily practices that tend to be unconscious, or at least non-verbal, routinized and 'natural'. Figure 3 illustrates this continuum between the discursive and the non-discursive, between the proactive and the habitual.

In its most discursive form, tradition can be a field of symbolic conflict (Chamberlin 2006). It incorporates those moments of politically motivated change, as well as moments of seemingly ephemeral cultural change. Social memory can be at the heart of both large-scale societal changes, as well as (re)producing subaltern, local continuities. Social memory is often summoned to reorient and naturalize the rise of new authority applying 'invented traditions' through discursive actions (Hobsbawm & Ranger 1983; Van Dyke 2009) as recognized in historical meta-narratives (Arnold 1990). In such cases, new trajectories appear through the conscious harnessing of traditional practices, power structures and their associated material culture, building upon elements of long-lived traditions to redirect them. Such discursive forms are also embodied and at times visible. For example during the North American Revolution against the British in the eighteenth century, keeping ones fork in the right hand and knife in the left symbolized support for the revolution to others in taverns and pubs. This shift in bodily practice eventually dominated North American eating habits (Deetz pers. comm. 1990). These embodied traditions are with us today, even though the discursive engine that started this action has long since dissipated.

Collective memories are condensed and empowered through regular repetition, as with the

oral telling of myths such as the retelling of Paul Revere's ride and its role in the American revolution in primary schools in the US, or Martin Luther King's 'I have a dream' speech replayed on the radio annually charging pacifist movements across the US and the world (Fentress & Wickham 1992, 49). Andean scholars have recognized such memory work in the important role of the dead Inca leaders (in material form as mummy bundles) in late prehistoric and colonial politico-religious ceremonies, as they were curated and paraded around at important festival days (Salomon *et al.*1991). The use of song and dance in architectural settings helped recall the past glories of Inca battles at every renewal festival (Betanzos 1996; Niles 1999). This maintenance of tradition draws on emblematic memories, those frameworks of meaning that circulate in public domains and include recollections of evocative, even hegemonic past events to maintain and reform group identity. Steve Stern's study of post-Pinochet Chile clearly shows how personalized, but still collective, 'loose' memories can contradict the larger flows of emblematic memories during times of systemic change (Stern 2004, 104–7). Particularly evocative is his example of a military conscript whose resistance to the Pinochet violence is lost in the collective post-Pinochet Chilean memory work of the nation. He stresses that the making of emblematic memories is also about the making of silence (Stern 2004, 149; see also Trouillot 1995, 14–16). Stern is particularly persuasive in his argument that collective memory is an active historical and materialized process. Social memory can be projected onto the social body physically or geographically, lingering for years. The multiple

levels of social memory work that are reflected in this example are what Stern calls 'memory knots', which 'project memory and polemics about memory into public space or imagination' (Stern 2004, 121). The physicality of this type of memory work is particularly attractive to archaeologists as it allows us to seek visible practices along different scales (see below).

While these issues of memory dance around intentionality (and therefore discursiveness), it is not our intention to suggest a simple correspondence between emblematic memory and intention. The past is a complex interweaving of a range of intentions and agencies (David 2004). The effects of any given moment may have a series of unintended consequences over the long term (Hastorf 2003; Joyce 2004; Pauketat 2000). This is a particularly important point when it comes to considering intentionality and memory work. As Bradley notes (2003, 225), many archaeological considerations of social memory are too focused upon processes of legitimization rather than their meaning or value. This frequently employed perspective prioritizes the elite as knowledgeable ambitious actors crafting the future for all, resulting in a narrow view of prehistoric uses of the past and an overemphasis on privileged access to action in economic and political-institutional evolution.

Our use of tradition stresses that human experience influences all possible futures, as historic and prehistoric practices were embedded in the tempo of daily routines lived over many generations. These practices sometimes changed purposefully, but they also shifted subtly through individual slippage and routinized, non-discursive actions (Butler 1993). These low-order traditions, usually unquestioned categories of cultural knowledge, are pervasive and ever active (Pauketat 2001; Giddens 1984). Traditions might be unconscious and non-discursive, but they are potent elements of social identity and in certain moments can become extremely discursive. Such traditions are also the font of invention, emulation and appropriation, ever ready to be harnessed and reformulated in new circumstances. As seen in the case of the use of cutlery mentioned above this action was enacted in the domestic sphere as much as it was projected into public spaces as 'memory knots' of revolutionary action. Before returning to the Formative Periods leading up to Tiwanaku in the Lake Titicaca Basin, it is worthwhile to briefly illustrate the relationship between public and domestic social memories and the levels of 'discursivities' in a well-known North American example, to demonstrate the materiality of commemoration, inscription and incorporation in the construction of a well-known tradition.

### Thanksgiving: a modern tradition

The national holiday of Thanksgiving is an annual event embedded in North American culture that appears to some as a timeless familial ritual. US families reunite to undergo an important re-enactment of a national mythic-history involving historical and spiritual ancestors (the pilgrims) as well as kin-based ancestors (grandparents). Siskind (1992), who has investigated the nature of Thanksgiving and the creation of this invented tradition piece by piece over a 300-year period, suggests the holiday only became relevant to US collective memory in the late nineteenth and early twentieth centuries. While the feasting tradition may be based on early Native American harvest festivals, the idea of Thanksgiving is in fact associated with political manoeuvres by American leaders during and after times of conflict, including the defeat of Native Americans (the Pequot in 1637 and the Wampaneogs in 1676) and the defeat of the Southern states during the civil war. It was only in the mid 1800s when Native American land had been captured and their future 'thought to be annihilated' that Anglo-America began to look back to an idealized past and the myth of congenial pilgrim — Native American relations could be reenacted (Siskind 1992, 182). Sometime during the mid twentieth century Thanksgiving became what we recognize today, with its rich array of codified, emblematic food traditions.

Thanksgiving is further characterized by the subtle tradition-making on the scale of lived lives. Here we see emblematic memories and inscribed practices in direct contact, indeed in a dialectical relationship, with incorporating practices and low-order traditions. Personal lore and experiences become a 'loose memory' (Stern 2004, 106) and include the part of Thanksgiving that focuses on homecoming and individual family traditions (Siskind 1992, 176), as well as on the reaffirmation of gender roles and family hierarchies (Siskind 1992, 185). Reenacting Grandma's preparations in the kitchen, finding the ingredients, following the same recipes, presenting food on the same or similar dishes; these acts all contain both conscious and unconscious actions, created through repetitive, meaningful practice recalled from the past. Such traditions can create and reinforce a sense of community and continuity over many years, and are just as central to the celebration of Thanksgiving as those emblematic memories of common public discourse.

The *low-order* traditions seen in Thanksgiving snap into consciousness when cultural difference is encountered. This may be experienced, for example,

when a new member of the family wants to learn a traditional recipe, or more radically, wants to substitute their own recipe for a familial one. In such moments, the sense of community and shared practices brings the non-discursive aspects of tradition to the surface, compelling those in the kitchen to reassess their sense of place in this new setting. This scenario can easily be considered as a community of practice, a term Jean Lave and Elliot Wenger (1991) developed for participation involving continuous learning and identity formation. Those on the periphery of such communities of practice learn both discursively and non-discursively; our neophyte Thanksgiving cooks actively adopt the normative practices through annual participation (Lave & Wenger 1991; Sassaman & Rudolphi 2001). It is a melding of active participation and learning that forms the basis of traditions. Moreover, there may be low-level conflict or disagreement within our holiday kitchen, especially evident in the moments where such habits are questioned. Nevertheless, this example shows that tradition making is about the nexus of inscribed emblematic memories and incorporating practices, and how they constitute a greater social memory.

# Traditions and social memory on the Taraco Peninsula

Archaeological memory studies are most effective from a diachronic perspective. By identifying the shifting materialities and their associations with discursive and non-discursive actions along this continuum over time, we can begin to define if and when particular bodily practices were brought to the surface in the past. It is the potency of these practices as they fluctuate along this tradition continuum that we find particularly intriguing, compelling us to change how we study social continuity and change. Archaeologists and ethnoarchaeologists have studied memory and tradition in a number of ways, focusing on both discursive and non-discursive facets in both public and domestic spheres as well as the different jobs each concept offers us (Van Dyke 2009). These explorations have been especially well developed in studies of monuments (Bender 1998; Bradley 2002; Gillespie 2008), the scholarship of craft production (Bowser 2000; Dietler & Herbich 1994; 1998; Hardin & Mills 2000; Rowlands 1993; Sillar 2000; van der Leeuw 1993), food presentation (Lev-Tov 1998; Vroom 2000), and burials (Parker Pearson 1999; Hendon 2000). We now return to the Taraco Peninsula Bolivia, positioning our research within the larger context of archaeological work on memory, and take a diachronic

perspective looking at craft production, food production, architecture and burial practices. We focus on these four embodied practices as tradition forming historical processes, giving equal attention to both long continuities and moments of change. We re-orient our understanding of Formative Period traditions by employing our adapted version of Connerton's incorporating and inscribing practices, considering social practices along a discursive/non-discursive continuum.

