



---

Multiregional Perspectives on the Archaeology of the Andes During the Late Intermediate Period (c. A. D. 1000-1400)

Author(s): R. Alan Covey

Source: *Journal of Archaeological Research*, Vol. 16, No. 3 (September 2008), pp. 287-338

Published by: Springer

Stable URL: <http://www.jstor.org/stable/41053275>

Accessed: 09-09-2016 12:39 UTC

## REFERENCES

Linked references are available on JSTOR for this article:

[http://www.jstor.org/stable/41053275?seq=1&cid=pdf-reference#references\\_tab\\_contents](http://www.jstor.org/stable/41053275?seq=1&cid=pdf-reference#references_tab_contents)

You may need to log in to JSTOR to access the linked references.

---

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://about.jstor.org/terms>



*Springer* is collaborating with JSTOR to digitize, preserve and extend access to *Journal of Archaeological Research*

## Multiregional Perspectives on the Archaeology of the Andes During the Late Intermediate Period (c. A.D. 1000–1400)

R. Alan Covey

Published online: 25 March 2008  
© Springer Science+Business Media, LLC 2008

**Abstract** During the Late Intermediate period (LIP, c. A.D. 1000–1400), the central Andes experienced the decline of the Wari and Tiwanaku states, as well as processes of state formation, regional population growth, and competition culminating in the imperial expansion of the Chimú and Inka polities. The LIP holds the potential to link the archaeological features of early Andean states with the material signatures of the later ones, providing a critical means of contextualizing the intergenerational continuities and breaks in state structures and imperial strategies. The recent proliferation of LIP research and the completion of a number of regional studies permit the overview of six LIP regions and the comparison of highland and lowland patterns of political and economic organization, social complexity, and group identity.

**Keywords** Late Intermediate period (LIP) · Settlement patterns · Architecture · Mortuary treatment · Material culture · Complexity · Political economy · Ethnicity

### Introduction

The Inkas were the first civilization to appear in the Andean region, rising with a sudden flourish around A.D. 1250 after several millennia of egalitarian local organization, regional decentralization, and constant warfare. Such, at least, was the conclusion of the Jesuit Bernabé Cobo in his 1653 chronicle of Inka history (1964 [1653], Book XII, Chapter 1), a synthesis of a century of ethnohistoric source materials that would serve as the definitive statement on Inka history and customs

---

R. A. Covey (✉)  
Department of Anthropology, Southern Methodist University, 3225 Daniel Avenue, Room 408,  
Dallas, TX 75205, USA  
e-mail: racovey@smu.edu

for more than 200 years. According to Cobo, humans migrated from Asia to South America a few years after the Universal Flood, and the first groups were assumed to have been “an ignorant people, crude and savage, lacking writing, science, or any appearance of social order” (Cobo 1964 [1653], Book XI, Chapter 11–12). Although the first European travelers had encountered monumental sites that clearly predated the Inkas (e.g., Tiwanaku, Wari), 17th century Spaniards considered these to have been built by giants in the centuries before humans arrived in the Andes. Cobo believed that “primitive” social conditions persisted among the human population of the Andean region until it was unified by the Inka empire about 400 years before he was writing.

In the 17th century, Cobo looked at Andean architecture and mortuary contexts to address the origins of the first native South Americans (Cobo 1964 [1653], Book XI, Chapter 19); it was not until the late 19th century that archaeologists would return to this material record to revisit the processes linking the first migrants to the Andean region with the Inka empire. As evidence from excavations accumulated, the pioneering archaeologist Max Uhle (1912, p. 312) concluded that two or three “great periods of civilizations” preceded the Inkas, and that Inka accounts of the rise of Andean civilization were completely discredited. Asserting that archaeology was the field best suited to uncover the link between Inka and pre-Inka civilizations, Uhle also noted that his excavations in the highlands had not yielded the necessary contexts to address these kinds of research questions. Uhle’s stratigraphic excavations throughout the Andes were used by him and others (most notably Alfred Kroeber and John Rowe) to develop and refine an interregional master chronology that distinguished between periods characterized by region-wide patterns of material culture (horizons) and those where such patterns were lacking (intermediate periods) (see Joffré 2005, pp. 8–20; Moseley 1992, pp. 18–21; Rowe 1954, p. 20, 1960, 1962; Silverman 2004). While not universally accepted, this system of horizons and intermediate periods has proven useful for comparative analysis; it also has provided an analytical framework for considering the rise and fall of Andean civilizations.

The regional distinction between horizons/intermediate periods has had implications for archaeological practice. One is that the definition of horizons has tended to focus on periods of interregional integration, while the processes leading to state expansion and decline are moved to the more marginal intermediate periods, which, with a few exceptions, have tended to receive less attention from researchers. Consequently, horizons have become shorter while intermediate periods have grown longer. The Late Horizon, as strictly defined by Rowe and Menzel (Rowe 1962) lasts 58 years; some definitions of the Middle Horizon have decreased that period to 250 years (e.g., Schreiber 2001), leaving the intervening period as an undifferentiated span of 500 years that encompasses both the decline of the Wari and Tiwanaku states, and the formation of the Chimú and Inka states (Parsons and Hastings 1988, p. 228). While ethnohistory provides invaluable perspectives on social organization and daily life in Inka and late pre-Inka times, the documentary record too often skews researchers’ overall conceptualization of this pre-Inka period as one characterized by political decentralization and warfare.

## Long-term developments in Andean social organization

Bearing in mind Uhle's call to clarify the archaeological linkage between Inka and pre-Inka civilizations, it is fitting to revisit the archaeological record for the period c. A.D. 1000–1400, often referred to as the Late Intermediate period (LIP). These dates diverge from Rowe's master sequence from the Ica Valley but frame a period beginning with the decline of the Wari and Tiwanaku states and culminating with the regional expansion of other states and empires, most notably the Chimú and Inka. Scholars studying the Middle Horizon often see the LIP as a period characterized by post-collapse balkanization, while Inka specialists have tended to use the documentary record to view it as a period of incessant warfare between villages and small polities.

With the completion of a number of regional studies and excavations, a massive body of archaeological evidence can now be brought to bear on this period, and a growing number of researchers see this "time between empires" as worth describing on its own terms (Conlee et al. 2004, p. 209). The consideration of Andean state formation, imperial expansion, and political balkanization requires a fluid social-evolutionary framework that can address long-term regional trajectories without being driven by typology or tainted by Inka-oriented teleology (for one recent theoretical discussion, see Marcus 1993, 1998). The present study uses the LIP archaeological record to assess continuity and change in Andean socioeconomic organization and statecraft, not only considering more particularistic views on the trajectories of specific regions but also linking these trajectories to larger-scale processes. A multiregional approach to the period reveals how new states emerged on a fluctuating central Andean political landscape where populations of varying size created distinct ethnic identities, economic systems, and social structures.

### Problems for reviewing Late Intermediate period archaeology

Archaeologists have tended to focus on regional patterning for horizon periods precisely because the macroregional distribution of a single style facilitates the relative dating of local artifact sequences. These local sequences change at different rates, and it is not surprising that in the absence of a single horizon style, any summary of the Late Intermediate period must deal with myriad problems regarding style and chronology. The usual problem of "lumping" versus "splitting" is compounded by a century of research in some places, in which style or phase names have changed and field research is sometimes incompletely published.

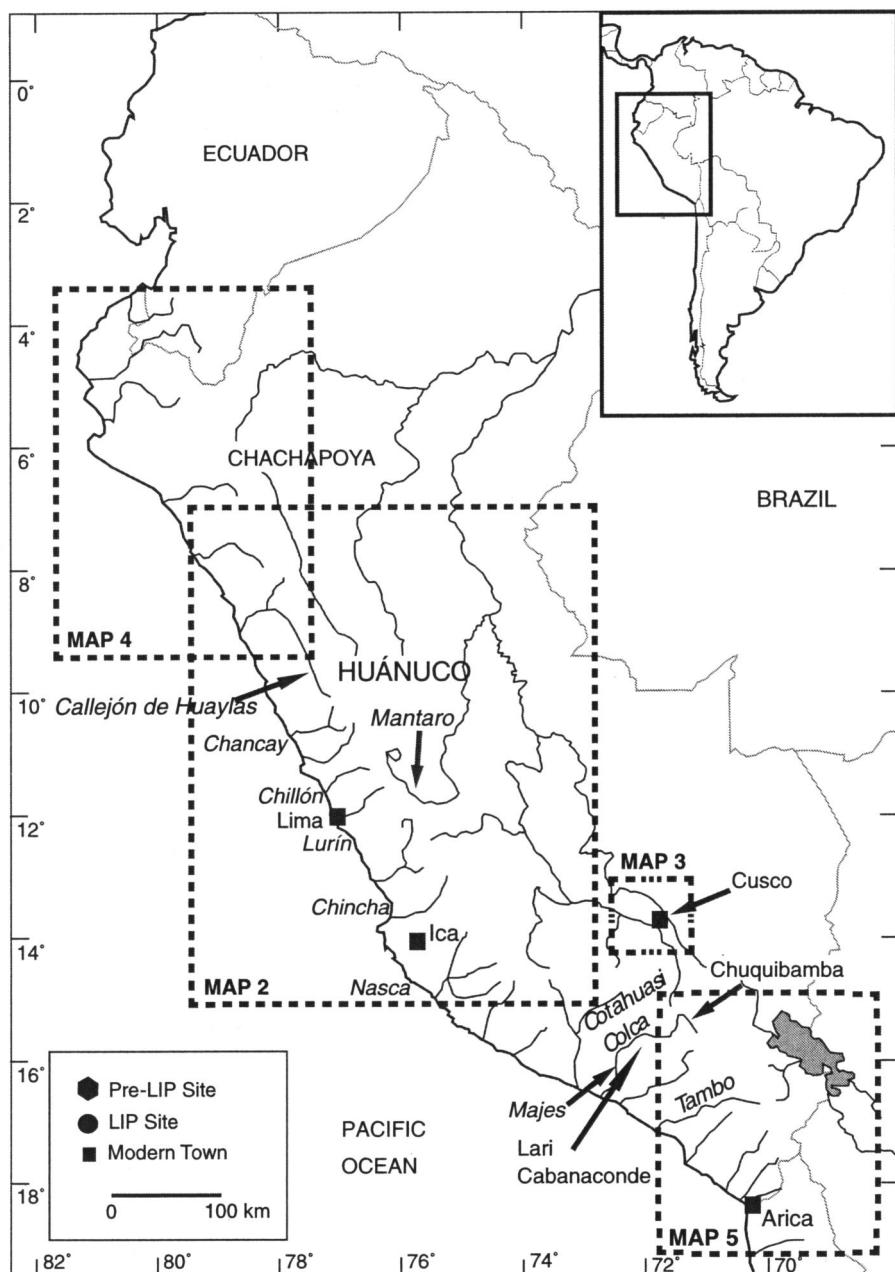
In terms of chronology, this article focuses on local effects of the decline of the Wari and Tiwanaku polities, considering regional trajectories throughout the LIP up to the point of Inka conquest. Because my aim is to contextualize Inka state formation and link it archaeologically to earlier Andean civilizations, I make limited references to the ethnohistoric record. Instead of privileging the colonial period documentary record, I work forward in time using archaeological data, an approach that necessarily excludes interesting written accounts that are projected backward from the colonial period.

The present study focuses on the central Andean region in order to limit the breadth of an already weighty bibliography (Fig. 1). The Ecuadorian literature is not discussed, and other parts of the northern highlands of Peru (generally, to the north of the Huánuco region, including the Chachapoya, Pajatén, and Tantamayo areas) also are excluded because of chronological ambiguities of the period under consideration. By the same token, less emphasis is placed on southern/eastern Bolivia, central Chile, and northwest Argentina. This article thus concentrates not on the entire region eventually united under Inka governance but compares highland and coastal areas influenced by the Wari and Tiwanaku polities to differing degrees from c. A.D. 600 to c. A.D. 1000. It is critical to note that the intensity of archaeological research varies widely within and between regions for all periods considered. I have attempted to consider the accumulated regional evidence uniformly, resulting in a more coarse-grained overview of some regions (e.g., the north coast).

Discussion is organized into six different subregions and proceeds along highland and coastal axes. Proceeding from north to south, these subregions include (1) the northern and central highlands of Peru, (2) the Cusco region, (3) the Titicaca Basin and surrounding areas, (4) the north coast of Peru, (5) the central and south coast of Peru, and (6) the Pacific valleys of southern Peru and northern Chile. For each subregion, the nature of Wari and Tiwanaku administration or influence is briefly considered, and then local LIP complexity is evaluated in terms of regional settlement archaeology, site archaeology, architecture, mortuary patterns, ceramic production and distribution, and other archaeological indicators of social organization. The description of these categories allows interregional comparisons of archaeological patterning in contexts relevant to the long-term evolution of social complexity, economic organization, and ethnic variation.

### **The central and northern Peruvian highlands**

The heartland of the Wari empire was located in the Ayacucho Valley, and much of the region within about 100 km of the site of Wari was transformed during the Middle Horizon. Local populations were resettled closer to newly constructed roads and administrative centers, especially in areas where maize could be grown intensively (Anders 1991; Isbell 1977, p. 7, 1988, p. 183; Meddents 1984; Schreiber 1987, 1992; Valdez and Vivanco 1994, pp. 146–148; Vivanco and Valdez 1993). Beyond Wari's heartland, archaeological signatures are much more variable for the Middle Horizon, making it more difficult to contextualize early LIP patterns. Although Wari architectural complexes have been identified in the central and northern Peruvian highlands at Wari Willka, Honcopampa, and Viracochapampa (e.g., Chaud 1979; Isbell 1991; Ponte 2000; Topic 1991; Topic and Topic 2000), the scope of Wari administrative control is still unclear, and many parts of the central and northern Peruvian highlands lack evidence of Wari material culture. Existing settlement patterns reflect a lack of state administration in many parts of the region



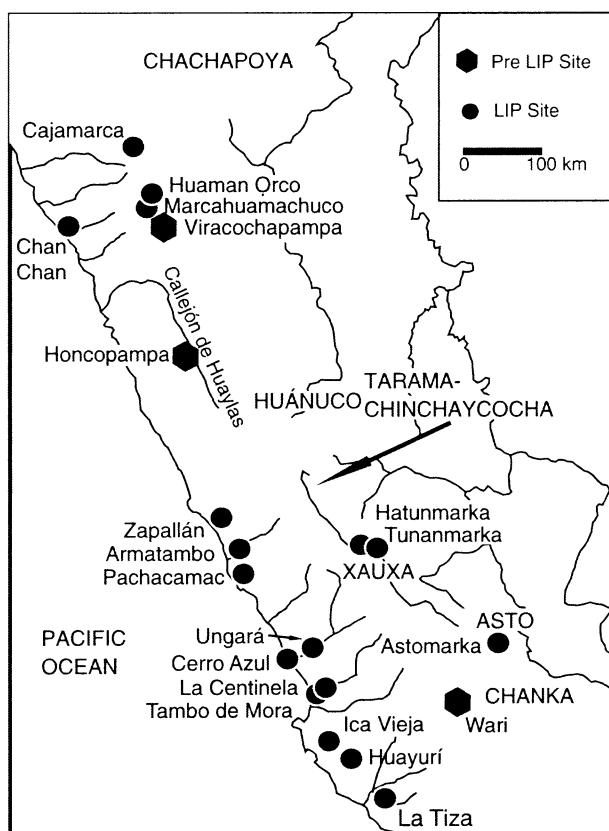
**Fig. 1** The central Andean region, with the areas of other maps designated. Valley names are listed in italics, while region names are in all capital letters

during the Middle Horizon, with only occasional fragments of Wari pottery identified at local sites (e.g., D'Altroy 2001a, p. 37; Lavallée 1983, p. 33; Matos 1994, p. 66; Parsons et al. 1997, pp. 325–326, 2000a; cf. Browman 1974, 1976).

### Early LIP social organization

The collapse of the Wari state and the end of its influence in the central highlands ushered in new conditions of political balkanization throughout what had been the state heartland. Given that Wari's influence beyond this region was not uniform, it is not surprising to see variability in the local developmental trajectories of the LIP for other parts of the central and northern Peruvian highlands.

Overall, in the early LIP the central highlands initially exhibited patterns of decentralized settlement, with evidence of increasing complexity over time (Fig. 2). Areas under direct Wari control experienced widespread site abandonment and depopulation after A.D. 1000, while those that were autonomous or sparsely populated saw an increased population at existing sites (Earle et al. 1980; González Carré et al. 1988a, 1997, pp. 90–99; Hastorf et al. 1989; LeBlanc 1981, p. 249; Parsons et al. 2000a, p. 123; Schreiber 1987, 1992, pp. 92–93, 163; Valdez and Vivanco 1994; cf. Bonavia 1972). Clusters of settlements developed in herding and agricultural areas at that time, but a clear settlement hierarchy appears to be lacking until the later part of the LIP (D'Altroy 1992, pp. 55–62, 2001a, p. 38–39; Hastorf



**Fig. 2** The central Andean highlands and the central and south coast region

et al. 1989, p. 87; LeBlanc 1981; Parsons et al. 1997, pp. 325–327, 2000a, pp. 127–131). Exploitation of higher-elevation agricultural zones and puna grasslands served as the economic basis for the majority of the population of the region during the LIP.

Around A.D. 1300, population in the upper Mantaro Valley increased, with the growth of multiple nucleated centers atop complex settlement hierarchies (D'Altroy 2001b, p. 89; Hastorf et al. 1989, p. 87). A handful of Wanka sites—the centers of Hatunmarka and Tunanmarka and a few towns and large villages—had populations in the thousands (D'Altroy 2001b, p. 89). Outside of the Xauxa area, the site of Astomarka (located to the northwest of Huancavelica) was of comparable size (5000 structures), and there were large LIP settlements at Marcahuamachuco and Huaman Orco (in the Huamachuco area) and Cajamarca as well (Lavallée 1973, pp. 112–113; Pineda Quevedo 1989, pp. 39–44; Topic and Topic 1993; cf. Julien 1988, 1993, p. 267; McCown 1945). Except for these areas, the central highlands generally lack a tier of large centers, with village sites consisting of no more than a few hundred households (González Carré and Pozzi-Escot 1988, p. 188; Hastings 1987; Lumbrieras 1974, p. 199; Parsons et al. 2000a, pp. 121, 124; Schreiber 1993, p. 116). The growth of large nucleated settlements and concomitant emergence or reestablishment of settlement hierarchy appears to have occurred in the second half of the LIP in several areas (e.g., D'Altroy 2001a; Meddens 1984, p. 148; Schreiber 1993, pp. 80–82).

In many parts of the central highlands, the largest sites in the region were located off the valley floor—typically on hilltops or ridges—and had defensive works (D'Altroy 1987, pp. 80–86, 2001b, p. 67; Isbell 1977, p. 45; Lavallée 1973, p. 97, 1983, p. 28; Lavallée and Julien 1975, pp. 118–119; LeBlanc 1981, pp. 370–372; Meddens 1984, p. 138; Parsons and Hastings 1988, pp. 214–215; Parsons et al. 2000a, p. 166, 2000b; Perales 2005, p. 128; Pineda Quevedo 1989, pp. 39–44; Schreiber 1987, p. 274, 1992, p. 163; Valdez and Vivanco 1994; Vivanco and Valdez 1993). Ridgetop village settlements have been identified in the Huánuco region and to its north, but such sites are difficult to date with available data (e.g., Amat Olazabal 1976, 1978; Flornoy 1955, 1957; Matos 1972, 2000, pp. 41–42; Morris and Thompson 1985; Reichlen and Reichlen 1949; Thompson 1973, p. 119). Defense was not the only concern in settlement location; there is evidence of shifts to exploit high-elevation puna grasslands more intensively and to exercise local economic self-sufficiency through the management of herder-cultivator complementarity (González Carré and Pozzi-Escot 1988, p. 186; Parsons et al. 1997, p. 337, 2000a, pp. 119–121). A general shift to nucleated settlements and defensible sites is consistent with an increase in armed conflict in the latter half of the LIP, possibly a reaction to population growth, climatic fluctuations, and the emergence of new states in the highland and coastal regions.