### Pottery production

A consideration of craft production may be one way to re-embed lived lives within the long-term continuities of the Titicaca Basin. Archaeologists have considered the implications of potting in terms of both long-term traditions and short-term embodied practices. As Dobres suggests, it is the

being-in-the-world awareness, reflexivity, and knowledge that is learned and mediated through a technician's corporeal engagement with material things in social settings [that] makes mundane technical activities relevant to, and indeed the shaper of, larger cultural phenomena (Dobres 2000, 138).

What makes craft production a particularly useful low-order tradition is that anthropologists can track the variability of bodily actions across space and time, and in that, their variability in discursive teaching and non-discursive production slippage. The automatization of some motor skills are seen and learned throughout any particular group of practitioners. The learning of motor-habits, including aspects such as posture, gestural movements, handedness and muscle memory are particularly resistant to change. Any automatic, motor-skill-dependent attributes of a given artefact will be more conservative than other more flexible attributes (Minar 1999; 2001; see also Nicklin 1971; Dobres 2000). This is because craft producers often work in regular ways, to ensure success or to establish a rhythm and momentum within a repeated successful sequence (Hagstrum 1985, 69). Research has shown that culturally patterned muscular habits are the most difficult part of learning and are most effective in infancy: motor habit patterns for pottery production may take at least a generation to change (Arnold 1998, 357–8). Therefore change in craft production may be activated by a cultural openness to innovation or to other new configurations of learning, new producers, shifting social identities or new connections (and thus embodied memories) between particular communities of practice (Dobres 2000; Gosselain 1998; Lave & Wenger 1991; Stark 1999).

## MIDDLE FORMATIVE LATE FORMATIVE sand and grass primarily sand or temper added ash temper added thicker walls thinner walls exterior wiped or complete burnish burnished and exterior and interior interior wiped red banding geometric or zonally slipped decoration incised decoration

**Figure 4.** Some technological choices in Middle and Late Formative ceramic production (drawing: Kathryn Killackey).

It appears that Formative Period ceramic production on the Taraco Peninsula was a non-discursive tradition, learned in such a way that only subtle shifts in bodily practices occurred over the course of 1000 years (Roddick 2009). This remarkable routinized stability within the pottery production sequence is one reason why temporal divisions within the Formative Period have been so difficult to identify. While some material shifts in the ceramic production from the Late Formative to the Middle Horizon are evident (the introduction of a relatively standardized high-fired assemblage, a dramatic increase in form variability, an increasingly complex iconographic system and evidence for specialized pottery production sites), changes in pottery production within the Formative seems to have occurred in a slower, more subtle manner over the course of many generations at the attribute level. In fact, we see only one substantial technological shift in pottery manufacture during this time span, which now serves as the temporal marker defining the Middle to Late Formative Period transition and therefore also a notable moment in the materiality of tradition.

As no actual Formative Period pottery production locales have been recovered yet in the peninsula sites (Roddick 2009; Roddick *et al.* 2006), TAP ceramicists track production through variation in particular ceramic attributes (Steadman 1995). From our detailed research we know that during the Middle Formative phase, potters living in and near the settlements of Chiripa and Kala Uyuni used fiber-tempered pastes, often with large opaque quartz inclusions, producing highly burnished serving vessels with simple geometric patterns. These vessels tend to be thick-walled, with distinctive vessel forms, painted decoration and a stucco surface on the exterior portion of the cooking vessels (Steadman 1995; 2007).

We define the end of the Middle Formative, around 200 BC, based on three distinct shifts in ceramic production: surface finish, decorative treatment and paste recipes (Fig. 4). Small stylistic shifts continue, albeit at different rhythms, through the Late Formative I and II phases. First, Taraco Peninsula potters began changing their surface finishing routine. Potters stopped the labour-intensive full-coverage surface

burnishing so characteristic of the Middle Formative Period, and began to wipe the surface of most of their vessels, a quicker technique to be sure. Steadman (2007, 75) found that 42 per cent of all excavated Middle Formative ceramics have a complete surface burnish (inside and out) with only per cent wiped or smoothed. In the Late Formative I assemblage however, the first author has found both surfaces burnished on only 9 per cent of the sherds, whereas 38 per cent were either wiped or smoothed. These surface finishes appear to continue throughout both Late Formative phases.

The second change is in the nature of the decorated ceramic assemblage. The geometric cream-onred motifs so often found on Middle Formative bowls abruptly disappear around 100 BC, to be replaced by a simple red band on an unslipped surface throughout new bowl forms and some small-necked jars. These less elaborate designs are perhaps replicating the striking visual banding seen at some of the clay sources in the Taraco hills, where it is hypothesized the clays and tempers were accessed (Bandy 2001; Roddick 2006; 2008). This adoption suggests that these banded vessels were produced locally, an idea supported by the fact that Taraco sites have much higher densities of these decorated ceramics than elsewhere in the Titicaca Basin (Janusek 2003; Roddick 2008). The differential distribution of these decorated pots, which some rely upon in local seriations, has made phasing of surface ceramics difficult. Additionally, by the Late Formative II phase, various potters of the southern Titicaca Basin began to experiment with iconography, as small quantities of both local and non-local decorated polychrome vessels began to appear.

Third, and finally, paste recipes changed over time. These shifts are being used by TAP to work out a tighter seriation across entire assemblages. At the beginning of the Late Formative period we see ceramics with the large opaque quartz inclusions abruptly disappear (Steadman 2007). Several other important earlier paste groups also are no longer employed in ceramic paste recipes. Paste recipes, in fact, are the best evidence to track changes within both Late Formative phases. Throughout both phases the ratio of mineral pastes increased as potters gradually chose to skip fiber-tempering their pastes. In the Late Formative I, these mineral pastes include a number of highly micaceous recipes, chock full of biotite and muscovite along with weathered quartz and plagioclase feldspars. While earlier, Middle Formative phases included micaceous pastes, they were never found in this density; in some later cases these mica-rich recipes are so packed with mica that the entire surface of the sherd glitters. These shifts in paste proportions

has most clearly defined the Late Formative Period ceramically (Roddick *et al.* 2006; Steadman 2007).<sup>2</sup> By the Late Formative II phase and into the Tiwanaku periods these highly micaceous pastes become less important with other mineral pastes becoming predominant (Roddick *et al.* 2006; Steadman 2007).

These new pastes and associated higher firing temperatures produced a thinner ceramic vessel. It is unclear at this stage in our analysis whether consumer preferences drove this shift in production or whether these choices emanated from the producers' aesthetic interests and skillful practice. From a production standpoint, Steadman (2007) suggests that these new Late Formative production attributes would have facilitated more rapid ceramic production. Such an argument would suggest that pottery could have been produced more frequently and potentially for wider distribution. Certainly there are reasons to consider a model of economic efficiency or other functional models; the properties of mica (durability, great mechanical strength, thermally stable, chemically inert, and plate slippage which prevents crack propagation) make these new ceramics better suited for direct heat boiling. However there are other possible reasons for such a change. Rather than simply signalling a suite of mechanical and technical strategies, perhaps these shifts also represented the surfacing of new bodily practices. For example the shine of the mica might have become highly valued, more so than the burnishing on earlier pots. As Dobres suggests,

it is necessary to ask why a certain set of material attributes studied ... are relevant to mainly non-discursive social practices and the embodiment and negotiation of personhood and communal affiliation in the productive arena, and the answer cannot simply be because such attributes are measurable and time-honored. (Dobres 2000, 170).

The gradual shift in surface finish from intense burnishing to a quick wipe with mica flakes may be associated with a new interest in productivity, however this shift could also be linked to a shift in the learning processes within particular communities of practice (Lave & Wenger 1991; Roddick 2009). Titicaca Basin scholars have argued that the Late Formative is a time of increasing social and political integration, perhaps through ritual practice and increasingly important religious ceremony (see below). Much like the process of Thanksgiving discussed above, it may be that as new potters or pots integrated into families and settlements on the Taraco Peninsula (through fictive kin, marriage, migration or trade), unquestioned habits and low-order traditions were brought to the surface and catalyzed innovations in the production

sequence at this time, shifting unquestioned habits to the discursive end of the continuum.