The largest LIP sites were nucleated communities, many of which were protected by defensive features. Within the walls, households were tightly packed in a way that is consistent with a lack of central planning (DeMarrais 2001, p. 133; Lavallée 1973, pp. 97–100). Smaller settlements throughout the region also exhibit defensive features and a lack of central site planning (González Carré and Pozzi-Escot 1988, p. 193; Valdez and Vivanco 1994, pp. 148–152). Storage structures have been

tentatively identified in some villages in the Asto and Huánuco areas, located in clusters that are not associated with domestic compounds (Lavallée 1973, pp. 102–103, 111; Morris 1972). Special purpose storage sites also have been identified in the Tarama–Chinchaycocha region (Parsons and Hastings 1988, p. 210; Parsons et al. 2000a, b). Along with mortuary monuments (see below) and defensive walls, modest storage facilities represent virtually the only group-coordinated works at sites in the central highlands.

Domestic architecture varies widely in form throughout this region but tends to consist of small (<50 m<sup>2</sup>) single-room structures that are often arranged in clusters on a domestic terrace (D'Altroy 2001b; DeMarrais 2001; Earle et al. 1987; Lavallée and Julien 1975, pp. 118–119; Matos 1972; Parsons et al. 2000b; Perales 2005, p. 128). Most domestic buildings are circular or of irregular plan, and rectangular buildings are rare or absent at LIP sites in the central highlands (DeMarrais 2001; González Carré and Pozzi-Escot 1988, p. 196; Parsons et al. 2000a, pp. 92–93). Patio groups vary in size. While many Chanka sites lack clear signs of clustering, there is evidence of larger clusters at higher-order sites in other parts of the region (DeMarrais 2001; Lavallée 1973, pp. 97–100). Generally speaking, multiple modes of domestic cluster size indicate the presence of elites at the large towns and centers occupied in the second half of the LIP. Households identified by archaeologists as elite contain more roofed area and more open patio space where political and social functions would have been conducted (DeMarrais 2001, p. 152). Such distinctions tend to be modest and tend to be identified at the largest late LIP settlements.

Public architecture has been identified in some parts of the central highlands, where it includes defensive works, storage facilities, and ritual structures that appear to have had a mortuary element (e.g., Parsons et al. 2000a, pp. 149–180, 191; Perales 2005, pp. 130–131). DeMarrais (2001) has noted an overall lack of planned plaza spaces and public architecture at Wanka sites, indicating that most political and ceremonial activity would have occurred in elite households. Tunanmarka, a regional center in the Xauxa area, does contain a pair of walled plazas in the central part of the site, which are associated with small rectangular and circular structures (DeMarrais 2001, pp. 133–136). This has been interpreted as evidence that central coordination of labor and spatial planning was only beginning to emerge at the very largest LIP sites in the central highlands just prior to Inka conquest. Large construction projects were coordinated to develop community defenses, but it appears that kinship and continuing social ties were the basis for building and maintaining nondomestic structures.

Mortuary treatment in this region ranges from individual in-ground graves to group burials of a variety of forms. Tombs in rockshelters or cliffs have been identified in some agricultural elevations, while herding elevations contain above-ground mortuary structures and subsurface tombs (Parsons et al. 2000a, pp. 172–175; Perales 2005, pp. 130–131). In-ground ossuaries surrounded by circular walls have been observed in the Province of Victor Fajardo, while the region that includes Ayacucho, Huancavelica, and Andahuaylas is characterized by burials of multiple individuals in caves and rockshelters (González Carré and Pozzi-Escot 1988, p. 206). Lumbrales (1974, p. 199) has identified two burial patterns for the Río Pampas region: circular mausoleum constructions built with corbel-vaulted roofs, and

in-ground graves located near houses. Household excavations at LIP Xauxa sites encountered numerous primary burials within patio groups (Hastorf 2001a, p. 176).

In many cases, cemeteries appear to delimit group boundaries, indicating relatively small territory sizes and considerable diversity in cultural practices. Mortuary remains are not sufficiently preserved or studied to identify status differentiations within or between communities; at any rate, it appears that kin-level mortuary facilities provided a degree of social integration in the Tarama-Chinchaycocha area and some other parts of the central highlands.

Multiple ceramic styles are present throughout the central highlands after A.D. 1000, indicative of widespread local production (e.g., Costin 1986, 2001; Costin and Hagstrum 1995; González Carré et al. 1988b, pp. 26–27; Lavallée 1973, p. 94; Lumbrales 1974, pp. 198–200; Matos 2000, pp. 39–42; Parsons et al. 2000a, p. 142; Perales 2005, pp. 132–133; Valdez and Vivanco 1994, pp. 148–152). These styles have limited distribution—for example, Wanka tradewares from the Xauxa area are rare in the neighboring Tarama-Chinchaycocha area, where San Blas Red/Buff predominates (Parsons et al. 2000a, pp. 142–143). In the northernmost parts of the central highlands, Chimú and Cajamarca pottery occur in rare instances in surface collections and excavated contexts but do not constitute dominant styles for the region (Thompson 1973, p. 122). Even in areas considered to have a unified cultural affiliation—in particular, the so-called Chanka heartland—there is considerable ceramic diversity, with overlapping distributions of multiple styles across restricted territories (González Carré et al. 1988b; Lumbrales 1974, pp. 198–200).

The most complete perspective on LIP life in the central highlands comes from the Xauxa area. Evidence from faunal and botanical assemblages indicates differences in the diets of elites and commoners, with the former consuming more meat and maize (Hastorf 2001a; Sandefur 2001). Elites also had better access to metal and shell artifacts (Owen 2001, p. 291), items acquired through limited long-distance exchanges (see Costin and Earle 1989; Earle 2001). The Xauxa polity lacked a central and specialized government, and elites appear to have exercised heterarchical and kin-based power and authority (Hastorf 2001b, p. 317).

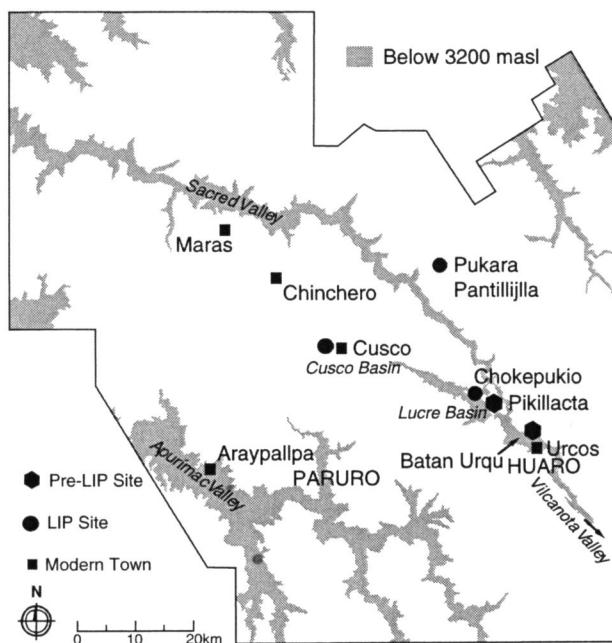
### LIP regional developments

Overall, the disintegration of the Wari heartland contributed to the prevalence of regional sociopolitical decentralization during the first half of the LIP. Over time, there is evidence of substantial population growth and increased coordination of economy and defense as new political and ethnic groups emerged. The absence of multitiered settlement hierarchies and central administrative infrastructure (e.g., standardized temples, palaces, public architecture, and plazas)—as well as the diversity in material culture and mortuary style—clearly indicates that local polities in the central highlands were not organized as centralized states, even though elites appear to have become more involved in managing community subsistence, warfare, and alliance building during the second half of the LIP. While political organization in the Cajamarca, Huamachuco, Xauxa, and Asto areas exhibits a degree of complexity—including patterns of duality indicating intrasite or

interzonal ecological complementarity—the Chanka area appears to lack large villages and towns. The apparent overlap of early Inka pottery at late LIP Chanka sites is more reasonably associated with Inka state formation and expansive hegemony rather than Chanka imperialism.

### The Cusco region

Local groups residing in the Cusco region were influenced by Wari colonists who established settlements in the Lucre Basin and Huarō area (located about 30–45 km southeast of Cusco, Fig. 3). From approximately A.D. 600 to 900, Wari settlement transformed the area immediately surrounding Wari sites, as evidenced by the construction of rectangular compounds, the presence of imported ceramics from the Ayacucho region, and the establishment of rich burials at the site of Batán Urqu and other cemeteries (see Glowacki 2002, 2005; Glowacki and McEwan 2001; McEwan 1991, 1996; Zapata 1997). Local groups living more than a few hours' walk from the principal Wari sites were not heavily affected by Wari colonization, although they probably participated in periodic festive and ceremonial events sponsored by their neighbors (Bauer 1999, p. 63, 2004, pp. 63–67; Covey 2006a, pp. 74–75). Massive amounts of labor were invested in the ongoing construction of a provincial center at Pikillacta, but survey and excavation evidence indicates that the administrative purpose for which the site was intended was never fully achieved (e.g., Glowacki 2005, pp. 119–120; cf. Glowacki and McEwan 2001, pp. 42–44).



**Fig. 3** The Cusco region

### Early LIP social organization

In the tenth century, major Wari sites in the Cusco region began to be abandoned (McEwan 1991, p. 116; cf. McEwan 2005, pp. 147–148), and the region experienced changes consistent with widespread political balkanization.

Settlement patterns for the first part of the LIP indicate substantial diversity in political organization, and a lack of regional political integration (Bauer and Covey 2002). The Paruro region south of the Cusco Basin had a small population at that time, characterized by small villages and hamlets organized on the basis of economic interests rather than defense (Bauer 1990, 1992, 1999; Heffernan 1989, 1996). North of the Cusco Basin, the Sacred Valley experienced a substantial increase in the number of sites (and overall area occupied), with the development of multiple settlement clusters in the larger side valleys (Covey 2003, 2006a, pp. 81–96). Large villages are situated on prominent ridgetops at 4000 m or higher, while small villages and hamlets are present at lower elevations. Settlement hierarchy and site location for areas north and south of the Cusco Basin indicate the presence of multiple groups of moderate political complexity, with a production focus oriented toward polity- or community-level management of ecological complementarity.

Groups living in the Cusco Basin and some parts lying to the east and west appear to have been organized in more hierarchical systems, with intensive maize agriculture providing the basis for local political economy. The largest sites around Maras, Urcos, and the Lucre Basin were 20 ha or larger and found in undefended locations near valley-bottom farmlands (Covey et al. 2006; Dwyer 1971; Glowacki 2002; McEwan et al. 2002). These towns appear to have been the principal settlements of polities characterized by a fairly high degree of complexity but limited territorial control (Covey 2006b). The Cusco Basin had a sizable LIP settlement, but unlike areas to the east and west, the growing site of Cusco oversaw a more hierarchical settlement system that included large villages, small villages, and hamlets that were located near the valley bottom (Bauer and Covey 2002).

In the upper Vilcanota Valley, Dean and Sillar (Dean 2005, pp. 298–302; Sillar and Dean 2002) report a shift to hilltop settlements. While population appears to have risen during the period, this may be due in part to the shifting of site locations throughout the period. The regional settlement pattern comprises hamlets and villages, and some hilltop sites may have been used only periodically. The largest sites reported in this area are about 10 ha, with up to 200 circular domestic structures enclosed by modest walls.

LIP villages and towns in other parts of the Cusco region are often associated with modest defensive works or agricultural terracing and canals (Covey in press). The small villages located south of Cusco generally lack evidence of large-scale planned public works of either type, while Sacred Valley polities chose more inaccessible site locations and invested preferentially in defensive works (Bauer 1990, 1992; Covey 2006a; Heffernan 1996). The complex polities in the Cusco Basin and areas to the east and west appear to have either developed infrastructure for maize agriculture or maintained systems that were first constructed in Wari times. Overall, sites show a lack of central planning and fairly haphazard layouts.

Architecture is unevenly preserved throughout the Cusco region, but some important distinctions can be made (see Kendall 1976, 1985). Domestic architecture north of the Vilcanota River tends to consist of semicircular houses constructed of rough fieldstones. House size varies somewhat (about 30–50 m<sup>2</sup>), and clusters of houses are found on domestic terraces, indicating variations in family size and status. There is considerable heterogeneity in construction techniques between sites: corbelled doorways, second story construction, and internal niches are features not found at all sites. There is some evidence of rectangular domestic architecture in other parts of the Cusco region (Kendall 1994, 1996; Kendall et al. 1992). Little is known of the LIP architecture of the Cusco Basin, although González Corrales (1984) describes foundations of a building with a generally rectangular plan (but with rounded corners) and suggests some patterns for early Inka architecture.

Public buildings, planned plaza spaces, and temples appear to be absent at the lower order sites north and south of the Cusco Basin but have been identified in excavations at Chokepukio (McEwan et al. 2002). Given that administrative and religious architecture was established at several villages in the Sacred Valley during the late LIP—following their incorporation into the Inka state—it is reasonable to assume that such buildings were constructed at the LIP settlement at Cusco, and probably at other towns in the region (Covey 2006a, *in press*).

Mortuary archaeology in the Cusco region is problematic because of centuries of looting and destruction of above-ground tombs and variable preservation of subterranean burials. Above-ground mortuary structures proliferated in the region during the LIP (Bengtsson 1998; Covey 2006a, pp. 96–99; Franco Inojosa 1937; Hiltunen and McEwan 2004, p. 244; Isbell 1997; McEwan 1991, p. 110; McEwan et al. 2002). These structures are particularly visible north of the Vilcanota River, where they take the form of ovoid or rectangular structures built of fieldstones outside of LIP villages. Other mortuary practices are evident in the Sacred Valley, including simple cliff tombs, plastered mud mortuary boxes, and in-ground burials (Covey 2006a, pp. 96–99). Group burials in caves have been reported for the late LIP and Inka period (e.g., Dean 2005, pp. 308–314), while late LIP domestic contexts at Pukara Pantillijlla yielded subfloor burials of an infant and an adolescent (Covey 2006a, p. 160). Taken with other lines of evidence, diversity of mortuary treatment is consistent with differences in group identity (Dean [2005] reports a similar diversity for the upper Vilcanota Valley; see also Sillar and Dean 2002). These practices represent a departure from Wari wall tombs and skull caches at Pikillacta (Verano 2005), although such tombs may have persisted at Chokepukio during the LIP (McEwan et al. 2002, p. 294; cf. Hiltunen and McEwan 2004, p. 244).

Several distinct ceramic styles were produced in the Cusco region in the LIP. Killke, the Cusco Basin style, dominates surface assemblages within about 20 km or so of Cusco, dropping off north of the Vilcanota River and south of the Apurímac River (Bauer 1992, 1999; Covey 2006a; see Dwyer 1971; González Corrales 1984; Heffernan 1996; Rowe 1944). Killke appears to have greater distribution than other LIP styles, but this may not have been true before the formation of the Inka state in the 13th century (see below). The Lucre Basin is characterized by an eponymous style that is found in small percentages in the Cusco Basin and Sacred Valley, as

well as at sites in the Vilcanota Valley (McEwan 1984; McEwan et al. 2002). Decorated pottery also appears to have been produced at sites north of the Vilcanota River (the Chongo and Qochoq Valleys), west of Cusco (near Chinchoro and Maras), and south of the Apurímac River (near Araypallpa) (see Alcina Franch et al. 1976; Bauer 1999; Bauer and Stanish 1990; Covey 2006a; Dwyer 1971; Haquehua and Maqque 1996; Kendall 1976, 1985, 1994, 1996; Lunt 1984, 1987; Rivera Dorado 1971a, b, 1972; Rowe 1944). Dean (2005, pp. 279, 307–308) reports that Cusco Valley styles were uncommon in the upper Vilcanota Valley survey region, where Titicaca Basin pottery was slightly more common.

Wari colonies near Cusco were abandoned and burned as part of a region-wide transformation of settlement and political organization. There is evidence of considerable political—and possibly ethnic—diversity in the Cusco region during the LIP. Small groups north and south of Cusco and in the upper Vilcanota Valley appear to have pursued extensive economies based on local management of ecological complementarity, while the most complex polities in the region developed or maintained intensive maize agriculture. Large towns in the areas formerly dominated by Wari settlement appear to have become primate centers of territorially restricted complex polities, while the Cusco Basin developed into a larger and more hierarchical settlement system. It was here that the Inka state developed by the end of the 13th century.

#### Late LIP social organization: Inka state formation and territorial expansion

The Inka state formed out of conditions of balkanization associated with the decline of Wari influence in the Cusco region. While most settlements throughout the region were abandoned after the 10th century, the Cusco Basin saw considerable continuity of settlement. Some areas between the Cusco Basin and rival polities were abandoned during the LIP (Bauer and Covey 2002), but the basin itself was characterized by undefended valley-bottom settlements, with substantial population growth and the emergence of the city of Cusco as the principal settlement of the developing Inka polity. As populations grew, new lands were brought into cultivation through the construction of canals and agricultural terraces, and new villages were settled in areas that had previously been too marginal for agricultural production (Bauer and Covey 2002). These projects would have helped feed a growing urban population in Cusco and would have made the developing Inka polity more competitive during climatic fluctuations, particularly the severe and extended period of drought that began in the late 13th or early 14th century (Covey 2003, 2006a, b).

The Inka state appears to have formed during the 13th century, and it began to annex territory in neighboring regions soon after. Radiocarbon dates from a second-tier Inka administrative site at Pukara Pantillijlla provide a *terminus ante quem* of c. A.D. 1300 for Inka state formation (Covey 2003). The Inka state expanded through warfare, marriage alliances, and intimidation, establishing administrative and religious architecture in local villages under its control (Covey 2006a). Major rivals to the east and west of Cusco appear to have remained autonomous until around A.D. 1400, when the Inka state consolidated its governance of the entire region.

## The Titicaca Basin and surrounding region

The Lake Titicaca Basin is a large high-elevation region whose eastern and southern parts were administered by the Tiwanaku state during the Middle Horizon (Albarracín-Jordan 1996; McAndrews et al. 1997; for recent overviews, see Janusek 2004a, b). The western and northern parts of the basin lack region-wide evidence for direct state administration at that time (for a recent overview, see Stanish 2003, pp. 165–203). Peripheral territories began to break away from the central Tiwanaku government before A.D. 1000, and the Tiwanaku state had collapsed by A.D. 1100 (Albarracín-Jordan and Mathews 1990; Bermann 1994; Bermann et al. 1989; Janusek 2004a, pp. 249–273; Williams 2002).

### Early LIP social organization

Social organization and economic activity were profoundly altered with the collapse of Tiwanaku—a break with a 2500-year pattern of village life in what had been the Tiwanaku heartland (Bandy 2001, p. 235; cf. Stanish 1994, p. 322). The population of many parts of the Tiwanaku heartland declined substantially (Albarracín-Jordan 1992, pp. 277–284; Bandy 2001, p. 236; Bauer and Stanish 2001; Stanish and Bauer 2004, pp. 38–39), dispersing into new settlement patterns, sociopolitical arrangements, and ethnic identities. Although few Tiwanaku habitation sites were abandoned completely (Albarracín-Jordan and Mathews 1990, p. 140; Janusek and Kolata 2003), their populations were greatly diminished, and the monumental architecture and art styles characterized by the Tiwanaku state gave way to more modest and localized creations (Janusek 2004a, pp. 253–267, 2005).

As Stanish (2003, p. 216) observes, most of the LIP population of the Titicaca Basin lived in dispersed villages and hamlets (Albarracín-Jordan 1992, p. 277; Albarracín-Jordan and Mathews 1990, pp. 191–192; Bandy 2001, p. 235; Frye 1997; Frye and de la Vega 2005, pp. 177–180; Mathews 1992; Stanish 1992, pp. 86–97, 2003, pp. 204–235; Stanish and Bauer 2004, pp. 37–39; Stanish et al. 1997, pp. 55–56). Although some of the raised fields and terraces used in Tiwanaku times were maintained at this time (Albarracín-Jordan 1992, p. 282), population throughout the basin was scattered over a broad range of microclimates, with a significant movement into upper elevation agricultural lands and pasture areas that had not seen significant human occupation before (Albarracín-Jordan and Mathews 1990, pp. 191–192; Frye and de la Vega 2005, pp. 176–180; Hyslop 1976, p. 132; Mathews 1992; Stanish 1994; Stanish et al. 1997, pp. 55–57). Settlement hierarchies were relatively flat, with the majority of sites comprising single-family hamlets (cf. Graffam 1994, pp. 886–887).

This change indicates the absence of state governance in the region and signals that local authority was modest and that economic activity was organized at the household level. Economic activity shifted away from intensive agriculture to broad-spectrum horticulture and pastoralism (e.g., Stanish 1997). The dispersal of population across the landscape and kin-ordered patterns of food production may have been a response to fluctuating (but generally arid) climatic conditions, but

populations appear to have been modest enough to avoid common conflicts over resources, and settlement patterns indicate that site locations may have shifted throughout the period.

In the final century or so of the LIP, the western part of the Titicaca Basin saw a marked increase in population, regional political complexity, settlement nucleation, and investment in defensive works (e.g., Arkush 2005). Refuges and fortified sites (*pukaras*) appear to have developed throughout the LIP as temporary locations for dispersed settlements to congregate in the face of outside threats, but late LIP pukaras are often characterized by considerable areas of permanent residence (Arkush 2005; Frye 1997; Frye and de la Vega 2005; Hyslop 1976; Stanish 2003; Stanish et al. 1997). A limited number of major pukaras emerged as centers that coordinated defensive activities (and, presumably, political economy) of the populations living within 10 km or so. Arkush's (2005, p. 278) suite of radiocarbon dates from the Qolla area strongly ties the rise in complexity and regional settlement hierarchy to the late LIP, although corresponding dates are limited for the southern Titicaca Basin pukaras (but see Frye and de la Vega 2005, p. 178). Researchers are beginning to view the major pukara phenomenon as being a late LIP development.

As mentioned above, most settlements of the LIP were small villages or hamlets that exhibit little central planning or hierarchy. Most of these sites have been identified through surface scatters of pottery, and the absence of standing architecture makes it difficult to describe these settlements in detail.

Local fortified sites in the Titicaca Basin comprise small refuges and minor pukaras, which are widely distributed on hilltops and prominences and exhibit limited defensive works and modest (or no) evidence of domestic occupation (Albarracín-Jordan 1992, p. 282; Arkush 2005, pp. 249–270; Stanish 2003, pp. 209–210, 214–216). Researchers distinguish these from major pukaras, a more limited group (estimated by Stanish [2003, p. 213] in the dozens) of impressive forts with massive defensive works that walled in large domestic sectors, cemeteries, and even agricultural lands and pasture area (e.g., Stanish 2003, p. 209). Minor defensive sites appear to have met local defense needs against raiding throughout the LIP, while major pukaras appear to be a late LIP phenomenon that developed as raiding shifted to warfare and larger populations organized more hierarchical regional polities (Arkush 2005; Stanish 2003).

Descriptions of major pukaras reveal a considerable investment in the construction of fortifications (especially multiple rings of massive walls enclosing a hilltop), with more organic layout of domestic sectors and mortuary areas (Arkush 2005, pp. 221–245, 2006; Frye 1997; Hyslop 1976, p. 341–347; Stanish 2003, pp. 211–214). Domestic areas of these sites exceed 20 ha in the largest examples, with more than 500 domestic structures present (Arkush 2005, pp. 249–270; Frye 1997, p. 133; Hyslop 1976). Streets or accessways tend to separate residential sectors at the largest sites, and in the absence of a clear civic-ceremonial core (although open plaza spaces are identifiable), this may suggest a more heterarchical organization for these sites, the largest of which brought together permanent populations in the low thousands.

Domestic architecture for most of the Titicaca Basin LIP and many nearby highland areas consists almost exclusively of single-room circular structures that are

frequently grouped on domestic terraces or around enclosed patio spaces (Arkush 2005, pp. 177–181; Beaule 2002; Dean 2005; de la Vega 1990; Frye and de la Vega 2005, p. 178; Hyslop 1976; Rivera 1991, pp. 34–38, 1993; Schiappacasse et al. 1989; Stanish et al. 1993; Wise 1993; but see Bermann 1993, pp. 132–133). Not all areas in the region have identifiable domestic architecture, and it is likely that mud brick was a common construction material. Cut stone is rarely seen (unless it is reused from earlier Tiwanaku structures), and often unworked stone slabs were used only to delimit house foundations, with a superstructure of perishable material (e.g., Arkush 2005, pp. 231–238). Structure sizes are modest, typically ranging from 2 to 7 m in diameter, and it is difficult to distinguish elite and non-elite households (Arkush 2005, pp. 231–238; Chacama 2005, p. 361; Frye and de la Vega 2005, p. 178). Domestic groups often have small circular structures attached to them, which several researchers believe to have been household-level storage (e.g., Arkush 2005; Chacama 2005, p. 361; Frye and de la Vega 2005, pp. 178–179).

Public architecture is most easily discernible in late LIP major pukara sites, where the defensive works themselves are accompanied by drainage works and streets or accessways (Arkush 2005; Santoro and Chacama 1982; Stanish 2003, pp. 214–216). Some sites have large open spaces that could have been used for public gatherings, but only a few have special structures—large buildings, structures with unusual plans, or large platforms—indicating a special purpose (e.g., Arkush 2005, pp. 240–243). These constructions vary from site to site and appear to be associated with later LIP pukaras.

Mortuary patterns in the Titicaca Basin reflect a discontinuity from Tiwanaku burial practices, with a shift toward above-ground facilities that marked the social, economic, and ritual landscape (Stanish 2003, p. 229). Burial typologies for the region include (1) simple cist interments, which tend to hold one individual and few grave goods; (2) slab-cist tombs, pit tombs that are marked with a ring of slabs and tend to hold multiple individuals; (3) group burials in caves or rock outcrops; and (4) above-ground mortuary structures (*chullpas*) (Albarracin-Jordan 1992, p. 310; Arkush 2005, pp. 181–184, 238–240; de la Vega et al. 2005; Frye and de la Vega 2005, pp. 180–183; Stanish 2003, pp. 229–235). Cist tombs represent a continuation of Middle Horizon mortuary practices and are found throughout the Titicaca Basin. The remaining three types represent a shift to group interments of varying degrees of access and visibility. There may be regional or temporal patterns to their distribution—for example, Arkush (2005, pp. 238–240) reports that slab-cist tombs are the most common type seen in Qolla pukara sites. Frye and de la Vega (2005, pp. 180–183) note that cave or grotto burials typically contain LIP ceramics, while *chullpas* continued to be used until early colonial times.

*Chullpas* are distributed throughout most of the Titicaca Basin—with perhaps the exception of the former Tiwanaku heartland (Albarracin-Jordan 1992, p. 309)—as well as many nearby altiplano and sierra areas (e.g., Gisbert 1994; Hyslop 1977; Isbell 1997; Kesseli and Pärssinen 2005; McAndrews 1998, pp. 158, 168; Neira 1967; Rivera 1991, pp. 34–38; Rossi et al. 2002; Schiappacasse et al. 1989; Stanish 1985, 2003, pp. 230–234; Wernke 2003). Stanish (2003, pp. 230–235) observes that there is considerable variation in mortuary monuments categorized as “*chullpas*”: they are built of mud bricks, fieldstones, and cut stone, are both circular and

rectangular in plan, and vary in size and height (1–5 m). Some are up to three stories high. Stanish notes that chullpas are a post-Tiwanaku mortuary phenomenon that is widespread throughout much of the Andean highlands (cf. Isbell 1997) and that they were burial loci for corporate groups at a time when mortuary locations helped structure space and resource availability. Many of the most monumental were constructed during Inka times, and Stanish concludes that LIP chullpas and slab-cist tombs were used by elites and non-elites alike, with some elite groups constructing monumental ones.

The emerging regional picture of the Titicaca Basin LIP is one of substantial political and economic diversity, and this is reflected in the ceramic styles of the period (e.g., Lumbrales 1974, pp. 205–206; Stanish 2003, pp. 227–229). Black-on-red and tricolor (black, white, red) are common on the styles from this region and neighboring areas. Although the chronology for the region still remains to be effectively subdivided, regional distribution patterns are emerging for the various styles, including Collao, Asillo, Sillustani, Pucarani, Kelluyo, Early Pacajes, and Chilpe (e.g., Arkush 2005, pp. 291–301; Albarracín-Jordan 1992, pp. 272–273; Bandy 2001, pp. 230–232; Bennett 1950; Frye and de la Vega 2005, pp. 176–177; Lumbrales and Amat 1966; Rivera 1991, pp. 34–38; Rydén 1947; Schiappacasse et al. 1989; Stanish et al. 1997; Tschoepik 1946). Pottery from the upper-valley areas to the east and west (e.g., Mollo, Chuquibamba) is found in low frequencies at larger sites, but the local styles tend to be distributed most strongly within a region of perhaps approximately 50 km in radius (Arkush 2005; Bermann 1993, p. 132). Ceramic styles from coastal areas are rare at altiplano sites (e.g., Hyslop 1976, p. 210). Arkush's work has shown that ceramic distribution varies well with pukara clustering for her region, which would seem to indicate that social/political divisions and stylistic diversification were more characteristic of the late LIP (Arkush 2005, pp. 291–316).

### Late LIP social organization

Recent dates from major pukara sites indicate that regional intergroup conflict and political integration increased in the final century or so before the region began to come under Inka control. As Arkush argues (2005, p. 322ff, 2006), rising population and fluctuating climatic conditions are likely to have contributed to these developments in many parts of the Andean highlands at that time. It is important to note that pathways to complexity in the western part of the Titicaca Basin are distinct from those in the Tiwanaku heartland, where intensive agriculture sustained settlement hierarchies and processes of urbanization and state formation. High-elevation horticulture reduced risk of crop failure in the face of climatic flux, and some surplus production and storage appears to have been part of household-level strategies for risk reduction. Such surpluses were modest, however, and appear to have been supplemented by herding practices that were aimed more at buffering food risks than increasing caloric intake of meat or secondary products. Late LIP polities of the western Titicaca Basin organized around group needs for defense, coordination of increasingly limited pasture and farmland, and suprafamilial needs

to maintain healthy herd structures. They did not generate a complex social hierarchy with a distinct elite stratum or occupational specialists. In this regard, this region resembles the Xauxa area and contrasts with political economies in the Cusco region and much of the coast.

### The north coast

Unlike most highland regions, which were organized around mixed agropastoral economies with corporately held resources, coastal regions continued to rely on intensive valley-bottom agriculture and marine resource exploitation during the LIP whenever local ecology permitted. While LIP complexity in many parts of the highlands was based on a socioeconomic departure from the state economies of Wari and Tiwanaku, coastal societies maintained or remobilized hydraulic agricultural systems that had been developed centuries before (e.g., Moseley and Deeds 1982), and the political entities that coalesced along much of the Peruvian coast show considerable continuity with earlier societies. The north coast comprises the area between the Chillón Valley and the Tumbes area (Fig. 4), a region characterized by fertile valleys surrounded by extremely arid desert.

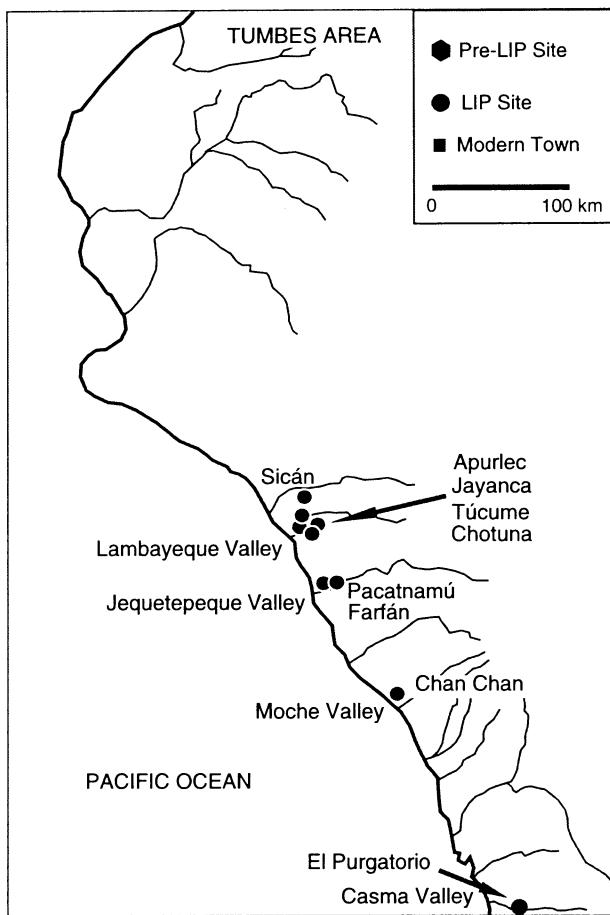
#### Wari influence and the persistence of local Middle Horizon polities

Wari influence on the north coast was limited (e.g., Donnan and Mackey 1978, p. 213), although Wari sites have been identified in the Callejón de Huaylas in the upper Santa Valley (e.g., Isbell 1991). On the coast itself, recent excavations indicate the evolution of existing patterns of statecraft and social organization, with some degree of contact with the Wari state or its colonies (e.g., Castillo 2000). Sociopolitical conditions that prevailed on the north coast throughout the LIP were rooted in the developmental trajectory of the Mochica state. These trends began earlier there than in highland regions under Wari and Tiwanaku influence.

#### Early LIP social organization

Following the decline of the Mochica state, parts of the north coast were organized as states that had limited contact with Wari. Researchers distinguish three polities—Lambayeque (A.D. 800–1350), Chimú (A.D. 900–1470), and Casma (A.D. 800/900–1300) that may have developed centralized states or confederations of small complex polities in the late Middle Horizon and early LIP (Conlee et al. 2004, pp. 211–217; Shimada 2000; Vogel 2005). The Chimú state began to expand its territory in the late LIP, incorporating much of the north coast region under its imperial control.

After approximately A.D. 800–900, many parts of the north coast experienced widespread site shifts and changes in political organization, with general population decline observed in many valleys (Proulx 1968, 1973, p. 66; Shimada 1990; Willey



**Fig. 4** The north coast region

1953; Wilson 1988, pp. 345–349, 1995, pp. 203–206). In the late Middle Horizon and early LIP (c. A.D. 850–1000), population grew in the Jequetepeque and Lambayeque Valleys at Pacatnamú, Sicán, Apurlec, Chotuna, Túcume, Cinto, and Jayanca, as well as at Chan Chan in the Moche Valley (Kolata 1982, p. 83; Moseley 2001, p. 263; Narváez 1989; Parsons and Hastings 1988, pp. 195–198; Sandweiss 1995; Sandweiss and Narváez 1995; Shimada 1995). Chan Chan and some of the other aforementioned sites were capitals of small polities developing at the end of the Middle Horizon and early part of the LIP. The Casma Valley appears to have been integrated under the site of El Purgatorio after A.D. 900 (Mackey and Klymyshyn 1990, pp. 196–198; Wilson 1995, pp. 203–206).

Prior to the 13th century, the Sicán, Chimú, and Casma polities each appear to have had territorial control over the floodplain and agricultural lands of a few valleys (Conlee et al. 2004; Mackey 1987, p. 122; Mackey and Klymyshyn 1990, pp. 196–198; T. Topic 1990, pp. 180–184). These polities controlled floodplain

areas and inland sources of irrigation water, but their territories did not extend inland to include mid- and upper valley areas. Some camelid herds may have been maintained in coastal areas (Shimada and Shimada 1985), although herding was not likely to have constituted a major component of local political economies. Groups living in upvalley areas settled in smaller sites that were located in defensible locations, and there appears to have been a lack of substantial hierarchy for upper valley areas throughout the LIP (e.g., Dillehay 1976, 1979; Julien 1988, 1993; Krzanowski 1985; cf. Silva 1992; Vogel 2003).

Modern urban expansion and the continuous use of floodplain lands has made it difficult to sort out LIP settlement patterns in many valleys, but it appears that settlement hierarchies were present in the Lambayeque, Moche, and Casma Valleys. The principal sites were urban centers that dominated lower-order settlements, some of which were small ceremonial centers or local temple complexes (e.g., Alva and Alva 1983; Donnan 1990a, b; Donnan and Mackey 1978; Keatinge 1974, 1975; Keatinge and Day 1973; Pozorski 1982). The territories controlled by these centers ultimately surpassed the administrative capabilities of nonspecialized decision-making hierarchies during the LIP.

Sicán, Túcume, Pacatnamú, and Chan Chan grew to urban proportions (more than 100 ha in some cases) during the first half of the LIP and exhibit signs of central planning, status differentiation, and substantial monumental, religious, and administrative architecture (Day 1982; Donnan and Cock 1986, 1997; Heyerdahl et al. 1995; Klymyshyn 1987; Moseley 1975; Moseley and Mackey 1973; Shimada 1990, 1995, 2000; Topic 1982). Chan Chan appears to have been linked to secondary sites by means of a road system, and the investment of local labor may have preferentially gone toward economic growth and political administration rather than defense. Fortified sites and walls have been found at the margins of Chimú territory and in sensitive locations near other large polities, but these appear to constitute boundary maintenance and the protection of natural resources (viz. irrigation water) rather than indicate a vulnerability to raiding by neighboring groups.

During the LIP, Chan Chan grew to cover more than 20 km<sup>2</sup> (Kolata 1990, p. 107), and as Chimú territory expanded secondary administrative sites were established—either within existing local centers or as newly constructed settlements (Keatinge 1982; Keatinge and Conrad 1983; Mackey and Klymyshyn 1990; Moore 1981). These upper-order sites show a high degree of central planning and include architectural forms that were employed in state and imperial administration. Lower-order Chimú sites were constructed to meet special purposes of the state, including defense, intensive agriculture, and exploitation of marine resources (e.g., Keatinge 1974). Sapp's (2002) work in the Jequetepeque Valley indicates that local lords were sometimes left with a certain degree of autonomy under Chimú rule.