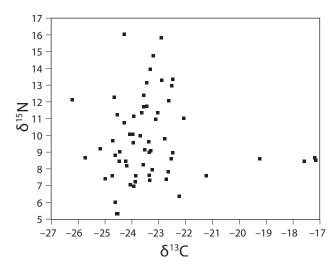
To sum up the ceramic tradition evidence, the shift from the Middle to the Late Formative is defined by changes in bodily practice affecting paste recipes, surface finish and decoration. These changes were probably not unconscious changes over the course of several generations. Rather, they could have occurred within one producer's lifetime, with such discursive moments affecting significant components of the operational sequence. As will be seen below these shifts, which also include the introduction of several new forms, may have been linked to changes in cooking and serving interests and traditions within arenas of familial and community-wide consumption. Throughout the Late Formative, however, the shifts in ceramic production are primarily restricted to subtle changes in paste recipes over several generations. These shifts suggest neither significant questioning of technological choices in the potting sequence nor a dramatic innovation in ceramic production as was more clearly experienced at the onset of the Tiwanaku polity in the later potting tradition.<sup>3</sup> Rather, to put it in the language of social memory, the shifts evident in the production of the Taraco Peninsula's Late Formative pottery reflect changes in the potters 'incorporating practices' (Connerton 1989, 101) and the maintenance of a low-order production tradition. The steady production sequence and styles evident throughout the Late Formative phases suggest that each technological choice in the potters' habits precipitated an appropriate successor without an alternative appearing to offer itself and without reference to the conscious will.

### Food consumption

Food, while rarely studied in terms of memory in archaeology, also provides evidence for discursive and non-discursive practices. Some recipes are maintained over centuries, such as garum, the core fish sauce of the Roman Empire, made in many different Mediterranean port cities, always with the same ingredients. Whereas other recipes are constantly changing, as seen in a quick study of the Joy of Cooking, say for salads. Irma Rombauer and her gang consciously altered common recipes as they sensed the nation's tastes changing (Rombauer & Becker 1967). This is also illustrated in the tensions of Thanksgiving mentioned earlier. Food being core to most social gatherings, its production, presentation and consumption recursively implies familiar meal memories of earlier festivities that allows the re-connection of people to the other participants and places, with all the senses that are

stimulated in a meal (Sutton 2001). Joanita Vroom provides a nice example of shifting incorporated practices in local Greek meals as various conquerors rolled over northern Greek landscape (Vroom 2000). Through historic documents and artefacts, she charts how the family meal shifted from Byzantine communal lentil eating with fingers off of a central tray, to Frankish individual dishes and more elaborate serving vessels for the meaty stews. Then after one more conquest by Islamic forces, she finds evidence for Islamic-style communal eating again, with spoons and hands and central ceramics. In this historic example we see how food-presentation traditions reflect the major political and social influences within the household.

Shifts in food consumption may also be hinted at in the Late Formative ceramic data. The relative frequencies of vessel types shift considerably through this Middle-Late Formative sequence. The Taraco Archaeological Project has found bowls to be the most commonly occurring form, suggesting that liquid processing and consumption was a high priority with these residents. What was being prepared and presented is still not fully identified, but the most likely recipes would be a tuber-based fish or meat soup and chicha de quinoa (Chenopodium grain processed into a fermented beverage). Bowl fragments are found in approximately 20 per cent of the Middle Formative contexts and over 50 per cent of the Late Formative contexts. While bowls become more common, in general they decrease in size from an average of 21 cm in diameter in the Late Middle Formative (Steadman 2007, 80) to an average of 17 cm in diameter for the Late Formative Period. The largest bowl of the Late Formative measures around 25 cm in diameter, much smaller than the decorated 40 cm diameter bowls found in Middle Formative contexts (Steadman 2002). Additionally, we have found numerous small bowls under 10 cm in diameter throughout the Late Formative period, a new small size not found in Middle Formative phases. This new, smaller size suggests either an increased interest in individual serving and drinking, perhaps as a component of a shift in consumption choice (beer instead of soup), or a change in how liquid was served at communal events, perhaps more people served at once rather than one vessel being passed around (Steadman & Hastorf 2001; Steadman 2007). This drinking focus continues throughout these four hundred years as additional, new drinking vessel shapes are added throughout Late Formative, suggesting even more diversity of communal drinking practices over time (Roddick et al. 2006; Roddick 2009). These changes in drinking practices are associated with a number of



**Figure 5.** Stable carbon and nitrogen isotope data from Formative ceramic cooking vessels. Note the majority of the cooking vessels held C<sup>3</sup> plants and animals that ate C<sup>3</sup> plants, except the few that have hints of C<sup>4</sup> (maize) to the right (courtesy of Melanie Miller).

other changes in consumption activities.

Food consumption occurred within domestic and public settings (Hastorf 1999; 2003). In both contexts we have recovered remains of camelids, deer, fish and eggs, along with potatoes and quinoa. Isotopic analysis of these species was conducted to calibrate their relative quantities within cooked ceramic contents and human teeth (Miller 2005; Miller et al. 2008). The unique stable carbon and nitrogen isotope values for plants and animals were used to determine the food content of dishes and long-term dietary trends. These data suggest a steady use of these staple food ingredients throughout the Formative Period. It appears that there were few great shifts in diet. However in public spaces over time there were lower quantities of fish accompanied by higher quantities of camelid meat prepared (Capriles 2006; Moore pers. comm. 2007; discussed below). The Late Formative ceremonial contexts exhibit the greatest amount of camelid consumption of all studied contexts and phases. The larger presentation vessels, more often recovered from public contexts, have much higher protein contents than the smaller serving wares found more commonly in domestic middens (Miller 2005).

Maize, a highly charged foreign food first appears in very low quantities in Late Middle Formative contexts on the Taraco Peninsula (Bruno 2008; Logan 2006). Maize phytoliths and starch grains have been identified on several grinding stones unearthed in two Chiripa ceremonial enclosures (Logan 2006).

Early maize cooking can also be inferred from the patterning of over two hundred carbon and nitrogen stable isotopic values recovered from encrustations in Middle Formative cooking vessels (maize can be inferred in the three points located on the right side of the graph in Figure 5: Miller 2005). All local domestic animals and plants in the basin fall within the  $C^3$  cycle, meat protein is registered higher along the nitrogen (y) axis and maize is a C<sup>4</sup> plant, plotted on the right along the carbon (x) axis. These data introduce several new questions: How much symbolic capital accompanied this warm valley plant into the altiplano? As a foreign exotic good, did its consumption link people to other places, peoples or times? Did it enter first as a beverage additive, brought in as an exotic drink ingredient at local festivities? Such foreign goods, like these plants and new bowl forms suggest certain practices were being introduced together, while old habitual practices may have been brought to the surface, made discursive and perhaps politicized during the Late Formative Period. As we saw in our Thanksgiving case, food and drink are an ideal meeting place of lower-order traditions and emblematic memory practice, where the learned and repeated mundane can be re-contextualized through ritual.

As a multi-sensory experience, every meal invoked memories. The symbolic power of new recipes, tastes, and styles of presentation made with exotic ingredients cannot be overstated. The long history of maize's ritual significance in South America, and in particular the role of maize beer (chicha) in commemorative practices is found throughout the Andean ethnographic and ethnohistoric literature, and iconographic depictions within the post-Formative Period archaeological record point towards its antiquity. It is, however, best recorded for the Inca (Hastorf 1994; Hastorf & Johannessen 1991; Moore 1989; Murra 1960, where relationship between chicha, memory and ancestors or kin was clearly evoked:

Shared in events of communion with the gods and ancestors and simultaneously with other persons with whom the offering established or reaffirmed social ties, drinks were given significance by words of dedication to ancestors and gods who themselves, as the defining focal points of social groups like lineages, gave meaning to the human relationships so forged or reaffirmed. A long sequence of libations poured from queros, such as those carried out during virtually all events ... was therefore a means for imbibing the past into the bodies and memories of the libators. (Abercrombie 1998,185)

It is tempting to see such memory work at Tiwanaku, where recent research suggests the more regular use

of foreign maize in ritual communal drinking in both public and domestic settings (Janusek 2003; Wright et al. 2003). The example of maize beer drinking rituals at Tiwanaku illustrates how a non-discursive event from Moquegua, where maize was grown (Goldstein 2003) became a discursive emblematic ceremony, seen in the smashed beer vessel gero deposit at the base of the major Akapana mound (Alconini Mujica 1995). Certainly the earlier arrival of maize on the Taraco Peninsula suggests a decisive moment in the nature of communal consumption, an index of more intensive gastro-politics that escalates during the later Tiwanaku periods (Appadurai 1981). It is possible that such goods and new consumption patterns may have been associated with the invention of new traditions, the circulation of new frameworks of meanings, and the maintenance of diverse social memories (Hastorf 2003). Maize may have been one small, if important, component of an emerging memory knot at sites in the Titicaca Basin.