Monumental architecture in the Jequetepeque and Lambayeque Valleys takes the form of truncated pyramids, which also are seen at Chan Chan (Donnan and Cock 1986; Heyerdahl et al. 1995; Shimada 1995). Construction techniques differ between the Lambayeque and Chimú polities, and pyramid structures are much more prevalent in the north (37 are identified at Pacatnamú, compared with five at Chan Chan), while *ciudadelas* (see below) appear to be an exclusively Chimú construction. The Lambayeque culture exhibits a widespread investment in

monumental constructions that appear to be ritual in nature and often are associated with elite tombs. The ceremonial or religious nature of Lambayeque centers contrasts with the bureaucratic and economic character of Chan Chan to the south, although administrative architecture may have been built at the urban center of Pacatnamú after A.D. 1100 (Donnan and Cock 1986).

Architectural remains at Chan Chan and its satellite sites indicate a high degree of complexity in the Chimú polity during the LIP (Keatinge 1982, pp. 202–203; Moore 1986, 1996). Chan Chan has ten large enclosures (called *ciudadelas*) whose functions evolved over time but generally included state storage, administrative spaces, palatial residences, and royal burial platforms (Andrews 1974; Day 1982; Kolata 1982, pp. 83–84, 1990, pp. 126–133). Redundancy of internal architectural units and access patterns indicate that Chimú *ciudadelas* would have been staffed in part by bureaucrats and other intermediate elites (e.g., Topic 2003). These elites lived in walled residential compounds at Chan Chan, 35 of which have been identified at the city (Klymyshyn 1982, p. 119). Elite compounds exhibit a considerable diversity in construction techniques and size (ranging from 600 to 109,000 m<sup>2</sup>), indicating a wide range of elites who occupied positions between the ruling elite and commoners. Intermediate elite architecture is thought to have been constructed during periods in which the Chimú expanded territorially and constructed peripheral administrative sites that contained some of the institutional features of the capital (Klymyshyn 1982; Kolata 1982, pp. 85–86, 1990, pp. 133–134). Commoner settlement has been identified at Chan Chan and at satellite sites near the city (Pozorski 1982; J. Topic 1977, 1982, 1990; Topic and Moseley 1983). Barrios of small irregularly agglutinated rooms that cover more than a square kilometer at Chan Chan are thought to have housed some 20,000 people, many of whom were craft specialists, traders, and retainers (Topic 1982, pp. 146, 173–174).

Like architectural remains, Chimú burial patterns indicate a complex social hierarchy in the Chimú polity. The most elaborate tombs, interpreted as royal burials, were placed in special platforms located within *ciudadela* compounds (Conrad 1982). Virtually all of these are found at the Chimú capital, although a mortuary platform has been identified at the administrative center of Farfán (Keatinge 1982, pp. 206–209). A wide range of burial practices has been identified at Chan Chan, including not just royal burial platforms but also other specialized mortuary structures and in-ground graves in numerous cemeteries in and around the city (Conrad 1982, p. 87). Looted grave goods from north coast cemeteries attest to the presence of extremely rich burials, which often included multiple individuals, precious metal objects, fancy pottery, and adornments fashioned from shell and precious stones (Conrad 1982; Moseley 2001, pp. 264–265).

While the Chimú practice of placing bodies in pit tombs in a flexed position was introduced to the region during the Middle Horizon (Donnan and Mackey 1978, pp. 213–356), the Early Sicán culture continued the Mochica tradition of placing elites in extended positions in deep shaft tombs accompanied with rich grave goods (Shimada 1995; Shimada et al. 2004). Later centers in the Lambayeque region may not have had these kinds of tombs (Conlee et al. 2004, p. 214).

Several ceramic styles were distributed along the north coast during the LIP, including Lambayeque, Chimú, and Chancay (Donnan 1992, pp. 88–101). Early LIP

ceramic styles tend to be distributed along the coast within about 100 km of their production locations. In the second half of the LIP, Chimú pottery came to be distributed along the north coast between Tumbes and the Chancay Valley, as well as in limited quantities in neighboring highland regions (Mackey and Klymyshyn 1990, pp. 199–200; Richardson et al. 1990). The presence of Chimú pottery north of the Lambayeque area and south of the Fortaleza–Pativilca–Supe Valleys does not appear to connote direct state administration of these regions. Chimú ceramics in provincial areas were produced locally following state canons, possibly with molds brought from Chan Chan (Mackey and Klymyshyn 1990, pp. 199–200). State ceramics appear to have been produced by full-time specialists, and fancy Chimú-style blackware continued to be produced into Inka times.

Metal, shell, textile, and feather artifacts indicate the presence of full-time craft specialists, particularly at Chan Chan and other north coast centers (see Moseley and Mackey 1973; J. Topic 1990). Textile studies demonstrate regional variations after the decline of the Mochica state (Boytner 1998a; Rodman and Fernández López 2005; Rowe 1984).

#### Late LIP social organization: Chimú expansion and imperial administration

The territorial expansion of the Chimú polity can be divided into three distinct phases: (1) a consolidation of direct administrative control over the region within about 20 km of Chan Chan, (2) the incorporation of valleys north and south of the Moche Valley, up to a distance of 50 km, and (3) the extension of Chimú administration over the Lambayeque and Casma polities, as well as influence to the north and south of those polities (Keatinge 1982; Mackey and Klymyshyn 1990). The timing of this expansion is similar to, if slightly earlier than, that of the Inka state: local consolidation occurred between A.D. 900 and 1200, with the first wave of expansion in the 13th century and the second in the 14th century.

The extent of the Chimú territory was fairly modest by imperial standards even in the 15th century. Despite administrative control over 500 km or so along the coast, the Chimú empire does not appear to have incorporated the mid- and upper valley areas of the coastal valleys, making its absolute territorial control limited to habitable areas within a region of perhaps 10,000–20,000 km<sup>2</sup>. Imperial expansion was continuing slowly at the time of the Inka conquest, but the Chimú state did not attempt to control highland-lowland ecological complementarity, and investment in wealth production and display seems to have been more important than large-scale territorial annexation once rival north coast states had been conquered.

#### The central and south coast

Wari influence on the central and south coast is thought to have been earlier but less intense than in many highland regions (Agurto Calvo 1984, pp. 101–118; Anders 1989). Possible Wari compounds have been identified in the Chillón Valley (Isla

and Guerrero 1987), the Chincha Valley (Canziani 1992, pp. 107–110), and the Nasca drainage (Conlee 2003, p. 50; Conlee and Schreiber 2006; Schreiber 1987, 1999), where existing settlement patterns appear to have been disrupted. Wari ceramics and textiles are found more widely than architecture, often in mortuary contexts, as well as on the surface of some habitation sites (Bueno Mendoza 1982, p. 26; Farfán Lovatón 1995; Menzel and Riddell 1986, pp. 117–118; Riddell and Valdez Cárdenas 1988, p. 121; Schreiber 2001). The Wari presence throughout this region was variable, with several colonies or enclaves established in coastal valleys. Direct administration beyond about 20 km of Wari sites is rare, and Wari influence was restricted to the exchange of exotic goods in many cases. Foreign architecture and surface pottery are seen most clearly in upper-valley elevations and coastal areas lacking complex social organization, with a general increase in intensity in the south coast.

### Early LIP social organization

The decline of the Wari empire saw an overall disruption of settlement throughout the region (see Fig. 2). Areas that had experienced direct Wari settlement generally appear to have balkanized into small polities of lower complexity, while valleys that had remained more autonomous during the Middle Horizon experienced processes of secondary state formation that probably determined the tempo of the Wari decline in the region. The Chincha Valley is a notable exception to this pattern (Canziani 1992).

Regional settlement patterns in the coastal valleys indicate the decline or abandonment of most Middle Horizon sites. In the Chillón Valley and Nasca drainage, there appears to have been considerable migration into mid- and upper valley areas, with the coalescence of multiple political units controlling small territories and sources of irrigation water (Browne 1992, p. 80; Browne and Baraybar 1988; Farfán Lovatón 1995; Marcus and Silva 1988, pp. 16–17). Sites are commonly located on ridges or hills and display a concern for defense. Settlement systems exhibit a two- to three tier hierarchy of villages, and the largest sites (25 ha or so) are protected by walls (Browne and Baraybar 1988, pp. 312–313; Silva 1996, p. 272).

In contrast, the valleys between Lima and Ica generally exhibit a shift to undefended locations near the valley floor or coastal flood plain, with indications of the organization of more complex political, religious, and economic hierarchies (e.g., Canziani 1992, pp. 110–118; Feltham 1984, p. 52; Kroeber 1937; Lumbrales 2001; Menzel 1959; Stumer 1971; Wallace 1971, pp. 82–131). The largest coastal sites are towns or urban centers (some of them 50–100 ha or more) that were integrated into clear settlement hierarchies (Canziani 1992, pp. 110–118, 2000, p. 92; Matos 2000, p. 47). From north to south, important sites include Zapallán, Armatambo, Pachacamac, Cerro Azul, Ungará, Tambo de Mora, La Centinela, Ica Vieja, Huayurí, and La Tiza (Díaz 2005; Franco 2005; Hyslop 1985; Lumbrales 1974, pp. 191, 195–196, 2001; Marcus 1987; Menzel 1959, 1971; Ojeda 1981; Santillana 1984; Schreiber and Lancho Rojas 1995; Shimada 1991; Stumer 1954;

Uhle 1991 [1903]). The coastal plain in most valleys was organized centrally, with extensive irrigation works present. The Chincha Valley polity linked its capital and second-tier settlements with a network of roads (Wallace 1991).

Many sites in the mid- and upper valley have agglutinated site layouts consistent with an organic growth over time rather than formal planning of public spaces and regular accessways (Browne and Baraybar 1988, pp. 312–313; Conlee 2003, pp. 50–51; Farfán Lovatón 1995; Silva 1996, p. 272). The largest of these sites are walled or protected by other defensive features. Some appear to have ritual areas and modest public architecture, while others reveal a village-level construction and maintenance of irrigation works and agricultural terraces (Browne and Baraybar 1988; Farfán Lovatón 1995; Feltham 1984, p. 52; Silva 1996). Areas that were clearly not organized as states reveal a ubiquity of elite leadership that is distinct from most highland areas at that time, and even modest village sites have identifiable elite residences and public architecture (e.g., Conlee 2003, 2006).

The large towns and cities of the coastal plain tend to have better evidence for central planning, and specialized site functions have been identified within the larger coastal polities (Canziani 2000; Sandweiss 1992; Uhle 1924). Urban centers are known to have had monumental architecture laid out around central plaza spaces, indicating a planned site layout, and some sites have identifiable elite wards and commoner barrios (Marcus 1987, p. 25; Matos 2000, p. 47). These sites have little or no evidence for defensive works, and population growth in many coastal areas indicates a centrally coordinated expansion of irrigation systems.

Monumental construction techniques at large coastal sites exhibit differences that may help to distinguish between political or cultural groups. The pyramids of Armamatambo and the Pachacamac area were constructed of unfired mud bricks, while the site of Cerro Azul in the Cañete Valley has multiple elite residential and storage compounds made of *tapia* (poured mud) with some adobe construction (Guzmán Juárez 2004; Marcus 1987, p. 25; Matos 2000, p. 47; see Silva 1996, pp. 264–272). In the Chincha Valley, the large truncated pyramids at the principal sites are built of *tapia* as well (Canziani 2000; Lumbreiras 2001; Wallace 1998).

Large coastal sites not only have monumental constructions but also have large multiroom compounds that have been interpreted as palaces or elite residences (Eeckhout 1999, 1999–2000; Farfán 2005; Feltham 1984, p. 55; Marcus 1987; Matos 2000; Villacorta 2005; cf. Paredes and Franco 1987). These constructions are larger and of finer construction than commoner residences, which are often simple *kincha* (cane and wattle) enclosures (Marcus 1987; Riddell and Valdez 1988, p. 122).

Upvalley sites exhibit considerable diversity in construction techniques. Household architecture may be circular, rectangular, or irregular in form, and construction techniques include cut stone, mud brick, and a combination of mud and fieldstones (Browne and Baraybar 1988, p. 311; Conlee 2003, p. 56; Silva 1996, pp. 191–252). In some cases, multiple rectangular or circular structures are laid out around open plaza or patio spaces (Browne and Baraybar 1988, p. 311; Silva 1996, pp. 264–272). There are clear differences between the architecture of the coastal plains and inland areas, but it is possible to distinguish specialized religious architecture, elite houses, and lower-status residences at sites in the mid- and upper valley areas of the central and south coast.

LIP mortuary practices are often difficult to describe on the coast due to heavy looting and inconsistent publication of excavation results. Despite such limitations, it has been possible in many areas to identify status distinctions and even occupational specialization as reflected in burial treatment (e.g., Marcus 1987, p. 39). Elite burials have been identified in most coastal valleys, as well as simple in-ground commoner graves. The former include above-ground architecture that may have been used for ancestor veneration (Canziani 2000, pp. 91, 97–98), although mausoleum construction (stone cists) also appears to have been used for burials of members of a kin group (Marcus 1987, p. 39; Silva 1996, pp. 257–263). Burials also are found within households, in pits or chambers dug for burial purposes or in reused storage pits (Silva 1996, pp. 257–263; Willey 1943). Upper valley areas have household burials and group crypts, which are placed in caves or constructed at the bases of cliffs or rock outcrops (Silva 1996, pp. 257–263; Villar Córdova 1935). Overall, mortuary remains indicate multiple levels of social hierarchy in coastal areas, with occupational specialization and maintenance of descent-group identity within larger political organizations. Upvalley mortuary patterns appear to be similar to practices of neighboring highland areas.

Ceramic styles of the central coast indicate major production areas in the Chancay, Lurín, Chincha, and Ica Valleys, with widespread local production of utilitarian pottery, probably organized by local elites (Conlee 2003, p. 56; Feltham and Eeckhout 2005; Kroeber and Strong 1924; Matos 2000, pp. 46–47; Menzel 1959, 1966, 1976; Silva 1996; Strong 1925; Vallejo 2005). The major styles are distributed in coastal areas in valleys to the north and south of production areas, but they are not common in the upper parts of the same valleys (Browne and Baraybar 1988; Feltham 1984, pp. 55, 56; Marcus and Silva 1988, pp. 16–17). Distribution patterns indicate that coastal polities controlled only the lower parts of valleys, often only up to the point where irrigation outtakes for the coastal plain were located.

Mortuary remains indicate occupational specialization on the coast, with men and women buried with fishing tools and weaving kits. Excavations at Cerro Azul indicate large-scale drying of fish for exchange with inland agricultural groups and with highland groups, and coastal elites are thought to have governed specialized fishing and agricultural economies (Conlee et al. 2004; Marcus et al. 1999; Sandweiss 1992). Ceramics produced in these coastal polities indicate some level of specialization, as do other craft traditions such as textile production, shell working, and metallurgy (Garaventa 1979; Kroeber and Strong 1924).

### LIP regional developments

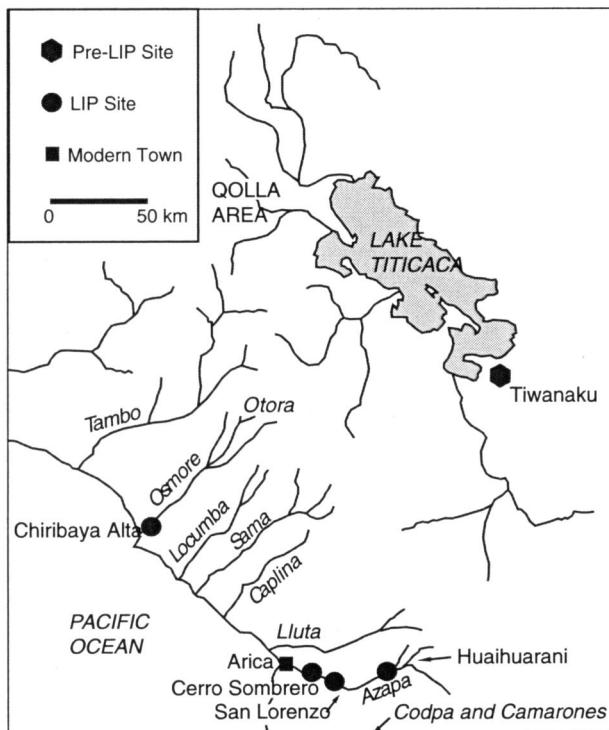
Secondary state formation on the central coast may have been linked to the decline of Wari influence in that region. A handful of small states developed on the coastal plains in valleys between Lima and Ica, while other areas saw a shift to more balkanized and defensive settlement patterns. The coastal states were territorially limited but exhibit evidence for central planning of urban centers and the coordination of complex economies based on specialized intensive agriculture and fishing. Coastal states had elite palaces, temple complexes, and specialized

administrative structures, some of which were linked by road networks. A range of statuses can be observed in mortuary remains.

The coastal states had little control over upvalley areas of their own valleys, where settlement patterns, architecture, and mortuary remains more closely resemble highland patterns. Despite such similarities, it is clear that elite authority in the mid- and upper valleys was greater than is seen in most parts of the central highlands. Elites are more visible on the coastal side, and sites have nondomestic architectural forms that are absent in the highlands at sites that had much larger populations. This may indicate that elites in the coastal valleys functioned as leaders of communities or polities, rather than as heads of descent groups. Kin-based organization certainly continued on the coast, but it appears that elites drew on religious or political power that was more limited or contested in the highlands.

### Coastal valleys of southern Peru and northern Chile

South of the Nasca drainage, coastal valleys are smaller and drier, and generally supported more modest hydraulic agricultural systems, with smaller populations and local organizational hierarchies (Fig. 5). The northern part of this region was influenced to differing degrees by Wari settlement—especially in the mid-valley



**Fig. 5** The Titicaca Basin and the coastal valleys of southern Peru and northern Chile

areas of the Cotahuasi, Majes, Colca, and Osmore Valleys (Cardona Rosas 2002; de la Vera Cruz 1996; Jennings 2002; Malpass 2001; Nash 2002; Nash and Williams 2004; Sciscento 1990; Tung 2003; Tung and Owen 2006; Williams 2001). Tiwanaku influence was felt most strongly from the Arequipa area south, with well-demonstrated occupations in the mid-valley sections of the Osmore and Azapa Valleys and a more limited distribution of ceramics and textiles in lower valley sites (Bird 1946; Cardona Rosas 2002, pp. 84–85; Chacama 2004; Covey 2000; Focacci 1981; Goldstein 1995/1996, 2005; Muñoz 1996; Owen 2005). The Wari and Tiwanaku states both established colonies in the Osmore Valley.

The distinction between Wari- and Tiwanaku-influenced territories is worth making for this region, as is the regional patterning found in mid- to upper valley areas versus coastal ones. Valley populations exhibit a more “vertical” pattern of resource use and interaction, while coastal groups were integrated more “horizontally” along the coast (Muñoz 1996; Sutter 2000). This discussion considers mid- and upper-valley areas from Cotahuasi southward to around the Camarones Valley of northern Chile, while the description of coastal populations focuses on the region south of the Tambo Valley.