In summary, these Middle-Late Formative changes in food and pottery suggest a series of both non-discursive and discursive historical processes. The material evidence suggests that food presentation and consumption continued in a fairly consistent fashion throughout the Formative phases. Yet the subtle material shifts evident in some of the socially binding food practices hints at a focus and value on communal drinking, as seen in the increased diversity in bowl forms. This shift may have catalysed producers to enhance their product, drawing on wider decorative styles, and encouraged the introduction of foreign ingredients, hybridizing a new event. As these meals became more public, and perhaps more standardized across the Titicaca basin, they were recursively citing familiar meal memories of earlier festivities to re-connect people to these centres, to each other and to their ancestors (Sutton 2001).

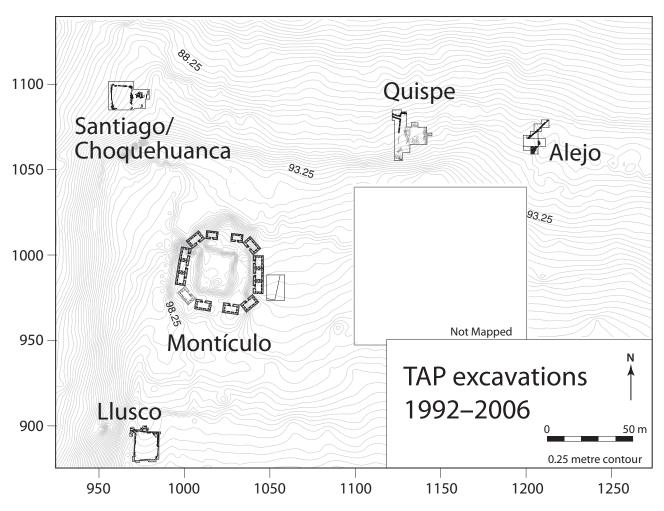
### Place and ancestors: architectural and burial evidence

Thus far we have seen the loose, non-discursive traditions of ceramic production, and its potential slight shift in 'discursivity' at the end of the Late Formative. Similarly, we saw that much food production was habitual, but may have also been employed in wider emblematic use, in sensorous, specialized moments of feasting. Emblematic memories, those widely shared, sometimes accepted (although also undoubtedly contested) social memories, are most often studied archaeologically through architectural traditions (Alcock 2003). Timothy Pauketat and Susan Alt's investigations in the Mississippian area of the US

Southeast are a good example of how this memory work is more than simply reflections of elites power on the landscape. Their research investigates why earthen mounds were built across this region. Rather than seeing these mounds as the materialization of belief systems or as reinforcing ideology and elevating elites above commoners, they see them as 'an inscription of social memory in space' (Pauketat & Alt 2003, 161), similar to Stern's memory knots. By carefully studying the temporality of the mounds and specifically the differing construction sequences recorded at Cahokia, they suggest that a range of different types of memory work was occurring at these locales. Furthermore, they suggest that the mounds were the result of dynamic traditions, involving long-lived as well as contested histories: 'Mounds were features of living landscapes, observed by all, recollected differently by many, liable to be co-opted and intruded as statements of inclusion or hegemony' (Pauketat & Alt 2003, 171).

Ancestors are also an important part of the discursive materialization of memory. For instance, Ann Stahl's recent summary of ethnographic work in Ghana notes that while ancestors are not located at specific locations, they may reside briefly in locations where material offerings are gathered (Stahl 2008, 167). In contrast, Axel Nielsen (2008) demonstrates the connection of place and ancestors in the Andes. He takes a long-term perspective on the role of ancestors in commemorative memory work in the Lipez area of Bolivia. He notes the campaign of forgetting forged by both the Incas and the Spanish in the destruction of the region's burial towers. These parallel campaigns of memory work serve as examples of the destructive processes within discursive memory work. Nielsen points out, that the political attempts to re-define memory knots were not entirely 'successful', and still provide power that connects with the ancestral past (Nielsen 2008, 228-9). Nielsen's example shows how the memory work of place-making is connected to both architectural construction and burial practices in many parts of the Andes, and appears to resonate with practices on the Taraco Peninsula.

Known Formative Period architecture on the Taraco Peninsula is characterized by sunken enclosures, enclosed plazas and terraced mounds. This public ceremonial architecture is defined by a sequence of increasing elaboration and segmentation, accompanied by long-term maintenance and renovation. This steady care and renewal is often ignored in discussions of early architecture in the Titicaca Basin but it is of significance as it speaks to the notion of memory, practice and the dynamic process of 'place-making'. We only discuss two sites



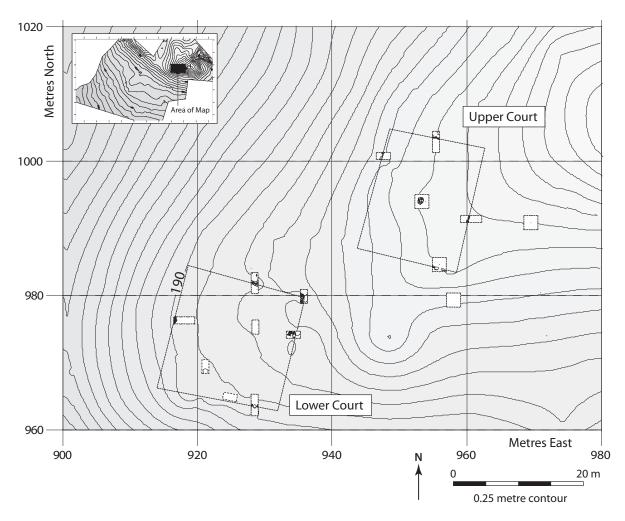
**Figure 6.** Site plan of the excavated architecture at Chiripa. (Drawn by William Whitehead as part of the TAP project.)

here (Chiripa and Kala Uyuni) and focus on their ceremonial enclosures, but a high density of settlements defines the Formative Period on the Taraco Peninsula. Similar public architectural components, surrounded by less-substantial domestic areas, are present at their neighbouring settlements (Bandy 2001; Beck 2004). While these structures are by no means monumental in the modern sense, they are significant in fairly clear inscribing of social memory. It is important to note that these sites are sometimes quite visible on the long-occupied landscape, suggesting that while the meanings of these buildings were ever changing, their roles in community traditions were ever present.

Beginning at Chiripa in the early Middle Formative, supra-familial, inclusive, community gatherings took place in plaster-floored enclosures, large enough to include about 100 people (at Santiago and at the side of the Monticulo; Fig. 6). Some generations later, after these initial walled enclosures had held many

gatherings, the Chiripa inhabitants built a series of sunken enclosures, each suitable to hold about 50 people (Choquehuanca, Llusco and Quispe; Fig. 6). The specialized artefact assemblages associated with these structures suggest the housed periodic ceremonial performances, including musical processions, incense burning, drinking, eating and snuff taking. One enclosure has a niche where special objects would have been curated, the heirlooms of ancestral lineages, which were the basis of Formative Taraco Peninsula ceremonial practices (Hendon 2000).<sup>4</sup>

Later at Chiripa a series of small rooms were built around a plaza. This complex was renewed through burning, plastering, and rebuilding at least two complete cycles. Eventually this set of encircling structures formed a stepped platform (Monticulo; Fig. 6). The plastered, decorated chambers had niches and small ante-chambers where bodies, food and objects were likely curated (Hastorf 2003; Mohr Chávez



**Figure 7.** Site plan of Middle Formative ceremonial architecture at Kala Uyuni.

1988). These small private settings allowed for dark, intimate encounters with the ancestors. We suggest that these structures served as memory chains (Jones 2007), re-affirming the place of ancestors within Chiripa society. While upwards of 100 people could have processed into the central, sunken plaza, only very few individuals could have entered the smaller chambers to encounter the ancestors curated and buried within. This long-term keeping, reusing and remembering generations of important lineages on the mound resonates with Hendon's (2000) discussion of the materialization of memory through social storage and heirloom use. Such active participation of the ancestors continues in the Lake Titicaca Basin at the sites of Pukara and, later on, Tiwanaku, where rooms had niches in which carved stone heads as well as human skeletons were stored.

These Chiripa chambers were burnt around 250 BC, bringing an end to this sequence of chamber con-

struction. At this point the circle where the structures had been was filled in and surfaced with yellow-orange clay, renewed over three times. This new version of a more inclusive ceremonial space brought the separate families back together into a more communal ceremonial setting. This ebbing and flowing of inclusivity and exclusivity defines the shifting dynamics of public space that shaped Taraco Peninsula communal societies throughout this first millennium of settled life. This same inclusivity renewed in sequential reconstruction is further evident at the two Middle Formative sunken enclosures located on the hillside of Kala Uyuni (Fig. 7).

The two enclosures while relatively clean of artefacts, had a surprisingly high percentage of extra large Middle Formative bowls (40 per cent of all bowls), with a highly burnished slipped surface (Steadman 2007, 80). Surrounding these enclosures were contemporaneous middens, filled with organ-

ics and ash thought to be associated with large feasts (Cohen & Roddick 2007; Steadman 2002.) One of these enclosures also held an unadorned stone monolith at the centre of its space, like the carved stone monoliths seen in other sites of the Yayamama Tradition. The other enclosure included a burial of an individual, laying stretched out on the surface of the court floor, suggesting a ceremonial offering. While with different manifestations Chiripa and Kala Uyuni both have evidence for collective experiences that conferred communal, emblematic social memories to the participants.

Large, supra-community groups would have gathered in these ceremonial spaces, after being channelled through the narrow entrances. During the ceremonies, participants reaffirmed their community through shared viewing, consumption, and involvement, renewing their commitment to the larger group (Brück 1998). The gatherings almost surely called upon the ancestors to help unite the participants, forming a shared memory and a tradition framework for community cohesion that lingered after they left these enclosures (Kuijt 1996, 315). We propose that these are the contexts where memory was most actively and discursively created, re-created and debated on the Peninsula, through the embodied ritual practices that were made manifest in the architecture. The activities linked to these places would replenish people's memories over the rest of the year as well, through their placement and visibility on the landscape, helping recall their well-remembered, commemorative social storage of the ancestors.

In the later part of this Formative sequence we again find small rooms surrounding an open space at the site of Kala Uyuni, resurrecting the sense of lineage houses, citing individual sub-groups within the larger community. These structures suggest segmentation, commemoration and inscription of a more secretive incorporating ritual, materialized in a series of small stone buildings around a plaza (Hastorf *et al.* 2007).

Throughout the Formative sequence, these ritual spaces held ancestral imagery. The enclosed spaces contained carved images that initially represented fecund spirits, gradually shifting to ancestors and finally at Tiwanaku to political-ceremonial leaders. This escalating materialization of memory can be viewed in the stoneworkers' innovations, from the swirling Middle Formative monoliths in the sunken enclosures at Kala Uyuni and Chiripa to the carved heads in the Late Formative sunken enclosure at Tiwanaku. These tenoned heads in a sunken enclosure may be a form of memory knot, an effort to project a collective mythic past by evoking community ances-

tors (Arnold & Hastorf 2008; Couture 2002; Janusek 2006, 483; Ponce Sangines 1981). The materialization of the ancestors, and perhaps community lineages within Tiwanaku's enclosure, suggests an increasing politicization of local mytho-histories, and the powerful work of emblematic memories in early Tiwanaku state formation. While these images were not always activated in a discursive kinship reformulation, a nondiscursive sense of community was generated simply by viewing or walking by the enclosure going about daily tasks. While there can be said to be a common effort to construct 'memory knots' throughout the Titicaca Basin, the practices themselves seen materially in the archaeological record show local diversities; settlements around the Basin utilized these potent images and architectural principles differently, harkening back to earlier local histories, while also resonating on broader vistas of connection.

### Tradition, memory and a complex past

In a recent critique of social-memory studies in Anthropology, David Berliner warns that many recent studies concerning memory use the term almost synonymously with 'culture': 'My impression here is that, by a dangerous act of expansion, memory gradually becomes everything which is transmitted across generations, everything stored in culture, "almost indistinguishable" then from the concept of culture itself.' (Berliner 2005, 203). Some may accuse us of such misuse. We have attempted, however, to present the advantages of focusing on social memory by dissecting this broad usage with a variety of more specific concepts and material expressions that separates it from the construct of tradition. Social memory is both broad and narrow; it is situated within the local, cultural, and historical contingencies of the multiple ways in which people interact with and deploy their past.

Social memory allows for an examination of multiplicity, continuity and change while acknowledging the powerful dynamics of the local historical context. It is found archaeologically in the traces of bodily practice, deposition and also inscribed on the landscape. We have offered a variety of examples of such deployments of memory, beginning with a brief discussion of Thanksgiving from the perspective of emblematic and lived (or 'loose') memory and bodily practices. Clearly we see memory as an integral operative in a range of social practices, including the conventional understandings of culture itself, the core of Berliner's critique. However, Berliner also points out that the success of memory studies is due to its efficiency in both examining continuity as an active

process in addition to acknowledging the historical dimension of culture. He suggests that 'memory helps us to think through the continuity and persistence of representations, practices, emotions, and institutions, an idea fundamental to anthropologists since the founding of the discipline' (Berliner 2005, 205). Put simply, social memory, in all of its forms, helps bring about change *and* continuity, and therefore can help us investigate either or both trajectories in the past.

In this article we began with the work of Paul Connerton, an influential figure in work on social memory, specifically examining the materialization of social memory through tradition. We approached Connerton's dichotomy of social memory aware that social engagement with material culture inevitably straddles and works beyond these two types. There are many moments when the distinction between inscribing and incorporating practices blur. For instance, pottery production and use certainly is an incorporating practice, involving habitual actions. But potters do not work alone, rather they work in communities of practitioners, in some cases discursively innovating or maintaining particular ways of doing. As Pauketat (2001, 8) points out, tradition can hold the knowledge and inscribed memory the proper bodily practice, and as such these may be enmeshed within moments of strategic purpose.

We have adopted Connerton's dichotomy, but also have drawn on three other approaches to expand on his framework. First, we argue that entering these studies may be useful through a discursivenon-discursive continuum, whereby we seek evidence when particular practices 'surface' in heterodoxic moments. Second, we have found that ideas from the social memory literature, in particular Stern's ideas of emblematic memories and memory knots, are of potential use in tracking archaeological material. Finally, we have found great inspiration in the ongoing work in archaeology focusing on memory and tradition, specifically considering the importance of 'lowlevel traditions'. We believe a hybrid approach may be useful to archaeologists who trace the inscribed results of long-term incorporating practices on prehistoric and historic landscapes, and can work as a general reminder to wider scholars that social memory is constituted through material practice that leaves material traces whilst it ties to lived memories. It is from this perspective, and with the hope of 'recovering tradition' from its inert status in earlier archaeological meta-narratives that we have begun to reconsider our archaeological data from Formative Period sites on the Taraco Peninsula through a more active lens of memory work (Jones 2007; Mills & Walker 2008).

The Formative Period is often defined by long periods of stability, punctuated by moments of change and re-configuration. Throughout this Formative sequence, we certainly do see the maintenance of some social practices over many generations, while other practices transformed at a faster pace. Although it is unlikely that these practices were never discursive, debated, actively maintained or purposefully reformulated, their stability over the long term suggests a socially accepted way of doing things that was long-lived and deeply naturalized. At various moments during the Late Formative the nature of craft production, foodways and ceremony were brought to the surface and altered in cultural praxis. These transformations in low-order traditions as well as commemorative practices were connected to particular historical conjunctures that rippled throughout the Basin for over one thousand years. These shifts are not an act of forgetting as many might suggest but illustrate to us an active reforming of daily and ceremonial life.

By the end of the Late Formative period, the extent of symbolic emulation would have brought the non-discursive practices surrounding pottery production and food consumption to the consciousnesses of some, as regional social, political, economic and perhaps religious interaction increased, reflected in how the inscribed practices notably shifted in pottery, food recipes and architecture. These shifts in civic food consumption at these Peninsula settlements carry a sense of emblematic remembrance, manifested in the evidence of increased gathering size, multiple ceremonial spaces and ancestral remembrance. While communal-feasting events would have drawn the community together non-discursively with traditional alcoholic drink and accompanying psychological transformation, these events also employed esoteric knowledge, potentially restricting many from some of these discursive meanings.

We cautiously propose that some of the daily and ritual practices became conscious markers of identity in the Late Formative, reflecting an involvement with some of the incorporating practices that took hold throughout the southern Titicaca Basin whilst increasing differences with those from farther afield. Much like great political changes seen in other times and places, a new political order means the reciting of social memories, reforming older thoughts and meanings to work with new inscribed versions and incorporated outcomes. Some of the more noticeable changes might have reflected a conscious concern with new practices and symbols that could bring families together. This was certainly the mode that

Tiwanaku harnessed at their festivals, hybridized from other times and places, such as the sites on the Taraco and Huatta Peninsulas, and other places, such as the northern Basin site of Pukara. These changes are illustrated in the more overt commemorative tradition building associated with public architecture and accompanying ceremonies, occurring at a time when peninsular settlements were undergoing significant population aggregation and intensified craft production specialization.