### Early LIP social organization

The decline or collapse of peripheral Wari and Tiwanaku sites was not uniform in this region. There is evidence of new social organizations and stylistic expressions emerging at the margins of Wari and Tiwanaku influence in the final years of the Middle Horizon (Dauelsberg 1985; Lozada and Buikstra 2005, p. 219). Several areas that were intensely influenced by Wari and Tiwanaku saw the decline or abandonment of important Middle Horizon centers (although many small sites continued to be occupied), with settlement shifts indicative of new social and economic arrangements (Doutriaux 2004, p. 225; Sims 2006; Williams 2002; but see Jennings 2002, pp. 195–196). Areas not strongly affected by Wari and Tiwanaku colonization experienced independent developmental trajectories as external influences waned (e.g., Sciscento 1990, p. 95; Wernke 2003).

Populations in mid- and upper-valley areas moved into all ranges of agropastoral resources, tending to focus on areas that did not require the construction or maintenance of major hydraulic systems (Doutriaux 2004, p. 225; García Márquez and Bustamante Montoro 1990; Jennings 2002, pp. 194–195; Owen 1996; Schiappacasse et al. 1989, p. 193; Sciscento 1990, pp. 250–251; Stanish 1985; Wernke 2003, p. 176). Modest irrigation systems and agricultural terraces were constructed in some areas, but they tended to be focused on community subsistence rather than large-scale intensification projects (e.g., Wernke 2003, pp. 234–251; but see Brooks 1998). Valley areas with distinguishable early LIP phases lack good evidence for hierarchical settlement, although there does seem to have been an overall growth in population and complexity over time in these regions (e.g., Cardona Rosas 2002; Goldstein 2005; Owen 1996; Stanish 1985). Valley areas where the LIP cannot be subdivided exhibit varying levels of settlement hierarchy. Settlement in some areas (e.g., Cabanaconde, Chuquibamba, Cotahuasi, Lari)

consists of modest villages with maximum populations in the hundreds and without a regional hierarchy of site sizes (Doutriaux 2004, pp. 224–254; Jennings 2002, pp. 200–201; Rivera 1991, pp. 34–38; Schiappacasse et al. 1989; Sciscento 1990, p. 252). In many cases, those LIP villages grew out of existing Middle Horizon settlements and are part of an overall growth and dispersal of population throughout the region. A few areas developed a two- or three-tier regional hierarchy toward the end of the LIP (e.g., Wernke 2003, pp. 176–181), but evidence of region-level administration is absent. While many villages in mid-valley areas are sited on prominent points or ridges, limited defensive features have been observed at these sites, suggesting that intergroup conflict was not rampant for much of the LIP.

Upper-valley sites, particularly in northern Chile, demonstrate a settlement pattern that is similar to what has been observed for the Titicaca Basin and surrounding areas. The site of Huaihuanari in the upper Azapa Valley has more than 1000 domestic structures, and other large sites have been reported in the high elevations of northern Chilean valleys (Rivera 1991, p. 35). Some upper-valley areas exhibit a shift to more defensive site locations (Bawden 1993, pp. 46–50; Rivera 1991, pp. 34–35; Stanish 1985, pp. 44–45, 1989, p. 14), and refuges and pukara fortifications have been observed for the Colca Valley (Wernke 2003, pp. 251–266) and the valleys of northern Chile (Chacama 2005; see below).

Coastal areas provide limited evidence for regional settlement hierarchy, although it is known that complex polities developed in the lower Osmore Valley by the beginning of the LIP and were probably present in the Arica area throughout the LIP (e.g., Bawden 1989; Bird 1943; Clement and Moseley 1991; Dauelsberg 1972; Jessup 1990; Owen 1993; Trimborn 1975; Trimborn et al. 1975; Uhle 1919; cf. Flores Espinoza de Lumbraeras 1969). Coastal settlements are located in areas with permanent water; they are generally modest in size when near small springs and somewhat larger where sufficient water was present to build modest canal and terrace systems (Bawden 1989; Covey 2000; Owen 1993; Umire 1994, 1996, 1998). Large sites such as San Lorenzo and Chiribaya Alta (and possibly Cerro Sombrero) are found several kilometers inland in the Azapa and Osmore Valleys and appear to be centers that coordinated the economic activities of fishing populations, farmers, and part-time craft producers (Muñoz 1993, 2005; Reycraft 1998, p. 58; Rivera 1991). The residential areas of these sites may represent the paramount settlements of two-tier regional hierarchies, and they are surrounded by cemeteries representing diverse economic occupations or ethnic identities, suggesting a ritual significance (Lozada and Buikstra 2005; Sutter 2005).

Settlements in this region include towns/villages, hamlets, and fortified sites. Hamlets are widely distributed throughout survey regions and are indicative of extensive resource exploitation patterns. Villages in valley areas tend to be located near agricultural resources and any improved lands that were used by local communities (Doutriaux 2004, pp. 224–254; Jennings 2002, pp. 194–202; Schiappacasse et al. 1989, p. 193; Sciscento 1990, pp. 250–251; Wernke 2003, pp. 234–251). Visibility and defense appear to have been important in the site locations for villages in some areas (Cardona Rosas 2002, pp. 93–94; Doutriaux 2004, p. 243; Stanish 1985). Villages in valley areas rarely exceeded 10 ha, and where good architectural preservation has been identified it is clear that those sites

have limited public architecture or patterns of overall site planning (Conrad 1993; Rice 1993; Sims 2006). Open plaza spaces have been observed at some of the larger villages (e.g., Jennings 2002, p. 198), but central storage and monumental ritual or administrative structures are absent in these communities. Areas with early and late LIP distinctions appear to have experienced population growth and nucleation throughout the LIP, with the growth of larger villages or towns where some public buildings are identified (Cardona Rosas 2002, p. 97). In general, however, community labor was not invested in monuments or defense but in constructing and maintaining irrigation systems and defensive works that are almost always modest in scale (but see Brooks 1998). Lower-valley areas and coastal sites tend to be located close to permanent water sources and agricultural lands, although temporary fishing sites have been observed in areas lacking permanent water (Covey 2000; Ghersi 1956; Owen 1993, pp. 521–533; Reycraft 1998, pp. 56–69; Santoro et al. 2004).

Fortified sites cluster in the upper valleys of northern Chile and have been reported for the upper areas of the Otoro and Colca Valleys (Stanish 1985, pp. 44–45; Wernke 2003, pp. 251–266). About 14 of these have been identified in the Lluta, Azapa, Copda, and Camarones Valleys, representing a wide range of defensive patterns but sharing similarities in architecture and artifact assemblages (Chacama 2005, p. 364; see also Dauelsberg 1983; Muñoz and Chacama 2005; Muñoz et al. 1987a, b, 1997; Niemeyer et al. 1972–1973). These sites are similar to many of the late LIP pukara patterns described above for the Titicaca Basin, with domestic architecture that is also consistent with highland patterns.

Domestic architecture varies considerably throughout this region, with three general patterns. Mid- and upper-valley areas predominantly have rectangular or agglutinated domestic architecture that varies in construction material, room/structure size, and layout of domestic compounds (Bawden 1993; Brooks 1998; Cardona Rosas 2002; Conrad 1993; Doutriaux 2004, pp. 230, 232–242; Jennings 2002, p. 195; Sims 2006; Stanish 1985, pp. 46–47, 1989, pp. 15–19; Stanish et al. 1993, pp. 83–84; Wernke 2003, pp. 197–198). Domestic structures were built of stone in many areas, although mud brick and cane were used as well (e.g., Owen 1993, p. 103). Houses were either single-room quadrangular constructions that were oriented around a patio area or arranged along a domestic terrace, or they were multiroom structures (often agglutinated) that contained domestic, cooking, and work areas. Storage appears to have been managed at the household level for areas where probable structures were identified. Domestic room sizes vary within sites—for example 10–40 m<sup>2</sup> in the Colca Valley (Wernke 2003, p. 212) and 20–54 m<sup>2</sup> in the Cotahuasi Valley (Jennings 2002, p. 198); some of the larger structures have superior construction and special features such as windows and interior niches. Variations in construction material, room size, and overall compound size indicate status differences in some communities (Jennings 2002, p. 198); they also suggest that many households in this region were organized around extended families. For example, Conrad (1993, p. 58) identifies households with as many as 22 rooms and floor areas as large as 455 m<sup>2</sup> among the late LIP (*Estuquiña*) domestic compounds in the upper Osmore Valley (the reported average floor space for *Estuquiña* households was 161 m<sup>2</sup>).

High-elevation pasture areas in the Colca Valley (Wernke 2003, pp. 197–198) and some parts of northern Chilean valleys (especially Lluta, Azapa, Codpa, Camarones) are characterized by circular domestic architecture (2–5 m diameter) that is similar to what is described for the Titicaca Basin and nearby areas (Chacama 2005, pp. 360–365; Rivera 1991, pp. 34–48; Schiappacasse et al. 1989). Structures are built of stone, with modest variations in the investment in foundations and wall construction. These sites are located at higher elevations—in herding areas—and are strongly associated with refuges and pukaras, as well as black-on-red ceramic traditions that are usually linked to the Titicaca Basin and nearby altiplano areas (see above).

Lower valleys and coastal *quebradas* often have very little identifiable architecture, and it appears that perishable materials (cane or *totoro* mats) were used to construct structural and enclosure walls of rectangular buildings, with wooden poles or bones of large marine mammals sometimes used for structural support (Muñoz 1993, pp. 98–101; Owen 1993, pp. 87–98, 103; Reycraft 1998, pp. 84–92, 119–141, 2005, pp. 65–66; Rice 1993; Schiappacasse et al. 1989, p. 191). Larger sites on the coast exhibit differences in the size, number of rooms, and quality of construction materials used for houses. Chiribaya households of the coastal Osmore Valley often employed stone for foundations, and their houses consisted of multiple rooms attached to enclosed terrace spaces (Owen 1993, pp. 87–98, 103; Reycraft 1998, pp. 84–92, 119–141, 2005, pp. 65–66; Rice 1993). Domestic architecture on the coast varies based on ethnicity, function, and status, and there are observable temporal patterns in places where extensive excavation work has been published.

Beyond domestic architecture, few public buildings have been identified for this region. Religious structures have been identified based on associations with offerings (particularly of painted tablets) (e.g., Jennings 2002, pp. 359–372, 2003), but the region lacks a tradition of monumental religious structures, palaces, central storage facilities, or bureaucratic buildings. To the extent that elites were present in local towns and villages, they appear to have been able to mobilize their constituents for modest projects aimed at resource intensification or defense.

Mortuary practices contrast between coast and highlands in this region, with considerable variation in mid- and upper-valley areas. Mid- and upper-valley areas tend to have above-ground (*chullpa*) structures that are considered to be similar to those described for the Titicaca Basin and nearby altiplano areas (Cardona Rosas 2002, pp. 98–102, 112–115; Doutriaux 2004, pp. 175–184; Duchesne 2005; Rivera 1991; Schiappacasse et al. 1989; Stanish 1985, pp. 85–91, 1989, p. 14; Wernke 2003, pp. 225–234; cf. Jennings 2002, pp. 199–200; Neira 1990). The shift to above-ground group tombs tends to represent a departure from earlier patterns of subterranean individual inhumation, although cist tombs of various forms also are common throughout the region and appear to be a continuation of Middle Horizon practices. In addition to *chullpas* and cist tombs, Stanish (1985, 1989, p. 19) describes an above-ground “collar tomb” type, noting that by the late LIP in the Otora Valley, an emerging elite was buried in *chullpas*, while non-elite groups buried their dead in subfloor interments.

It is important to note that the term *chullpa* is employed to encompass a broad range of above-ground mortuary features, including freestanding circular and rectangular structures (of one or more stories) and constructions that are built onto or abut boulders, cliff faces, and caves. These structures exhibit local variations in construction investment (status differences), but there also is variability between valleys in terms of architectonic features and the use of plaster or paint on mortuary structures. It is only in a few upper-valley areas that researchers see these mortuary practices as co-occurring with circular domestic architecture and altiplano-related black-on-red ceramics, which are taken as evidence of strong cultural connections to the Titicaca Basin, or even colonization by polities of that region (e.g., Chacama 2005; Rivera 1991, pp. 34–38). Given the overall lack of such associations in the valleys of southern Peru, mortuary monuments should be considered to be part of a broad change in political economy and social organization and not as evidence of a highland cultural affiliation.

Coastal burials vary based on social status, occupation, and ethnicity, and tend to consist of subterranean graves that usually contain a single individual but can sometimes hold a small group (Bird 1943; Jessup 1990; Muñoz 1993, p. 99; Owen 1993; Reycraft 1998, p. 58). Cemeteries in the Azapa Valley show variability between fishing populations, agriculturalists, and groups practicing a mixed economy, while in the Osmore Valley the difference between Chiribaya and Ilo-Tumilaca/Cabuza burials has been seen as evidence of multiethnicity in the region near the coast (Owen 1993). The center of Chiribaya Alta has nine distinct cemeteries that exhibit the same occupational diversity seen near San Lorenzo in the Azapa Valley, and excavations at the former site have revealed major status differences as well (Lozada and Buikstra 2005). Burial #419 from Chiribaya Alta contained three individuals in association with litters and a significant number of grave goods; other high-status goods (gold ceremonial axes, pectorals, bracelets, and fine textiles) are known to have come from unprovenienced graves at the site (Reycraft 1998, pp. 58–60). Mortuary archaeology in this region has generated a number of important studies of DNA, bone chemistry, dental traits, cranial modification, skeletal pathology, and other bioarchaeological features (e.g., Blom et al. 1998; Burgess 1999; Lozada 1998; Lozada and Buikstra 2005; Sutter 1997, 2000; Tomczak 2001, 2003; Williams 1990). This research has provided invaluable perspectives on status and ethnicity in the region over the long term and cannot be addressed adequately in this article due to space constraints.

Ceramic production in valley regions appears to have been localized, and local styles tend to be distributed most strongly within the valley where they were produced (e.g., Brooks 1998, pp. 317–356; Cardona Rosas 2002, pp. 93–98, 107–108; de la Vera Cruz 1987; Doutriaux 2004; Jennings 2002, pp. 199–200; Schiappacasse et al. 1989, p. 197; Sciscento 1990; Stanish 1985; Wernke 2003, pp. 172–175). A few styles, particularly late LIP phases (e.g., Churajón, Estuquiña), have a wider distribution across the upper areas of multiple valleys (Cardona Rosas 2002; Stanish 1989). Moving from north to south, ceramic styles include Chuquibamba, Collagua, Churajón, Tumilaca, Estuquiña, and Chilpe, and relative chronologies distinguish between early and late LIP in the Colca Valley (Cardona Rosas 2002; Wernke 2003, pp. 172–175), Osmore Valley (Sims 2006; Stanish 1985, 1989), and Azapa Valley

(Dauelsberg 1960; Rivera 1991). In general, these styles tend to be black-on-red styles similar to those seen for much of the southern highlands and altiplano region.

Coastal styles are distributed more widely, with fewer identified styles distributed along the coast and into the valley areas nearest to production areas (e.g., Bawden 1989; Covey 2000, pp. 125, 131; de la Vera Cruz 1996, pp. 148–149; Jessup 1990; Kroeber 1944; Lumbrales 1974; Owen 1993; Reycraft 2005, pp. 59–63; Schiappacasse et al. 1989, p. 195). The lower parts of important river valleys were nodes of interaction between coastal and highland spheres, and sites in these areas contain a wide range of styles, some of which are distributed in a manner suggestive of enclaves of nonlocal groups (e.g., Bird 1943; Owen 1993, pp. 94–126; Sutter 2005).

Ceramic distributions indicate considerable interaction between coastal, valley, and highland populations. Studies of domestic architecture, ceramic distributions, and mortuary remains suggest ethnic interdigitation in lower-valley regions (e.g., Owen 1993; Reycraft 1998; Sutter 2005). Exchanges appear to have been fairly localized—valley areas often contain coastal polychromes and highland styles, but coastal ceramics are rare in highland contexts and highland ceramics are seldom found along the coast before Inka times (Bawden 1993; Conrad 1993; Covey 2000, p. 131; Muñoz 1981; Muñoz et al. 1987a, b, 1997; Rice 1993; Santoro et al. 1987; Schiappacasse and Niemeyer 1989; Stanish 1985, 1989).

Textiles are particularly well preserved in coastal cemeteries and have been studied extensively to identify spatial and chronological variations (Boytner 1998b; Cassman 1997; Clark 1993; Horta Tricallotis 1997; Reycraft 1998, 2005, pp. 62–65; Sinclair 1995; Ulloa 1981). Mortuary contexts also have yielded ceramics, tools, and prestige goods that help reconstruct social hierarchies and regional economic patterns. The excavation of households and middens has yielded abundant evidence of local food consumption, some craft production, toolkits, and long-distance exchange (e.g., Muñoz 1993; Muñoz and Focacci 1985; Reycraft 1998).

### LIP regional developments

Although population levels appear to have grown in many parts of this region during the LIP, regional integration was minimal and hierarchies were not well developed at the time of Inka incorporation. Warfare does not appear to have been as pronounced as in the nearby Titicaca Basin, although groups living closest to that area constructed nucleated, defensible settlements and refuges. Exchanges between ecological zones were common, indicating regular peaceful interactions punctuated by occasional conflicts with neighboring groups. Some settlements or settlement areas brought together members of different ethnic groups or occupations. Groups of this region did not construct major public monuments, although community labor was occasionally invested in irrigation works and defenses. The distinction between elite and non-elite is only moderately pronounced in mortuary treatment and domestic architecture of the late LIP.

## Discussion

Some general observations regarding regional social patterns over time can be drawn from the above presentation of LIP archaeological findings for the six subregions of the central Andean region.

The first important observation concerns the differences within and between highland and coastal interaction zones. Two main developmental axes can be discerned for the central Andean region, each running parallel to the Andes. The coastal axis runs from around Piura in the north to the Nasca drainage and is characterized by centers supported by intensive floodplain agriculture and marine resource exploitation. The highland axis runs from around Cajamarca to the Bolivian altiplano and, depending on elevation, during the LIP was almost exclusively characterized by decentralized agropastoral settlements focusing on horticultural diversity and herd management. The areas in between the two axes are characterized by considerable cultural and economic diversity and were important conduits for interregional exchanges. The intensity of Middle Horizon highland colonization or influence in these mid- and upper valley areas generally increases from north to south in the subregions discussed.

While highland and coastal axes developed independently in many regards, the dates for Chimú state expansion and Inka state formation and regional consolidation appear to be grounded in the same late LIP macroregional patterns of climatic flux and population growth. The late LIP saw small states flourish and compete with each other on the coast, while in the highlands increased conflict and complexity are observed from Xauxa to the Titicaca Basin. The early expansion of the Chimú and Inka empires focused on incorporation of new populations along their respective axes, with the Inka polity eventually expanding into lowland zones.

Another significant point concerns the economy. Coastal economies were supported by the intensive (and often specialized) exploitation of marine resources and hydraulic agriculture. When possible (or necessary), coastal polities expanded canal systems and transportation infrastructure, maintaining social hierarchies necessary to do so. Tectonic events and climatic fluctuations affected conditions from year to year, and coastal economies buffered production risks through surplus production and storage at civic levels of organization. This probably led to rapid population growth but also contributed to spectacular collapses when severe El Niño events hit the coast.

Highland groups also faced interannual climate variations and generally colder temperatures, but with the exception of the complex polities of the Cusco region, most highland groups appear to have dealt with production risks by diversifying their agricultural production, pooling risk in extended households and broader kin categories, and expanding the role of camelid herding in the local economy. This system was successful enough to increase population throughout the highlands during the LIP, to the point that increased conflict and higher levels of complexity were developing by the end of the period.