The traditions seen later at Tiwanaku were strategies of appropriation, adopted from the earlier regional traditions and applied successfully, in part by maintaining many long-lived practices through imperfect yet choreographed changes. Potters with new vessel-construction techniques, cooks with changed beverage ingredients and ways to serve the meal, and families with mixed methods to honour their ancestors were brought together at this one settlement in larger, hybridized memory charged ceremonies, resonating with the smaller, local events yet being noticeably different. Here we see tradition being extended through the active engagement of emblematic memory, inscribed and incorporated practice. At Tiwanaku, the descendents of the local Formative Period settlements re-invented their traditions and re-conceptualized their social memories both discursively and non-discursively, all the while becoming enmeshed and contributing to the old yet new world of Tiwanaku.

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#### **Notes**

- 1. There may be other shifts occurring in vessel form. Formative Period ceramic assemblages are extremely fragmented and we are in the process of reconstructing form for the Middle through late Formative Period.
- 2. A recent survey of the Taraco Peninsula has found a plethora of alluvial clays appropriate for local production (Roddick 2006). These clays are clean of visible inclusions, suggesting that if these clays were indeed used, tempers were added from other sediments such as beach sands, micaceous schists or highly micaceous clays.
- 3. Roddick is in the process of tracking these operational chains for Late Formative pottery production in the region surrounding the Taraco Peninsula through attribute and compositional analyses.
- 4. We know this occurred later in the Titicaca Basin at Pukara in the north, where carved stone heads as well as human skeletons were found in niches (Kidder 1948; Wheeler & Mujica 1981).

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### References

Abercrombie, T.A., 1998. Pathways of Memory and Power: Ethnography and History among an Andean People. Madison (WI): University of Wisconsin Press.

Alcock, S.E., 2003. Archaeologies of the Greek Past: Landscape, Monuments and Memories. Cambridge: Cambridge University Press.

Alconini Mujica, S., 1995. Rito, simbolo y historio en la Pirámide Akapana y su contexto social en el estado de Tiwanaku. La Paz: Editorial Accion.

Aldenderfer, M., N. Craig, A. Chevalier, P. Eisentraut, C. Rumold & C. Ribsby, 2007. Multidisciplinary Research at Jiskairumoko, a Terminal Archaic-Early Formative Village in the Southern Lake Titicaca Basin. Unpublished paper given at the 47th Annual Meeting of the Institute of Andean Studies, Berkeley, California, 2007.

Appadurai, A., 1981. Gastro-politics in Hindu South Aisa. American Ethologist 8, 494–511.

- Arnold, B., 1990. The past as propaganda: totalitarian archaeology in Nazi Germany. *Antiquity* 64, 464–78.
- Arnold, D.E., 1998. Ancient Andean ceramic technology: an ethnoarchaeological perspective, in *Andean Ceramics: Technology, Organization, and Approaches*, ed. I. Shimada. (MASCA Research Papers in Science and Archeology, suppl. to vol. 15.) Philadelphia (PA): University of Pennsylvania Museum of Archaeology and Anthropology, 353–67.
- Arnold, D.Y. & C.A. Hastorf, 2008. *Heads of State*. Walnut Creek (CA): Left Coast Press.
- Bandy, M.S., 2001. Population and History in the Ancient Titicaca Basin. Unpublished PhD dissertation, Department of Anthropology, University of California, Berkeley.
- Bandy, M.S. & C.A. Hastorf, 2007. Kala Uyuni and the Late Formative Research of the Taraco Archaeological Project.
   (Contributions of the Archaeological Research Facility Monograph Publications 64.) Berkeley (CA): University of California.
- Beck, R.A., 2004. Platforms of Power: House, Community and Social Change in the Formative Lake Titicaca Basin. Unpublished PhD Dissertation, Department of Anthropology, Northwestern University.
- Bender, B., 1998. *Stonehenge: Making Space*. Oxford: Berg. Berliner, D., 2005. The abuses of memory: reflections on the memory boom in Anthropology. *Anthropological Quarterly* 78(1), 197–211.
- Betanzos, J. de, 1996. *Narrative of the Incas*, eds. R. Hamilton & D. Buchanan. Austin (TX): University of Texas Press.
- Bonnier, E., 1997. Preceramic architecture in the Andes: the Mito tradition, in *Archaeologia Peruana*, vol. 2, eds. E. Bonnier & H. Bischof. Mannheim: Reiss-Museum, 120–44.
- Bourdieu, P., 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bowser, B., 2000. From pottery to politics: an ethnoarchaeological study of political factionalism, ethnicity, and domestic pottery style in the Ecuadorian Amazon. *Journal of Archaeological Method and Theory* 7(3),219–48.
- Bradley, R., 2002. *The Past in Prehistoric Societies*. New York (NY): Routledge.
- Bradley, R., 2003. Time in translation, in *Archaeologies of Memory*, eds. S.E. Alcock & R.M. Van Dyke. Oxford: Blackwell, 221–7.
- Brück, J., 1998. In the footsteps of the ancestors. *Archaeological Review from Cambridge* 15(1), 23–36.
- Bruno, M.C., 2008. Waranq Waranqa: Ethnobotanical Perspectives on Agricultural Intensification in the Lake Titicaca Basin (Taraco Peninsula, Bolivia). Unpublished PhD dissertation, Department of Anthropology, Washington University, St Louis.
- Bruno, M. & W. Whitehead, 2003. *Chenopodium* cultivation and Formative Period agriculture at Chiripa, Bolivia. *Latin American Antiquity* 14(3), 339–55.
- Burger, R.L. & L. Salazar-Burger, 1980. Ritual and religion at Huaricoto. *Archaeology* 33(6), 26–32.
- Burger, R.L., K.L. Mohr Chávez & S. J. Chávez, 2000. Through the glass darkly: Prehispanic obsidian procurement

- and exchange in southern Peru and northern Bolivia. *Journal of World Prehistory* 14(3),267–362.
- Butler, J.P., 1993. Bodies that Matter: On the Discursive Limits of 'Sex'. New York (NY): Routledge.
- Capriles, J.M., 2006. A Zooarchaeological Analysis of Fish Remains from the Lake Titicaca Formative Period (ca. 1000 BC—AD 500) Site of Kala Uyuni, Bolivia. Unpublished manuscript in the authors' possession and on file at Washington University.
- Chamberlin, M.A., 2006. Symbolic conflict and the spatiality of traditions in small-scale societies. *Cambridge Archaeological Journal* 16(1), 39–61.
- Chávez, K.L. Mohr, 1988. The significance of Chiripa in Lake Titicaca Basin developments. Expedition 30(3), 17–26.
- Cohen, A.B., 2009. Ritual Architecture in the Titicaca Basin: the Development of the Sunken Court Complex in the Formative Period. Unpublished paper, Department of Anthropology, University of California Los Angeles.
- Cohen, A.B. & A.P. Roddick, 2007. Excavations in the AC (Achachi Coa Kkollu) sector, in *The Taraco Archaeological Project's 2003 Excavations at Kala Uyuni*, eds. C.A. Hastorf & M.S. Bandy. (Contributions of the Archaeological Research Facility Monograph Publications 64.) Berkeley (CA): University of California, 41–66.
- Connerton, P., 1989. *How Societies Remember*. Cambridge: Cambridge University Press.
- Couture, N.C., 2002. The Construction of Power: Monumental Space and an Elite Residence at Tiwanaku, Bolivia. Unpublished PhD Dissertation, Department of Anthropology, University of Chicago.
- David, B., 2004. Intentionality, agency and an archaeology of choice. *Cambridge Archaeological Journal* 14(1), 67–71.
- Dietler, M. & I. Herbich, 1994. Ceramics and ethnic identity: ethnoarchaeological observations on the distribution of pottery styles and the relationship between the social contexts of production and consumption, in *Terre Cuite et Société: La Céramique, Document Technique, Economique, Culture*. (Rencontres internationales d'archéologie et d'histoire d'Antibes 14.) Juan-les-Pins: Éditions APDCA, 459–72.
- Dietler, M. & I. Herbich, 1998. Habitus, techniques, style: an integrated approach to the social understanding of material culture and boundaries, in *The Archaeology* of Social Boundaries, ed. M.T. Stark.Washington (DC): Smithsonian Institution Press, 232–63
- Dobres, M.-A., 2000. Technology and Social Agency: Outlining a Practice Framework for Archaeology. Oxford: Blackwell Publishers.
- Edmonds, M.R., 1999. Ancestral Geographies of the Neolithic: Landscape, Monuments and Memory. London: Routledge.
- Fentress, J. & C. Wickham, 1992. Social Memory. Oxford: Blackwell.
- Giddens, A., 1984. The Constitution of Society. Berkeley (CA): University of California Press.
- Gillespie, S., 2008. History in practice: ritual deposition at La Venta complex A, in *Memory Work: Archaeologies of Material Practices*, eds. B.J. Mills & W.H. Walker. Santa Fe (NM): SAR Press, 109–36.