The Inka state emerged out of a local economy based increasingly on intensive agriculture. The earliest Inka territorial expansion incorporated neighboring agropastoral groups, after which unused agricultural lands were improved.

The subregional archaeological overviews indicate that power was funded in distinct ways in the region during the LIP. Coastal areas maintained state-level institutions that were often characterized by occupational specialization and centrally managed hydraulic systems. (Documentary accounts detailing aspects of late prehispanic organization along the coast have been published by Susan Ramírez, María Rostworowski, and others.) Along the coast, urban settlements with elite households and burials are easily discernible, and there is evidence of specialist production of craft goods using a wide array of local and nonlocal materials. Coastal polities from the Nasca drainage north invested in religious monuments and over time developed a more obvious suite of administrative spaces and structures. These varied from polity to polity, but it is clear that coastal polities had well-defined social inequality, with elites who could apply labor and tribute to building palaces, temples, and a broad range of infrastructure. Religious activities appear to have been an important aspect of elite justification of inequality, although economic management may have become more important as populations grew and urbanized.

Highland sources of power were generally not founded on hydraulic regimes and were much less hierarchical—a significant departure from the socioeconomic structures of the Wari and Tiwanaku states. Status differences in households were often modest and can be difficult to discern, even in communities numbering in the thousands. The most monumental burials are group-oriented, and craft production appears to have been organized locally by part-time producers. Group labor was more often invested in defending people and resources than in intensification, and it was uncommon for religious monuments to be constructed. As populations grew, warfare appears to have intensified as a regional regulatory mechanism, but social organization does not appear to have been moving toward centralized, specialized regional government in most parts of the highlands.

The exception to this overall pattern is the Cusco region, where a few centers appear to have invested in building or maintaining irrigation systems and where monumental architecture has been identified and excavated.

The distribution of material culture (especially ceramics and textiles) and diversity of domestic and public architecture and mortuary patterns indicate an overall lack of cultural or ethnic integration throughout the Andean region during the LIP. On the coast, this may be because local elites had proliferated and worked to accentuate local distinctions. Coastal regions had different ethnic, religious, and ideological identities that shared compatible political and economic structures. In the highlands, an overall lack of pronounced social hierarchy led to broadly shared cultural patterns with aspects of local variability. Such differences might not have constituted distinct ethnic identities, although local groups probably considered themselves distinct from their neighbors. Ethnic differences were probably most clearly articulated in areas where large herding regions abutted agricultural zones; considerable ethnic interdigitation appears to have been sustained peacefully in many of these areas during the LIP.

The subregional discussion of LIP social organization provides some important perspectives for evaluating how Andean statecraft evolved over time. The coastal interaction zone experienced long-term microevolutionary developments, with local modifications to a coastal model of statecraft and the expansion of state societies

into areas with sufficient resources and population. The Chimú empire represents the emergence of an economically oriented and indirectly administered form of coastal state, but one that was rooted in a millennium of regional development.

By contrast, the highlands experienced widespread disruption to models of statecraft spread by Wari and Tiwanaku during the Middle Horizon. In the early LIP, the core regions of both states saw the adoption of distinct cultural practices and social organization, and to the extent that state institutions were preserved at this time, it was in areas on the periphery of these states. The Inka state developed out of Wari-influenced (or Wari-introduced) economic and social practices, but it expanded territorially into other highland regions by accommodating to varying degrees the existing models of community, lineage and elite authority.

## Conclusions

Recent archaeological investigations of the central Andean LIP bring us much closer to answering Max Uhle's call for an archaeological link between the Inkas and earlier Andean civilizations. The available evidence now informs us not only that the LIP was a time of momentous social and cultural changes, but it also provides clear patterns of the spatial and temporal dimensions of such changes. It is possible to see the complexity of the question of the evolution of Andean statecraft—this cannot be reduced to the simplistic model of universal disorder promoted by Andean informants in colonial documents, nor can we see Inka statecraft as an artifact handed down from Wari and Tiwanaku times and implemented in a like manner.

The multiregional discussion of the LIP also provides considerable information on the conditions in which states collapsed at the end of the Middle Horizon, and the conditions under which new states and empires emerged. The central Andean region experienced population growth and climatic fluctuations throughout the LIP, and these processes set the stage for (but did not determine) the emergence of the Chimú and Inka empires. Chimú expansion may have been based on elite ideology or the land needs of a growing population. If the former, the Chimú state would have reconfigured regional religious structures and the role of elites from other groups. Early Inka expansion tended to be more complementary in terms of local religion and ideology, but with major parallel structural changes to regional political economies as labor tribute was invested in agricultural intensification. Ultimately, the Inka expansion pattern proved to be the one that was most effective at directly incorporating the upper coastal valley areas and extending a more indirect role along the coast.

**Acknowledgments** Elsa Redmond was instrumental in stimulating the development of this article in its original form, and Joyce Marcus read several drafts and provided invaluable support in moving it forward. My theoretical approach and regional perspective were developed through conversations with Kenny Sims, who provided me with notes from a selection of readings from the far south coast and Titicaca Basin. The final version of the article was improved by the helpful comments of six anonymous reviewers, as well as the patient guidance and careful editing by Gary Feinman and Linda Nicholas.

## References cited

- Aguayo Calvo, S. (1984). *Lima prehispánica*, Municipalidad de Lima, Lima.
- Albarracin-Jordan, J. (1992). *Prehispanic and Early Colonial Settlement Patterns in the Lower Tiwanaku Valley, Bolivia*, Ph.D. dissertation, Department of Anthropology, Southern Methodist University, Dallas, TX.
- Albarracin-Jordan, J. (1996). Tiwanaku settlement system: The integration of nested hierarchies in the lower Tiwanaku Valley. *Latin American Antiquity* 7: 183–210.
- Albarracin-Jordan, J., and Mathews, J. E. (1990). *Asentamientos prehispánicos del valle de Tiwanaku, Vol. I*, Producciones CIMA, La Paz, Bolivia.
- Alcina Franch, J., Rivera Dorado, M., Galvan, J., García Palacios, C., Guinea, M., Martínez-Caviro, L., Ramos, J., and Varela, T. (1976). *Arqueología de Chinchero: cerámica y otros materiales, vol. 3, Memorias de la misión científica española en Hispanoamérica*, Ministerio de Asuntos Exteriores, Madrid.
- Alva, W., and Alva, S. (1983). Los murales de Ucupe en el valle de Zaña, norte del Peru. *Beitrage zur Allgemeinen und Vergleichenden Archäologie* 5: 335–360.
- Amat Olazabal, H. (1976). Estudios arqueológicos en la Cuenca del Mosna y en el Alto Marañon. In *Actas del LI Congreso Internacional de Americanistas*, Vol. 3, Mexico City, pp. 534–544.
- Amat Olazabal, H. (1978). Los yaros, destructores del imperio Wari. In Matos Mendieta, R. (ed.), *III Congreso Peruano del Hombre y la Cultura Andina*, Universidad Nacional Mayor de San Marcos, Lima, pp. 614–640.
- Anders, M. B. (1989). Maymi: un sitio del Horizonte Medio en el valle de Pisco. *Gaceta Arqueológica Andina* 17: 27–40.
- Anders, M. B. (1991). Structure and function at the planned site of Azángaro: Cautionary notes for the model of Huarí as a centralized secular state. In Isbell, W. H., and McEwan, G. F. (eds.), *Huarí Administrative Structure: Prehistoric Monumental Architecture and State Government*, Dumbarton Oaks, Washington, DC, pp. 165–197.
- Andrews, A. P. (1974). The U-shaped structures at Chan Chan. *Journal of Field Archaeology* 1: 241–264.
- Arkush, E. N. (2005). *Colla Fortified Sites: Warfare and Regional Power in the Late Prehispanic Titicaca Basin, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Arkush, E. N. (2006). Collapse, conflict, conquest: The transformation of warfare in the late prehispanic Andean highlands. In Arkush, E. N., and Allen, M. W. (eds.), *The Archaeology of Warfare: Prehistories of Raiding and Conquest*, University Press of Florida, Gainesville, pp. 286–335.
- Bandy, M. S. (2001). *Population and History in the Ancient Titicaca Basin*, Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- Bauer, B. S. (1990). *State Development in the Cusco Region: Archaeological Research on the Incas in the Province of Paruro*, Ph.D. dissertation, Department of Anthropology, University of Chicago, Chicago.
- Bauer, B. S. (1992). *The Development of the Inca State*, University of Texas Press, Austin.
- Bauer, B. S. (1999). *The Early Ceramics of the Inca Heartland*, Fieldiana: Anthropology, n.s. 31, Field Museum of Natural History, Chicago.
- Bauer, B. S. (2004). *Ancient Cuzco: Heartland of the Inca*, University of Texas Press, Austin.
- Bauer, B. S., and Covey, R. A. (2002). Processes of state formation in the Inca heartland (Cuzco, Peru). *American Anthropologist* 104: 846–864.
- Bauer, B. S., and Stanish, C. (1990). *Killke and Killke-Related Pottery from Cuzco, Peru in the Field Museum of Natural History*, Fieldiana: Anthropology, n.s. 15, Field Museum of Natural History, Chicago.
- Bauer, B. S., and Stanish, C. (2001). *Ritual and Pilgrimage in the Ancient Andes: The Islands of the Sun and Moon*, University of Texas Press, Austin.
- Bawden, G. (1989). Settlement survey and ecological dynamics on the Peruvian south coast. *Andean Past* 2: 39–67.
- Bawden, G. (1993). An archaeological study of social structure and ethnic replacement in residential architecture of the Tumilaca Valley. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 42–54.
- Beaule, C. D. (2002). *Late Intermediate Period Political Economy and Household Organization at Jachakala, Bolivia*, Ph.D. dissertation, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA.

- Bengtsson, L. (1998). *Prehistoric Stonework in the Peruvian Andes: A Case Study at Ollantaytambo*, Etnografiska Museet, Göteborg, Sweden.
- Bennett, W. C. (1950). Cultural unity and disunity in the Titicaca Basin. *American Antiquity* 16: 89–98.
- Bermann, M. (1993). Continuity and change in household life at Lukurmata. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 114–135.
- Bermann, M. (1994). *Lukurmata: Household Archaeology in Prehispanic Bolivia*, Princeton University Press, Princeton, NJ.
- Bermann, M., Goldstein, P., Stanish, C., and Watanabe, L. (1989). The collapse of the Tiwanaku state: A view from the Osmore drainage. In Rice, D., Stanish, C., and Scarr, P. (eds.), *Ecology, Settlement, and History in the Osmore Drainage, Peru*, BAR International Series No. 545(ii), British Archaeological Reports, Oxford, pp. 229–285.
- Bird, J. B. (1943). *Excavations in Northern Chile*, Anthropological Papers No. 38, American Museum of Natural History, New York, pp. 173–316.
- Bird, J. B. (1946). The cultural sequence of the northern Chilean coast. In Steward, J. (ed.), *Handbook of South American Indians, Vol. II, The Andean Civilizations*, Bureau of American Ethnology, Washington, DC, pp. 587–594.
- Blom, D. E., Hallgrímsson, B., Keng, L., Lozada, M. C., and Buikstra, J. E. (1998). Tiwanaku “colonization”: Bioarchaeological implications for migration in the Moquegua Valley, Peru. *World Archaeology* 30: 238–261.
- Bonavia, D. (1972). *Reconocimiento arqueológico en el área del Mantaro*, Arqueológicas 14, Museo de Antropología y Arqueología, Lima.
- Boyntner, R. (1998a). *The Pacatnamú Textiles: A Study of Identity and Function*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Boyntner, R. (1998b). Textiles from the lower Osmore Valley, southern Peru: A cultural interpretation. *Andean Past* 5: 325–356.
- Brooks, S. O. (1998). *Prehistoric Agricultural Terraces in the Río Japo Basin, Colca Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of Wisconsin, Madison.
- Brownman, D. L. (1974). *Early Peruvian Peasants: The Culture History of a Central Highlands Valley*, Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge, MA.
- Brownman, D. L. (1976). Demographic correlations of the Wari conquest of Junín. *American Antiquity* 41: 465–477.
- Browne, D. M. (1992). Further archaeological reconnaissance in the Province of Palpa, Department of Ica, Peru. In Saunders, N. J. (ed.), *Ancient America: Contributions to New World Archaeology*, Oxbow Books, Oxford, pp. 77–116.
- Browne, D. M., and Baraybar, J. P. (1988). An archaeological reconnaissance in the Province of Palpa, Department of Ica, Peru. In Saunders, N. J., and de Montmollin, O. (eds.), *Recent Studies in Pre-Columbian Archaeology*, BAR International Series No. 421, British Archaeological Reports, Oxford, pp. 299–325.
- Bueno Mendoza, A. (1982). El antiguo valle de Pachacamac: espacio, tiempo, y cultura. *Boletín de Lima* 24: 1–52.
- Burgess, S. D. (1999). *Chiribayan Skeletal Pathology on the South Coast of Peru: Patterns of Production and Consumption*, Ph.D. dissertation, Department of Anthropology, University of Chicago, Chicago, IL.
- Canziani, A. J. (1992). Patrones de asentamiento en la arqueología del valle de Chincha, Perú. In Eiroa, J. (ed.), *II Curso de prehistoria de América hispana*, Comisión Vº Centenario, Murcia, pp. 87–123.
- Canziani, A. J. (2000). Arquitectura y urbanismo de la cultura Chincha. *Arkinka* 56: 88–99.
- Cardona Rosas, A. (2002). *Arqueología de Arequipa: de sus albores a los Incas*, CIARQ, Arequipa, Peru.
- Cassman, V. (1997). *A Reconsideration of Prehistoric Ethnicity and Status in Northern Chile: The Textile Evidence*, Ph.D. dissertation, Department of Anthropology, Arizona State University, Tempe.
- Castillo, L. J. (2000). La presencia de Wari en San José de Moro. *Boletín de Arqueología PUCP* 4: 143–179.
- Chacama, R. J. (2004). El Horizonte Medio en los valles occidentales del norte del Chile (ca. 500–1200 d.C.). *Chungará* 36(suppl.): 227–233.
- Chacama, J. (2005). Patrón de asentamiento y uso del espacio: Precordillera de Arica, extremo norte de Chile, siglos X–XV. *Bulletin de l'Institut Français d'Études Andines* 34: 357–378.
- Chaud, F. J. (1979). Notas sobre la restauración y reconstrucción de las ruinas de Wari Willka. In *Primer Simposio Arqueológico de la Sierra Central*, Instituto Nacional de Cultura, Huancayo, Peru, pp. 50–54.

- Clark, N. R. (1993). *The Estuquía Textile Tradition: Cultural Patterning in Late Prehistoric Fabrics, Moquegua, Far Southern Peru*, Ph.D. dissertation, Department of Anthropology, Washington University, St. Louis, MO.
- Clement, C. O., and Moseley, M. E. (1991). The spring-fed irrigation system of Carrizal, Peru: A case study of the hypothesis of agrarian collapse. *Journal of Field Archaeology* **18**: 425–443.
- Cobo, B. (1964 [1653]). Historia del Nuevo Mundo. In Mateos, F. (ed.), *Obras del Bernabé Cobo de la Compañía de Jesús, II*, Biblioteca de Autores Españoles No. 92, Ediciones Atlas, Madrid.
- Conlee, C. A. (2003). Local elites and the reformation of Late Intermediate period sociopolitical and economic organization in Nasca, Peru. *Latin American Antiquity* **14**: 47–66.
- Conlee, C. A. (2006). Regeneration as transformation: Post-collapse society in Nasca, Peru. In Schwartz, G. M., and Nichols, J. J. (eds.), *After Collapse: The Regeneration of Complex Societies*, University of Arizona Press, Tucson, pp. 99–113.
- Conlee, C. A., and Schreiber, K. J. (2006). The role of intermediate elites in the balkanization and reformation of post-Wari society in Nasca, Peru. In Elson, C. M., and Covey, R. A. (eds.), *Intermediate Elites in Pre-Columbian States and Empires*, University of Arizona Press, Tucson, pp. 94–111.
- Conlee, C. A., Dulanto, J., Mackey, C. J., and Stanish, C. (2004). Late prehispanic sociopolitical complexity. In Silverman, H. (ed.), *Andean Archaeology*, Blackwell, New York, pp. 209–236.
- Conrad, G. W. (1982). The burial platforms of Chan Chan: Some social and political implications. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 87–117.
- Conrad, G. W. (1993). Domestic architecture of the Estuquía phase: Estuquía and San Antonio. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 55–65.
- Costin, C. L. (1986). *From Chiefdom to Empire State: Ceramic Economy among the Prehispanic Wanka of Highland Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Costin, C. L. (2001). Production and exchange of ceramics. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 203–242.
- Costin, C. L., and Earle, T. K. (1989). Status distinction and legitimization of power as reflected in changing patterns of consumption in late prehispanic Peru. *American Antiquity* **54**: 691–714.
- Costin, C. L., and Hagstrum, M. (1995). Standardization, labor investment, skill, and the organization of ceramic production in late prehispanic highland Peru. *American Antiquity* **60**: 619–639.
- Covey, R. A. (2000). Inka administration of the far south coast of Peru. *Latin American Antiquity* **11**: 119–138.
- Covey, R. A. (2003). A processual study of Inka state formation. *Journal of Anthropological Archaeology* **22**: 333–357.
- Covey, R. A. (2006a). *How the Incas Built Their Heartland: State Formation and the Innovation of Imperial Strategies in the Sacred Valley, Peru*, University of Michigan Press, Ann Arbor.
- Covey, R. A. (2006b). Intermediate elites in the Inka heartland, A.D. 1000–1500. In Elson, C. M., and Covey, R. A. (eds.), *Intermediate Elites in Pre-Columbian States and Empires*, University of Arizona Press, Tucson, pp. 112–135.
- Covey, R. A. (in press). Inka agricultural intensification in the imperial heartland and provinces. In Marcus, J., and Williams, P. R. (eds.), *Andean Civilization: A Tribute to Michael E. Moseley*, Cotsen Institute of Archaeology, University of California, Los Angeles.
- Covey, R. A., Bélisle, V., and Davis, A. R. (2006). Variations in Late Intermediate period group interaction in the Cusco region (Peru). Unpublished manuscript on file, Department of Anthropology, Southern Methodist University, Dallas, TX.
- D'Altroy, T. N. (1987). Transitions in power: Centralization of Wanka political organization under Inka rule. *Ethnohistory* **34**: 78–102.
- D'Altroy, T. N. (1992). *Provincial Power in the Inka Empire*, Smithsonian Institution Press, Washington, DC.
- D'Altroy, T. N. (2001a). The cultural setting. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 27–53.
- D'Altroy, T. N. (2001b). The archaeological context. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 65–96.
- Dauelsberg, Jr., P. (1960). Contribución al estudio de la arqueología del valle de Azapa. In *Antiguo Perú, espacio y tiempo*, Librería-Editorial J. Mejía Baca, Lima, pp. 273–296.