- Goldstein, P., 2003. From stew eaters to maize drinkers: the *chicha* economy and the Tiwanaku expansion, in *The Archaeology and Politics of Food and Feasting in Early States and Empires*, ed. T. Bray. New York (NY): Kluwer Academic/Plenum Publishers, 143–72.
- Gosselain, O.P., 1998. Social and technical identity in a clay crystal ball, in *The Archaeology of Social Boundaries*, ed. M.T. Stark. Washington (DC): Smithsonian Institution Press, 78–106.
- Hagstrum, M.B., 1985. Measuring prehistoric ceramic craft specialization: a test case in the American Southwest. *Journal of Field Archaeology* 12(1), 65–75.
- Hardin, M.A. & B. Mills, 2000. The social and historical context of short-term stylistic replacement: a Zuni case study. *Journal of Archaeological Method and Theory* 7(3), 139–63.
- Hastorf, C.A., 1994. Introduction to volume and to section on cultural meanings, in *Corn and Culture in the Prehistoric New World*, eds. S. Johannessen & C.A. Hastorf. (Minnesota Anthropology Series 1–2.) Boulder (CO): Westview Press, 395–8.
- Hastorf, C.A., 1999. Early Settlement at Chiripa, Bolivia: Research of the Taraco Archaeological Project. (Contributions of the Archaeological Research Facility Monograph Publications 57.) Berkeley (CA): University of California.
- Hastorf, C.A., 2003. Community with the ancestors: ceremonies and social memory in the Middle Formative at Chiripa, Bolivia. *Journal of Anthropological Archaeology* 22(4), 305–32.
- Hastorf, C.A., 2005. The Upper (Middle and Late) Formative in the Titicaca Region, in *Advances in Titicaca Basin Archaeology*, vol. 1, eds. C. Stanish, A.B. Cohen & M. Aldenderfer. Los Angeles (CA): Cotsen Institute of Archaeology, UCLA, 65–94.
- Hastorf, C.A., 2006. The Formative Period in the Titicaca basin, in *Handbook of South American Archaeology*, eds. H. Silverman & W. Isbell. New York (NY): Kluwer Plenum, 545–61.
- Hastorf, C. & S. Johannessen, 1991. Understanding changing people/plant relationships in the prehispanic Andes, in *Contemporary Archaeology in Theory*, eds. R.W. Preucel & I. Hodder. Oxford: Blackwells, 61–78.
- Hastorf, C.A. & M. Weismantel, 2007. Food: where opposites meet, in *The Archaeology of Food and Identity*, ed. K.C. Twiss. (Occasional Paper 34.) Carbondale (IL): Center for Archaeological Investigations, 308–31.
- Hastorf, C.A., M. Bandy, A. Roddick, L. Steadman, K. Moore & M. Bruno, 2007. Middle and Late Formative Ceremonialism: the 2003 Through 2006 Field Seasons of the Taraco Archaeological Project. Unpublished paper presented at the 47th Annual Meeting of the Institute for Andean Studies, Berkeley, CA, 2007.
- Hendon, J.A., 2000. Having and holding: storage, memory, knowledge and social relations. *American Anthropologist* 102(1), 42–53.
- Hendon, J.A., 2006. Textile production as craft in Mesoamerica: time, labor and knowledge. *Journal of Social Archaeology* 6(3), 354–78.

- Hendon, J.A., 2007. Production as social process. *Archeological Papers of the American Anthropological Association* 17(1), 163–8.
- Hobsbawn, E. & T. Ranger (eds.), 1983. *The Invention of Tradition*. New York (NY): Cambridge University Press.
- Holtzman, J.D., 2006. Food and Memory. *Annual Review of Anthropology* 35, 361–78.
- Janusek, J.W., 1999. Craft and local power: embedded specialization in Tiwanaku cities. *Latin American Antiquity* 10(2), 107–31.
- Janusek, J.W., 2002. Out of many, one: style and social boundaries in Tiwanaku. *Latin American Antiquity* 13(1), 35–61.
- Janusek, J.W., 2003. Vessels, time and society: towards a chronology of ceramic style in the Tiwanaku heartland, in *Tiwanaku and Its Hinterland: Archaeology and Paleoecology of an Andean Civilization*, vol. 2, ed. A.L. Kolata. Washington (DC): Smithsonian Institution Press, 30–92.
- Janusek, J.W., 2006. The changing 'nature' of Tiwanaku religion and the rise of an Andean state. *World Archaeology* 38(3), 469–92.
- Janusek, J.W., A. Ohnstad & A.P. Roddick, 2002. Khonko Wankane and the rise of Tiwanaku. Antiquity 77(296), http://antiquity.ac.uk/ProjGall/janusek/janusek.html
- Jones, A., 2007. Memory and Material Culture. Cambridge: Cambridge University Press.
- Joyce, R.A., 2000. Heirlooms and houses: materiality and social memory, in *Beyond Kinship: Social and Material Reproduction in House Societies*, eds. S. Gillespie & R. Joyce. Philadelphia (PA): University of Pennsylvania Press, 189–212.
- Joyce, R.A., 2004. Unintended consequences? Monumentality as a novel experience in Formative Mesoamerica. *Journal of Archaeological Method and Theory* 11(1), 5–29.
- Kidder, A.V., II, 1948. The position of Pucara in Titicaca Basin archaeology. *American Antiquity* 13(4), 87–9.
- Kuijt, I., 1996. Negotiating equality through ritual: a consideration of Late Natufian and Pre-Pottery Neolithic A Period mortuary practices. *Journal of Anthropological Archaeology* 15(4), 313–36.
- Lave, J. & E. Wenger, 1991. Situated Learning: Legitimate Peripheral Participation. Cambridge: Cambridge University Press.
- Lemuz Aguirre, C., 2001. Patrones de Asentamiento Arqueologico en la Peninsula de Santiago de Huata, Bolivia. Unpublished PhD dissertation, Universidad Mayor de San Andres, La Paz, Bolivia.
- Lev-Tov, J.S., 1998. Zooarchaeology and social relations in Annapolis, Maryland, in *Annapolis Pasts*, eds. P.A. Shackel, P.R. Mullins & M.S. Warner. Knoxville (TN): The University of Tennessee Press, 119–46.
- Lightfoot, K., 2001. Traditions as cultural production: implications for contemporary archaeological research, in *The Archaeology of Traditions: Agency and History Before and After Columbus*, ed. T. Pauketat. Gainesville (FL): University Press of Florida, 237–52.
- Logan, A.L., 2006. The Application of Phytolith and Starch Grain Analysis to Understanding Formative Period Subsistence, Trade and Ritual on the Taraco Peninsula,

- Highland Bolivia. Unpublished Masters dissertation, University of Missouri.
- Miller, M.J., 2005. What's in That Pot? Using Stable Isotope Analysis to Understand Cuisines of the Taraco, Peninsula, Bolivia, 1500 BC—AD 1000. Unpublished Honors BA thesis, Department of Anthropology, University of California-Berkeley.
- Miller, M., M. Bruno, K. Moore et al., 2008. Food Traditions and Cooking Practices in the Formative Settlements. Unpublished paper presented at the 73rd Annual Meeting of the Society for American Archaeology, Vancouver, Canada, March 28.
- Mills, B.J. & W.H. Walker, 2008. *Memory Work: Archaeologies of Material Practices*. Santa Fe (NM): School for Advanced Research Press.
- Minar, J.C., 1999. Impression Analysis of Cord-Marked Pottery, Learning Theory and the Origins of the Alachua. Unpublished PhD Dissertation, University of California Riverside.
- Minar, J.C., 2001. Motor skills and the learning process: the conservation of cordage final twist direction in communities of practice. *Journal of Anthropological Research* 57(4), 381–405.
- Moore, J.D.,1989. Pre-Hispanic beer in coastal Peru: technology and social context of prehistoric production. *American Anthropologist* 91(3), 682–95.
- Moore, J.D.,1996. The archaeology of plazas and the proxemics of ritual three Andean traditions. *American Anthropologist* 98(4), 789–802.
- Moore, K., 2007. Animal remains from the 2003 season, in *Kala Uyuni: an Early Political Center in the Southern Lake Titicaca Basin*, eds. M. Bandy & C.A. Hastorf. (Contributions of the Archaeological Research Facility Monograph Publications 64.) Berkeley (CA): University of California, 83–6.
- Murra, J.V., 1960. Rite and crop of the Inca state, in *Culture in History*, ed. S. Diamond. New York (NY): Columbia University Press, 393–407.
- Nicklin, K., 1971. Stability and innovation in pottery manufacture. *World Archaeology* 3(1), 13–48.
- Nielsen, A.E., 2008. The materiality of ancestors: chullpas and social memory in the Late Prehispanic history of the South Andes, in *Memory Work: Archaeologies of Material Practices*, eds. B Mills & W. Walker. Santa Fe (NM): School for Advanced Research Press, 207–32.
- Niles, S.A., 1999. The Shape of Inca History: Narrative and Architecture in an Andean Empire. Iowa City (IO): University of Iowa Press.
- Nora, P., 1989. Between memory and history: les lieux de memoire. *Representations* 26, 7–25.
- Parker Pearson, M., 1999. *The Archaeology of Death and Burial*, College Station (TX): Texas A & M University Press.
- Pauketat, T.R., 2000. Politicization and community in the Pre-Columbian Mississippi Valley, in *The Archaeology of Communities*, eds. M.-A. Canuto & J. Yaeger. London: Routledge, 16–43.
- Pauketat, T.R., 2001. *The Archaeology of Traditions: Agency and History Before and After Columbus*. Gainesville (FL): University Press of Florida.

- Pauketat, T. & S. Alt, 2003. Mounds, memory and contested Mississippian history, in *Archaeologies of Memory*, eds. R.M. Van Dyke & S.E. Alcock. Malden (MA): Blackwell, 151–79.
- Ponce Sangines, C., 1981. Descripción sumaria del templete semisubterraneo de Tiwanaku. La Paz: Libreria y Editorial 'Juventud'.
- Protzen, J.P. & S.E. Nair, 2000. On reconstructing Tiwanaku architecture. *Journal of the Society of Architectural Historians* 59(3), 358–71.
- Protzen, J.P. & S.E. Nair, 2002. The gateways of Tiwanaku symbols or passages? in *Andean Archaeology*, vol. II: *Art, Landscape and Society*, eds. H. Silverman & W.H. Isbell. New York (NY): Kluwer Academic, 189–223.
- Roddick, A.P., 2002. Archaeological Approaches to Ritual in the Andes: a Ceramic Analysis of Ceremonial Space at the Formative Period Site of Chiripa, Bolivia. Unpublished Masters dissertation, University of British Columbia.
- Roddick, A.P., 2006. Comunidades de producción y consumo en la Península de Taraco, Bolivia. Unpublished paper presented at La Primera Reunión de la Sociedad de Arqueología de La Paz, La Paz, Bolivia, 2006.
- Roddick, A.P., 2008. Communities of Potting Practice: Tracking Production and Technological Style on the Taraco Peninsula. Unpublished paper presented at the 73rd Annual Meeting of the Society for American Archaeology. Vancouver, Canada, March 28.
- Roddick, A.P., 2009. Communities of Pottery Production and Consumption on the Taraco Peninsula, Bolivia, 200 BC— AD 300. Unpublished PhD Dissertation, Department of Anthropology, University of California, Berkeley.
- Roddick, A.P., L. Steadman & N. Anthony, 2006. 'Ceramic analysis', in Taraco Archaeological Project: Report of the 2005 Excavations at the Sites of Sonaji and Kala Uyuni, eds. C.A. Hastorf & M.S. Bandy. Unpublished report submitted to the Dirección Unidad Nacional de Arqueología de Bolivia, 64–74.
- Rombauer, I.S. & M. Becker, 1967. *The Joy of Cooking*. New York (NY): Bobs Merrill.
- Salomon, F., J. Urioste & F. de Ávila, 1991. *The Huarochiri Manuscript: a Testament of Ancient and Colonial Andean Religion*. Austin (TX): The University of Texas Press.
- Rowlands, M., 1993. The role of memory in the transmission of culture. *World Archaeology* 25(2), 141–51.
- Sassaman, K.E. & W. Rudolphi, 2001. Communities of practice in the early pottery traditions of the American Southeast. *Journal of Anthropological Research* 57(4), 407–26.
- Sillar, B., 2000. Shaping Culture: Making Pots and Constructing Households: an Archaeological Study of Pottery Production, Trade and Use in the Andes. Oxford: J. & E. Hedges.
- Siskind, J., 1992. The invention of Thanksgiving: a ritual of American nationality. *Critique of Anthropology* 12, 167–91.
- Stahl, A.B., 2008. Dogs, pythons, pots, and beads: the dynamics of shrines and sacrificial practices in Banda, Ghana, 1400–1900 ce, in *Memory Work: Archaeologies of Material Practices*, eds. B Mills & W. Walker. Santa

- Fe (NM): School for Advanced Research Press, 159–86. Stanish, C., 2003. Ancient Titicaca: the Evolution of Complex Society in Southern Peru and Northern Bolivia. Berkeley (CA): University of California Press.
- Stark, M.T., 1999. Social dimensions of technical choice in Kalinga ceramic traditions, in *Material Meanings: Criti*cal Approaches to the Interpretation of Material Culture, ed. E. Chilton. Salt Lake City (UT): University of Utah Press, 44–60.
- Steadman, L.H., 1995. Excavations at Camata: an Early Ceramic Chronology for the Western Titicaca Basin, Peru. Unpublished PhD Dissertation, University of California, Berkeley.
- Steadman, L.H., 1999. The ceramics, in *Early Settlement at Chiripa, Bolivia: Research of the Taraco Archaeological Project.* (Contributions of the Archaeological Research Facility Monograph Publications 57.) Berkeley (CA): University of California, 61–72.
- Steadman, L.H., 2002. The Yaya-Mama Religious Tradition at Chiripa. Unpublished paper presented at the 67th Annual Meeting of the Society for American Archaeology, Denver.
- Steadman, L.H., 2003. 'Ceramic analysis', in Taraco Archaeological Project: Report on 2003 Excavations at Kala Uyuni. Unpublished paper submitted to the Ministry of Culture, La Paz Bolivia, 60–79.
- Steadman, L. H., 2007. Ceramic analysis, in *The Taraco Archaeological Project's* 2003 excavations at Kala Uyuni, eds. C.A. Hastorf & M.S. Bandy. Berkeley (CA): Archaeological Research Facility, 67–112.
- Steadman, L.H. & C.A. Hastorf, 2001. Construction for the Ancestors: the Creation of Territory and Society in the Middle Formative at Chiripa. Unpublished paper presented at the 66th Annual meetings of the Society for American Archaeology, New Orleans, LA.
- Stern, S.J., 2004. Remembering Pinochet's Chile: On the Eve of London 1998. Durham (NC): Duke University Press.
- Sutton, D.E., 2001. Remembrance of Repasts: an Anthropology of Food and Memory. New York (NY): Berg.
- Trouillot, M.-R., 1995. *Silencing the Past: Power and the Production of History*. Boston (MA): Beacon Press.
- Tulving, E., 1983. *Elements of Episodic Memory*. Oxford: Oxford University Press.
- van der Leeuw, S.E., 1993. Giving the potter a choice: conceptual aspects of pottery techniques, in *Technological Choices: Transformation in Material Culture from the*

- Neolithic to Modern High Technologies, ed. P. Lemonnier. London: Routledge Kegan Paul, 238–88.
- Van Dyke, R.M., 2009. Chaco reloaded: discursive social memory on the post-Chacoan landscape. *Journal of Social Archaeology* 9(2), 220–48.
- Vroom, J., 2000. Byzantine, garlic and Turkish delight, dining habits and cultural change in central Greece from Byzantine to Ottoman times. *Archaeological Dialogues* 7(2), 199–216.
- Wheeler, J. & E. Mujica, 1981. Prehistoric Pastoralism in the Lake Titicaca Basin, Peru, 1979–1980 Field Season. Unpublished final report to the National Science Foundation, Washington (DC).
- Whitehead, W.T., 2007. Exploring the Wild and Domestic: Paleoethnobotany at Chiripa, a Formative Site in Bolivia. Unpublished manuscript on file at the University of California, Berkeley.
- Wright, M.F., C.A. Hastorf & H.A. Lennstrom, 2003. Pre-Hispanic agriculture and plant use at Tiwanaku: social and political implications, in *Tiwanaku and its Hinterland: Archaeology and Palaeoecology of an Andean Civilization*, vol. 2: *Urban and Rural Archeology*, ed. A.L. Kolata. Washington (DC): Smithsonian Institution Press, 384–403.

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Andrew Roddick is a visiting Assistant Professor at the University of Victoria in British Columbia, Canada. His research focuses on the relationship between the social life of pottery and Formative Period communities in the Lake Titicaca Basin of Bolivia. He has conducted archaeological fieldwork in Bolivia, Peru and Belize.