- Dauelsberg, Jr., P. (1972). La cerámica de Arica y su situación cronológica. *Chungará* 1: 17–24.
- Dauelsberg, Jr., P. (1983). Investigaciones arqueológicas en la sierra de Arica, Sector Belén. *Chungará* 11: 63–83.
- Dauelsberg, Jr., P. (1985). Desarrollo regional en los valles costeros del norte de Chile. *Dialogo Andino* 4: 277–286.
- Day, K. C. (1982). Ciudadelas: Their form and function. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 55–66.
- Dean, E. M. (2005). *Ancestors, Mountains, Shrines, and Settlements: Late Intermediate Period Landscapes of the Southern Vilcanota River Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- De la Vega, E. (1990). *Estudio arqueológico de pucaras o poblados amurallados de cumbre en territorio Lupaqa: el caso de Pucara-Juli*, unpublished licenciatura thesis, Department of Archaeology, Universidad Católica Santa María, Puno.
- De la Vega, E., Frye, K. L., and Tung, T. (2005). The cave burial from Molino-Chilacachi. In Stanish, C., Cohen, A. B., and Aldenderfer, M. S. (eds.), *Advances in Titicaca Basin Archaeology 1*, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 185–195.
- De la Vera Cruz, P. (1987). Cambio en los patrones de asentamiento y el uso y abandono de los andenes en Cabanaconde, valle del Colca, Peru. In Denevan, W., Mathewson, K., and Knapp, G. (eds.), *Pre-Hispanic Agricultural Fields in the Andean Region*, BAR International Series No. 359, British Archaeological Reports, Oxford, pp. 89–127.
- De la Vera Cruz, P. (1996). El papel de la sub región norte de los valles occidentales en la articulación entre los Andes centrales y los Andes centro sur. In Albó, X., Arriata, M., Hidalgo, J., Núñez, L., Llagostera, A., Remy, M., and Revesz, B. (eds.), *La integración surandina cinco siglos después*, Centro de Estudios Regionales Andinos “Bartolomé de Las Casas,” Cuzco, Peru, pp. 135–157.
- DeMarrais, E. (2001). The architecture and organization of Xauxa settlements. In D’Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 115–154.
- Díaz, L. (2005). Armatambo y la sociedad Ychsma. *Bulletin de l’Institut Français d’Études Andines* 33: 571–594.
- Dillehay, T. D. (1976). *Competition and Cooperation in a Prehispanic Multi-Ethnic System in the Central Andes*, Ph.D. Dissertation, Department of Anthropology University of Texas, Austin.
- Dillehay, T. D. (1979). Pre-Hispanic resource sharing in the central Andes. *Science* 204: 24–31.
- Donnan, C. B. (1990a). An assessment of the validity of the Naymlap dynasty. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 243–274.
- Donnan, C. B. (1990b). The Chotuna friezes and the Chotuna-Dragon connection. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 275–296.
- Donnan, C. B. (1992). *Ceramics of Ancient Peru*, Fowler Museum of Cultural History, University of California, Los Angeles.
- Donnan, C. B., and Cock, G. A. (eds.) (1986). *The Pacatnamu Papers, Volume 1*, Fowler Museum of Cultural History, University of California, Los Angeles.
- Donnan, C. B., and Cock, G. A. (eds.) (1997). *The Pacatnamu Papers, Volume 2*, Fowler Museum of Cultural History, University of California, Los Angeles.
- Donnan, C. B., and Mackey, C. J. (1978). *Ancient Burial Patterns of the Moche Valley, Peru*, University of Texas Press, Austin.
- Doutriaux, M. A. (2004). *Imperial Conquest in a Multiethnic Setting: The Inka Occupation of the Colca Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- Duchesne, F. (2005). Tumbas de Coporaque: aproximaciones a concepciones funerarias collaguas. *Bulletin de l’Institut Français d’Études Andines* 34: 411–429.
- Dwyer, E. B. (1971). *The Early Inca Occupation of the Valley of Cuzco, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- Earle, T. K. (2001). Exchange and social stratification in the Andes: The Xauxa case. In D’Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 297–314.
- Earle, T. K., D’Altroy, T. N., LeBlanc, C. J., Hastorf, C. A., and Levine, T. Y. (1980). Changing settlement patterns in the upper Mantaro Valley, Peru. *Journal of New World Archaeology* 4: 1–49.
- Earle, T. K., D’Altroy, T. N., Hastorf, C. A., Scott, C. J., Costin, C. L., Russell, G. S., and Sandefur, E. (1987). *Archaeological Field Research in the Upper Mantaro, Peru, 1982–1983: Investigations of*

- Inka Expansion and Exchange*, Monograph No. 28, Institute of Archaeology, University of California, Los Angeles.
- Eeckhout, P. (1999). Pyramid with Ramp No. III, Pachacamac: New data, new perspectives. *Bulletin de l'Institut Français d'Etudes Andines* 28: 169–214.
- Eeckhout, P. (1999–2000). The palaces of the lords of Ychsma: An archaeological reappraisal of the function of pyramids with ramps at Pachacamac, central coast of Peru. *Revista de Arqueología Americana* 17–19: 217–254.
- Farfán Lovatón, C. (1995). Asentamientos prehispánicos de la cuenca alta del Chillón. *Gaceta Arqueológica Andina* 24: 31–61.
- Farfán, C. (2005). Aspectos simbólicos de las pirámides con rampa: ensayo interpretivo. *Bulletin de l'Institut Français d'Études Andines* 33: 445–464.
- Feltham, J. (1984). The Lurín Valley Project: Some results for the Late Intermediate period and the Late Horizon. In Kendall, A. (ed.), *Current Archaeological Projects in the Central Andes: Some Approaches and Results*, BAR International Series No. 210, British Archaeological Reports, Oxford, pp. 45–73.
- Feltham, J., and Eeckhout, P. (2005). Hacia una definición del estilo Ychsma: aportes preliminares sobre la cerámica Ychsma tardía de la pirámide III de Pachacamac. *Bulletin de l'Institut Français d'Études Andines* 33: 643–680.
- Flores Espinoza de Lumbreras, I. (1969). Informe preliminar sobre las investigaciones arqueológicas de Tacna. In *Mesa redonda de ciencias prehistóricas y antropológicas*, Instituto Riva-Agüero, Pontificia Universidad Católica del Perú, Lima, pp. 295–302.
- Flornoy, B. (1955). Exploration archéologique de Alto Marañón. *Travaux, Institut Français d'Etudes Andines* 5: 51–81.
- Flornoy, B. (1957). *Monuments de la région de Tantamayo*, Journal de la Société des Americanistes 46, nouvelle série, Paris.
- Focacci, G. (1981). Nuevos fechados para la época del Tiahuanaco en la arqueología del norte de Chile. *Chungará* 8: 63–77.
- Franco, R. (2005). Poder religioso, crisis y prosperidad en Pachacamac: del Horizonte Medio al Intermedio Tardío. *Bulletin de l'Institut Français d'Études Andines* 33: 465–506.
- Franco Inojosa, J. M. (1937). Informe sobre los restos arqueológicos de las cabeceras del Paucartambo. *Revista del Museo Nacional* 6: 255–277.
- Frye, K. L. (1997). Political centralization in the Altiplano period in the southwestern Titicaca Basin. In Stanish, C. (ed.), *Archaeological Survey in the Juli-Desaguadero Region of Lake Titicaca Basin, Southern Peru*, Fieldiana: Anthropology, n.s. 29, Field Museum of Natural History, Chicago, pp. 129–141.
- Frye, K. L., and de la Vega, E. (2005). The Altiplano period in the Titicaca Basin. In Stanish, C., Cohen, A. B., and Aldenderfer, M. S. (eds.), *Advances in Titicaca Basin Archaeology 1*, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 173–184.
- Garaventa, D. M. (1979). Chincha textiles of the Late Intermediate period, Epoch 8. In Rowe, A. P., Benson, E., and Schaffer, A. L. (eds.), *The Junius B. Bird Precolumbian Textile Conference, 1973*, The Textile Museum and Dumbarton Oaks, Washington, DC, pp. 219–232.
- García Marquez, M., and Bustamante Montoro, R. (1990). Arqueología del valle de Majes. *Gaceta Arqueológica Andina* 18/19: 25–40.
- Ghersi, B., H. (1956). Informe sobre las excavaciones en Chiribaya. *Revista del Museo Nacional* 45: 89–119.
- Gisbert, T. (1994). El señorío de los carangas y los chullpares del Río Lauca. *Revista Andina* 24: 427–485.
- Glowacki, M. (2002). The Huaro archaeological site complex: Rethinking the Huari occupation of Cuzco. In Isbell, W. H., and Silverman, H. (eds.), *Andean Archaeology I: Variations in Sociopolitical Organization*, Kluwer Academic, New York, pp. 267–285.
- Glowacki, M. (2005). Dating Pikillacta. In McEwan, G. F. (ed.), *Pikillacta: The Wari Empire in Cuzco*, University of Iowa Press, Iowa City, pp. 115–124.
- Glowacki, M., and McEwan, G. F. (2001). Pikillacta, Huaro y la gran región del Cuzco: nuevas interpretaciones de la ocupación Wari de la Sierra Sur. *Boletín de Arqueología PUCP* 5: 31–49.
- Goldstein, P. S. (1995/1996). Tiwanaku settlement patterns of the Azapa Valley, Chile: New data and the legacy of Percy Dauelsberg. *Diálogo Andino* 14/15: 57–73.
- Goldstein, P. S. (2005). *Andean Diaspora: The Tiwanaku Colonies and the Origins of South American Empire*, University Press of Florida, Gainesville.

- González Carré, E., and Pozzi-Escot, D. (1988). Poblados y arquitectura. In González Carré, E., Pozzi-Escot, D., Pozzi-Escot, M., and Vivanco, C. (eds.), *Los chankas: cultura material*, Laboratorio de Arqueología, Universidad de Huamanga, Ayacucho, Peru, pp. 185–212.
- González Carré, E., Pozzi-Escot, D., and Vivanco, C. (1988a). *El área histórica chanka*, Laboratorio de Arqueología, Universidad de Huamanga, Ayacucho, Peru.
- González Carré, E., Pozzi-Escot, D., Pozzi-Escot, M., and Vivanco, C. (eds.) (1988b). *Los chankas: cultura material*, Laboratorio de Arqueología, Universidad de Huamanga, Ayacucho, Peru.
- González Carré, E., Urrutia Ceruti, J., and Levano Peña, J. (eds.) (1997). *Ayacucho: San Juan de la Frontera*, Banco de Crédito del Perú, Lima.
- González Corrales, J. (1984). La arquitectura y cerámica killke del Cusco. In Kendall, A. (ed.), *Current Archaeological Projects in the Central Andes: Some Approaches and Results*, BAR International Series No. 210, British Archaeological Reports, Oxford, pp. 189–204.
- Graffam, G. (1994). Beyond state collapse: Rural history, raised fields, and pastoralism in the south Andes. *American Anthropologist* 94: 882–904.
- Guzmán Juárez, M. (2004). Arquitectura ceremonial en Cerro Azul: el señorío de Huarco y la ocupación inca. *Boletín de Arqueología PUCP* 8: 391–407.
- Haquehua Huaman, W., and Maque Azorsa, R. (1996). *Cerámica de Cueva Moqo-Maras*, unpublished licenciatura thesis, Department of Archaeology, Universidad Nacional de San Antonio Abad, Cusco, Cusco, Peru.
- Hastings, C. M. (1987). Implications of Andean verticality in the evolution of political complexity: A view from the margins. In Haas, J., Pozorski, S., and Pozorski, T. (eds.), *Origins and Development of the Andean State*, Cambridge University Press, New York, pp. 145–157.
- Hastorf, C. A. (2001a). Agricultural production and consumption. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 155–178.
- Hastorf, C. A. (2001b). The Xauxa Andean life. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 315–324.
- Hastorf, C. A., Earle, T. K., Wright, Jr., H. E., LeCount, L., Russell, G., and Sandefur, E. (1989). Settlement archaeology in the Jauja region of Peru: Evidence from the Early Intermediate period through the Late Intermediate period: A report on the 1986 field season. *Andean Past* 2: 81–129.
- Heffernan, K. (1989). *Limatambo in Late Prehistory: Landscape Archaeology and Documentary Images of Inca Presence in the Periphery of Cuzco*, Ph.D. dissertation, Department of Archaeology, Australian National University, Canberra.
- Heffernan, K. (1996). *Limatambo: Archaeology, History, and the Regional Societies of Inca Cusco*, BAR International Series No. 644, British Archaeological Reports, Oxford.
- Heyerdahl, T., Sandweiss, D. H., and Narváez, V. A. (eds.) (1995). *Pyramids of Tiúcume: The Quest for Peru's Forgotten City*, Tharnes and Hudson, New York.
- Hiltunen, J., and McEwan, G. F. (2004). Knowing the Inca past. In Silverman, H. (ed.), *Andean Archaeology*, Blackwell, New York, pp. 237–254.
- Horta Tricallotis, H. (1997). Estudio iconográfico de textiles arqueológicos del valle de Azapa, Arica. *Chungará* 29: 81–108.
- Hyslop, J. (1976). *An Archaeological Investigation of the Lupaca Kingdom and Its Origins*, Ph.D. dissertation, Department of Anthropology, Columbia University, New York.
- Hyslop, J. (1977). Chulpas of the Lupaca zone of the Peruvian high plateau. *Journal of Field Archaeology* 4: 149–170.
- Hyslop, J. (1985). *Inkawasi, the New Cuzco: Cañete, Lunahuaná, Peru*, BAR International Series No. 234, British Archaeological Reports, Oxford.
- Isbell, W. H. (1977). *The Rural Foundations for Urbanism*, University of Illinois Press, Urbana.
- Isbell, W. H. (1991). Honcopampa: Monumental ruins in Peru's north highlands. *Expedition* 33(3): 27–36.
- Isbell, W. H. (1988). City and state in Middle Horizon Peru. In Keatinge, R. W. (ed.), *Peruvian Prehistory*, Cambridge University Press, Cambridge, pp. 164–189.
- Isbell, W. H. (1997). Reconstructing Huari: A cultural chronology for the capital city. In Manzanilla, L. (ed.), *Emergence and Change in Early Urban Societies*, Plenum Press, New York, pp. 181–227.
- Isla, E., and Guerrero, D. (1987). Socos: un sitio Wari en el valle de Chillón. *Gaceta Arqueológica Andina* 14: 23–28.
- Janusek, J. W. (2004a). *Identity and Power in the Ancient Andes: Tiwanaku Cities through Time*, Routledge, New York.

- Janusek, J. W. (2004b). Tiwanaku and its precursors: Recent research and emerging perspectives. *Journal of Archaeological Research* 12: 121–183.
- Janusek, J. W. (2005). Collapse as cultural revolution: Power and identity in the Tiwanaku to Pacajes transition. In Vaughn, K. J., Ogburn, D., and Conlee, C. A. (eds.), *Foundations of Power in the Prehispanic Andes*, Archeological Papers No. 14, American Anthropological Association, Arlington, VA, pp. 175–210.
- Janusek, J. W., and Kolata, A. L. (2003). Prehispanic rural history in the Río Katari Valley. In Kolata, A. L. (ed.), *Tiwanaku and Its Hinterland: Archaeological and Paleoecological Investigations of an Andean Civilization*, Vol. 2, Smithsonian Institution Press, Washington, DC, pp. 129–171.
- Jennings, J. M. (2002). *Prehistoric Imperialism and Cultural Development in the Cotahuasi Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.
- Jennings, J. M. (2003). Inca imperialism, ritual change, and cosmological continuity in the Cotahuasi Valley of Peru. *Journal of Anthropological Research* 59: 433–462.
- Jessup, D. A. (1990). Rescate arqueológico en el museo de sitio de San Gerónimo, Ilo. In Watanabe, L., Moseley, M. E., and Cabieses, F. (eds.), *Trabajos arqueológicos en Moquegua, Perú*, Vol. 3, Programa Contisuyu del Museo Peruano de Ciencias de la Salud—Southern Peru Copper Company, Lima, pp. 151–165.
- Joffré, G. R. (2005). Periodificación en arqueología peruana: genealogía y aporía. *Bulletin de l'Institut Français d'Etudes Andines* 34: 5–33.
- Julien, D. (1988). *Ancient Cuismancu: Settlement and Cultural Dynamics in the Cajamarca Region of the Northern Highlands of Peru*, Ph.D. dissertation, Department of Anthropology, University of Texas, Austin.
- Julien, D. (1993). Late pre-Inkaic ethnic groups in highland Peru: An archaeological-ethnohistorical model of the political geography of the Cajamarca region. *Latin American Antiquity* 4: 246–273.
- Keatinge, R. W. (1974). Chimu rural administrative centers in the Moche Valley, Peru. *World Archaeology* 6: 66–82.
- Keatinge, R. W. (1975). Urban settlement and rural sustaining communities: An example from Chan Chan's hinterland. *Journal of Field Archaeology* 2: 215–227.
- Keatinge, R. W. (1982). The Chimú empire in a regional perspective: Cultural antecedents, continuities. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 197–224.
- Keatinge, R. W., and Conrad, G. W. (1983). Imperialist expansion in Peruvian prehistory: Chimú administration of conquered territory. *Journal of Field Archaeology* 10: 255–283.
- Keatinge, R. W., and Day, K. C. (1973). Socio-economic organization of the Moche Valley, Peru, during the Chimú occupation of Chan Chan. *Journal of Anthropological Research* 29: 275–295.
- Kendall, A. (1976). *Aspects of Inca Architecture*, Ph.D. dissertation, Institute of Archaeology, University of London, London.
- Kendall, A. (1985). *Aspects of Inca Architecture: Description, Function and Chronology, Parts 1 and 2*, BAR International Series No. 242, British Archaeological Reports, Oxford.
- Kendall, A. (1994). *Proyecto Arqueológico Cusichaca, Cusco: investigaciones arqueológicas y de rehabilitación agrícola, tomo I*, Southern Peru Copper Company, Lima.
- Kendall, A. (1996). An archaeological perspective for Late Intermediate period Inca development in the Cuzco region. *Journal of the Steward Anthropological Society* 24: 121–156.
- Kendall, A., Early, R., and Sillar, B. (1992). Report on archaeological field season investigating early Inca architecture at Juchuy Coscco (Q'aqa Qhawana) and Warq'ana, Province of Calca, Department of Cuzco, Peru. In Saunders, N. J. (ed.), *Ancient America: Contributions to New World Archaeology*, Oxbow Books, Oxford, pp. 189–256.
- Kessel, R., and Pärssinen, M. (2005). Identidad étnica y muerte: torres funerarias (chullpas) como símbolos de poder étnico en el altiplano boliviano de Pakasa (1250–1600 d.C.). *Bulletin de l'Institut Français d'Etudes Andines* 34: 379–410.
- Klymyshyn, A. M. U. (1982). Elite compounds in Chan Chan. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 119–143.
- Klymyshyn, A. M. U. (1987). The development of Chimú administration in Chan Chan. In Haas, J., Pozorski, S., and Pozorski, T. (eds.), *Origins and Development of the Andean State*, Cambridge University Press, New York, pp. 119–143.
- Kolata, A. L. (1982). Chronology and settlement growth at Chan Chan. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 67–85.

- Kolata, A. L. (1990). The urban concept of Chan Chan. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 107–144.
- Kroeger, A. L. (1937). Archaeological exploration in Peru, Part IV: Cañete Valley. In *Anthropology Memoirs* vol. 2, no. 4, Field Museum of Natural History, Chicago, pp. 219–273.
- Kroeger, A. L. (1944). *Peruvian Archaeology in 1942*, Publications in Anthropology No. 4, Viking Fund, New York.
- Kroeger, A. L., and Strong, W. D. (1924). The Uhle collection from Chincha. *University of California Publications in Archaeology and Ethnology* 21: 1–54.
- Krzanowski, A. (1985). Implicaciones demográficas del patrón de asentamiento prehispánico en los Andes: el caso del valle Alto Chicama, Perú. *Journal de la Société des Americanistes* 71: 79–96.
- Lavallée, D. (1973). Structura y organización del habitat en los Andes centrales durante el período Intermedio Tardío. *Revista del Museo Nacional* 39: 91–116.
- Lavallée, D. (1983). Historia de los Asto. In Lavallée, D., and Julien, M. (eds.), *Asto: curacazgo prehispánico de los Andes centrales*, Instituto de Estudios Peruanos, Lima, pp. 25–47.
- Lavallée, D., and Julien, M. (1975). El habitat prehistórico en la zona de San Pedro de Cajas, Junín. *Revista del Museo Nacional* 41: 81–128.
- LeBlanc, C. (1981). *Late Prehispanic Huanca Settlement Patterns in the Yanamarca Valley*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Lozada, M. C., and Buikstra, J. E. (2005). *Pescadores and labradores among the señorío of Chiribaya in southern Peru*. In Reyraft, R. M. (ed.), *Us and Them: Archaeology and Ethnicity in the Andes*, Monograph No. 53, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 206–225.
- Lozada C., M. C. (1998). *The Señorío of Chiribaya: A Bio-Archaeological Study in the Osmore Drainage of Southern Peru*, Ph.D. dissertation, Department of Anthropology, University of Chicago, Chicago.
- Lumbreras, L. G. (1974). *The Peoples and Cultures of Ancient Peru*, Smithsonian Institution Press, Washington, DC.
- Lumbreras, L. G. (2001). Uhle y los asentamientos de Chincha en el siglo XVI. *Revista del Museo Nacional* 49: 13–87.
- Lumbreras, L. G., and Amat, O. H. (1966). Secuencia cronológica del altiplano occidental del Titicaca. In *Actas y Memorias del XXXVII Congreso Internacional de Americanistas*, vol. 2, Sociedad Internacional de Americanistas, Buenos Aires, pp. 75–106.
- Lunt, S. (1984). An introduction to the pottery from the excavations at Cusichaca, Department of Cuzco, Peru. In Kendall, A. (ed.), *Current Archaeological Projects in the Central Andes: Some Approaches and Results*, BAR International Series No. 210, British Archaeological Reports, Oxford, pp. 307–322.
- Lunt, S. (1987). *Inca and Pre-Inca Pottery: Pottery from Cusichaca, Department of Cuzco*, Ph.D. dissertation, Institute of Archaeology, University College, London.
- Mackey, C. J. (1987). Chimu administration in the provinces. In Haas, J., Pozorski, S., and Pozorski, T. (eds.), *The Origins and Development of the Andean State*, Cambridge University Press, New York, pp. 121–129.
- Mackey, C. J., and Klymyshyn, A. M. U. (1990). The southern frontier of the Chimú empire. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 195–226.
- Malpass, M. A. (2001). Sonay: un centro Wari celular ortogonal en el valle de Camaná, Perú. *Boletín de Arqueología PUCP* 4: 51–68.
- Marcus, J. (1987). *Late Intermediate Occupation at Cerro Azul, Perú*, Technical Report No. 20, Museum of Anthropology, University of Michigan, Ann Arbor.
- Marcus, J. (1993). Dynamic cycles of Mesoamerican states: Political fluctuations in Mesoamerica. *National Geographic Research and Exploration* 8: 392–411.
- Marcus, J. (1998). The peaks and valleys of ancient states: An extension of the dynamic model. In Feinman, G., and Marcus, J. (eds.), *Archaic States*, School of American Research Press, Santa Fe, NM, pp. 59–94.
- Marcus, J., and Silva, J. E. (1988). The Chillón Valley “coca lands”: Archaeological background and ecological context. In Rostworowski de Diez Canseco, M. (ed.), *Conflicts over Coca Fields in XVIth-Century Peru*, Memoirs No. 21, Museum of Anthropology, University of Michigan, Ann Arbor, pp. 1–32.

- Marcus, J., Sommer, J. D., and Glew, C. P. (1999). Fish and mammals in the economy of an ancient Peruvian kingdom. *Proceedings of the National Academy of Sciences* **96**: 6564–6570.
- Mathews, J. (1992). *Prehispanic Settlement and Agriculture in the Middle Tiwanaku Valley, Bolivia*, Ph.D. dissertation, Department of Anthropology, University of Chicago, Chicago, IL.
- Matos, M. R. (1972). Wakan y Wamalli: estudio arqueológico de dos aldeas rurales. In Murra, J. V. (ed.), *Visita de la Provincia de Huánuco en 1562 por Inigo Ortiz de Zúñiga*, Universidad Hermilio Valdizán, Huánuco, Peru, pp. 367–382.
- Matos, M. R. (1994). *Pumpú: centro administrativo inka de la puna de Junín*, Editorial Horizonte, Lima.
- Matos, M. R. (2000). The “señoríos” in the sierra, the central coast. In Laurencich Minelli, L. (ed.), *The Inca World: The Development of Pre-Columbian Peru, A.D. 1000–1534*, University of Oklahoma Press, Norman, pp. 37–48.
- McAndrews, T. L. (1998). *Early Village-Based Society and Long-Term Cultural Evolution in the South-Central Andean Altiplano*, Ph.D. dissertation, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA.
- McAndrews, T. L., Albarracin-Jordan, J., and Bermann, M. (1997). Regional settlement patterns in the Tiwanaku Valley of Bolivia. *Journal of Field Anthropology* **24**: 67–83.
- McCown, T. D. (1945). Pre-Incaic Huamachuco: Survey and excavations in the region of Huamachuco and Cajabamba. *University of California Publications in American Archaeology and Ethnology* **39**: 223–344.
- McEwan, G. F. (1984). Investigaciones en la cuenca del Lucre, Cusco. *Gaceta Arqueológica Andina* **9**: 12–15.
- McEwan, G. F. (1991). Investigations at the Pikillacta site: A provincial Huari center in the Valley of Cuzco. In Isbell, W. H., and McEwan, G. F. (eds.), *Huari Administrative Structures: Prehistoric Monumental Architecture and State Government*, Dumbarton Oaks, Washington, DC, pp. 93–119.
- McEwan, G. F. (1996). Archaeological investigations at Pikillacta: A Wari site in Peru. *Journal of Field Archaeology* **23**: 169–186.
- McEwan, G. F. (2005). Conclusion: The function of Pikillacta. In McEwan, G. F. (ed.), *Pikillacta: The Wari Empire in Cuzco*, University of Iowa Press, Iowa City, pp. 147–164.
- McEwan, G. F., Chatfield, M., and Gibaja, A. (2002). The archaeology of Inca origins: Excavations at Chokepuquio, Cuzco, Peru. In Isbell, W. H., and Silverman, H. (eds.), *Andean Archaeology I: Variations in Sociopolitical Organization*, Kluwer Academic, New York, pp. 287–301.
- Meddens, F. (1984). A report on the archaeology of the Chicha-Soras Valley in the southern highlands of Peru. In Kendall, A. (ed.), *Current Archaeological Projects in the Central Andes: Some Approaches and Results*, BAR International Series No. 210, British Archaeological Reports, Oxford, pp. 133–151.
- Menzel, D. (1959). The Inca occupation of the south coast of Peru. *Southwestern Journal of Anthropology* **15**: 125–142.
- Menzel, D. (1966). The pottery of Chincha. *Nawpa Pacha* **4**: 77–144.
- Menzel, D. (1971). Estudios arqueológicos en los valles de Ica, Pisco, Chincha y Cañete. *Arqueología y Sociedad* **16**: 1–61.
- Menzel, D. (1976). *Pottery Style and Society in Ancient Peru: Art as a Mirror of History in the Ica Valley, 1350–1570*, University of California Press, Berkeley.
- Menzel, D., and Riddell, F. A. (1986). *Archaeological Investigations at Tambo Viejo, Acari' Valley, Peru, 1954*, California Institute for Peruvian Studies, Sacramento.
- Moore, J. D. (1981). Chimú socio-economic organization: Preliminary data from Manchan, Casma Valley, Peru. *Nawpa Pacha* **19**: 115–128.
- Moore, J. D. (1986). *Household Economics and Political Integration: The Lower Class of the Chimú Empire*, Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.
- Moore, J. D. (1996). *Architecture and Power in the Ancient Andes*, Cambridge University Press, New York.
- Morris, C. (1972). El almacenaje de dos aldeas de los Chupaychu. In Murra, J. V. (ed.), *Visita de la Provincia de Huánuco en 1562 por Inigo Ortiz de Zúñiga*, Universidad Hermilio Valdizán, Huánuco, Peru, pp. 383–404.
- Morris, C., and Thompson, D. E. (1985). *Huánuco Pampa: An Inca City and Its Hinterland*, Thames and Hudson, New York.
- Moseley, M. E. (1975). Chan Chan: Andean alternative of the preindustrial city. *Science* **187**: 219–225.
- Moseley, M. E. (1992). *The Incas and Their Ancestors*, Thames and Hudson, New York.
- Moseley, M. E. (2001). *The Incas and Their Ancestors*, rev. ed., Thames and Hudson, New York.

- Moseley, M. E., and Deeds, E. E. (1982). The land in front of Chan Chan: Agrarian expansion, reform, collapse in the Moche Valley. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 25–53.
- Moseley, M. E., and Mackey, C. J. (1973). Chan Chan, Peru's ancient city of kings. *National Geographic Magazine* 143(3): 318–345.
- Muñoz, O. I. (1981). La aldea de Cerro Sombrero y el período del desarrollo regional de Arica. *Chungará* 7: 105–142.
- Muñoz, O. I. (1993). Spatial dimensions of complementary resource utilization at Acha-2 and San Lorenzo. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 94–102.
- Muñoz, O. I. (1996). Integración y complementariedad en las sociedades prehispánicas en el extremo norte de Chile: hipótesis de trabajo. In Albó, X., Arriata, M., Hidalgo, J., Núñez, L., Llagostera, A., Remy, M., and Revesz, B. (eds.), *La integración surandina cinco siglos después*, Centro de Estudios Regionales Andinos "Bartolomé de Las Casas," Cuzco, Peru, pp. 161–176.
- Muñoz, O. I. (2005). Espacio social y áreas de actividad en asentamientos agrícolas prehispánicos tardíos en la sierra de Arica. *Bulletin de l'Institut Français d'Études Andines* 34: 321–355.
- Muñoz, I., and Chacama, J. (2005). *Complejidad social en las alturas de Arica: territorio, etnicidad, y vinculación con el estado Inka*, Ediciones Universidad de Tarapacá, Tarapacá, Peru.
- Muñoz, I., and Focacci, G. (1985). San Lorenzo: testimonios de una comunidad de agricultores y pescadores en el valle de Azapa. *Chungará* 15: 7–30.
- Muñoz, I., Chacama, J., Espinosa, G., and Briones, L. (1987a). La ocupación prehispánica tardía en Zapahuira y su vinculación a la organización económica y social Inca. *Chungará* 18: 67–89.
- Muñoz, I., Chacama, J., and Espinosa, G. (1987b). El poblamiento prehispánico tardío en el valle de Codpa: una aproximación a la prehistoria regional. *Chungará* 19: 7–69.
- Muñoz, I., Chacama, J., and Santos, M. (1997). Tambos, pukaras y aldeas, evidencias del poblamiento prehispánico tardío y de contacto indígena-europeo en el extremo norte de Chile: análisis de los patrones habitacionales y nuevas dataciones radiométricas. *Dialogo Andino* 16: 123–191.
- Narváez, V. A. (1989). Chan Chan: Chronology and stratigraphic contents. *Andean Past* 2: 131–174.
- Nash, D. J. (2002). *The Archaeology of Space: Places of Power in the Wari Empire (Peru)*, Ph.D. dissertation, Department of Anthropology, University of Florida, Gainesville.
- Nash, D. J., and Williams, P. R. (2004). Architecture and power on the Wari-Tiwanaku frontier. In Vaughn, K. J., Ogburn, D., and Conlee, C. A. (eds.), *Foundations of Power in the Prehispanic Andes*, Archeological Papers No. 14, American Anthropological Association, Washington, DC, pp. 151–174.
- Neira, A. M. (1967). *Informe preliminar de las investigaciones arqueológicas en el Departamento de Puno*, Anales No. 1, Instituto de Estudios Socio-Económicos, Puno, Peru.
- Neira, A. M. (1990). Arequipa prehispánica. In Neira, A. M., Galdos, R. G., Málaga, M. A., Paz, S. E. Q., and Carpio, M. J. G. (eds.), *Historia general de Arequipa*, Fundación M. J. Bustamante de la Fuente, Arequipa, Peru, pp. 5–213.
- Niemeyer, H., Schiappacasse, V., and Solimano, I. (1972–1973). Padrone de poblamiento en la quebrada de Camarones. In *Actas del VII Congreso de Arqueología Chilena*, tomo II, Sociedad Chilena de Arqueología, Santiago, pp. 115–137.
- Ojeda, B. (1981). La ciudad perdida de Huayurí. *Boletín de Lima* 16–18: 78–82.
- Owen, B. D. (1993). *A Model of Multiethnicity: State Collapse, Competition, and Social Complexity from Tiwanaku to Chiribaya in the Osmore Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Owen, B. D. (1996). Inventario arqueológico del drenaje superior del Río Osmore: informe del campo e informe final. Unpublished manuscript posted by author at [http://andean.kulture.org/owen/owen1996-inc-inventario\\_osmore\\_superior\\_informe.pdf](http://andean.kulture.org/owen/owen1996-inc-inventario_osmore_superior_informe.pdf).
- Owen, B. D. (2001). The economy of metal and shell wealth goods. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 265–293.
- Owen, B. D. (2005). Distant colonies and explosive collapse: The two stages of the Tiwanaku diaspora in the Osmore Drainage. *Latin American Antiquity* 16: 45–80.
- Paredes, P., and Franco Régulo, R. (1987). Pachacamac: las pirámides con rampa, cronología y función. *Gaceta Arqueológica Andina* 13: 5–7.
- Parsons, J. R., and Hastings, C. M. (1988). The Late Intermediate period. In Keatinge, R. W. (ed.), *Peruvian Prehistory*, Cambridge University Press, Cambridge, pp. 190–229.

- Parsons, J. R., Hastings, C. M., and Matos, M. R. (1997). Rebuilding the state in highland Peru: Herder-cultivator interaction during the Late Intermediate period in the Tarama-Chinchaycocha region. *Latin American Antiquity* 8: 317–341.
- Parsons, J. R., Hastings, C. M., and Matos, M. R. (2000a). *Prehispanic Settlement Patterns in the Upper Mantaro and Tarama Drainages, Junín, Peru, Volume 1: The Tarama-Chinchaycocha Region, Part 1*, Memoirs No. 34, Museum of Anthropology, University of Michigan, Ann Arbor.
- Parsons, J. R., Hastings, C. M., and Matos, M. R. (2000b). *Prehispanic Settlement Patterns in the Upper Mantaro and Tarama Drainages, Junín, Peru, Volume 1: The Tarama-Chinchaycocha Region, Part 2*, Memoirs No. 34, Museum of Anthropology, University of Michigan, Ann Arbor.
- Perales, M. M. F. (2005). Apuntes sobre el período Intermedio Tardío y la presencia inca en la cuenca alta del río Rícrán, sierra central del Perú. *Estudios Atacameños* 29: 125–142.
- Pineda Quevedo, J. (1989). *Patrones de asentamiento pre-hispánicos en el valle de Condebamba*, CONCYTEC, Lima.
- Ponte, R. V. M. (2000). Transformación social y política en el Callejón de Huaylas, siglos III-X d.C. *Boletín de Arqueología PUCP* 4: 219–251.
- Pozorski, S. (1982). Subsistence systems in the Chimú state. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 177–196.
- Proulx, D. A. (1968). *An Archaeological Survey of the Nepeña Valley, Peru*, Research Report No. 2, Department of Anthropology, University of Massachusetts, Amherst.
- Proulx, D. A. (1973). *Archaeological Investigations in the Nepeña Valley, Peru*, Research Report No. 13, Department of Anthropology, University of Massachusetts, Amherst.
- Reichlen, H., and Reichlen, P. (1949). Recherches archéologiques dans les Andes du haut Utcubamba. *Journal de la Société des Americanistes* 39: 219–246.
- Reycraft, R. M. (1998). *The Terminal Chiribaya Project: The Archaeology of Human Response to Natural Disaster in South Coastal Peru*, Ph.D. dissertation, Department of Anthropology, University of New Mexico, Albuquerque.
- Reycraft, R. M. (2005). Style change and ethnogenesis among the Chiribaya of far south coastal Peru. In Reycraft, R. M. (ed.), *Us and Them: Archaeology and Ethnicity in the Andes*, Monograph No. 53, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 54–72.
- Rice, D. S. (1993). Late Intermediate period domestic architecture and residential organization at La Yaral. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 66–82.
- Richardson, III, J. B., McConaughy, M. A., Heaps de Peña, A., and Décima Zamecnik, E. B. (1990). The northern frontier of the kingdom of Chimor: The Piura, Chira, and Tumbez Valleys. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 419–445.
- Riddell, F. A., and Valdez Cárdenas, L. M. (1988). *Prospecciones arqueológicas en el valle de Acari, costa sur del Perú*, California Institute for Peruvian Studies, Sacramento.
- Rivera, M. (1991). The prehistory of northern Chile: A synthesis. *Journal of World Prehistory* 5: 1–47.
- Rivera, M. (1993). South-central Andean domestic architecture: A view from the south. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 147–152.
- Rivera Dorado, M. (1971a). La cerámica killke y la arqueología de Cuzco (Perú). *Revista Española de Antropología Americana* 6: 85–124.
- Rivera Dorado, M. (1971b). Diseños decorativos en la cerámica killke. *Revista del Museo Nacional* 37: 106–115.
- Rivera Dorado, M. (1972). La cerámica de Cancha-Cancha, Cuzco, Peru. *Revista Dominicana de Arqueología y Antropología* 2: 36–49.
- Rodman, A. O., and Fernández López, G. A. (2005). North coast style after Moche: Clothing and identity at El Brujo, Chicama Valley, Peru. In Reycraft, R. M. (ed.), *Us and Them: Archaeology and Ethnicity in the Andes*, Monograph No. 53, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 115–133.
- Rossi, M. J., Kesseli, R., Liuha, P., Meneses, J., and Bustamante, J. (2002). Preliminary archaeological and environmental study of pre-columbian burial towers at Huachacalla, Bolivian altiplano. *Geoarchaeology* 17: 633–648.
- Rowe, A. P. (1984). *Costumes and Featherwork of the Lords of Chimor: Textiles from Peru's North Coast*, The Textile Museum, Washington, DC.

- Rowe, J. H. (1944). *An Introduction to the Archaeology of Cuzco*, Papers No. 27, Peabody Museum of American Archaeology and Ethnology, Cambridge, MA.
- Rowe, J. H. (1954). Max Uhle, 1856–1944: A memoir of the father of Peruvian archaeology. *University of California Publications in American Archaeology and Ethnology* 46: 1–134.
- Rowe, J. H. (1960). Cultural unity and diversification in Peruvian archaeology. In Wallace, A. F. C. (ed.), *Men and Cultures: Selected Papers of the Fifth International Congress of Anthropological and Ethnological Sciences*, University of Pennsylvania Press, Philadelphia, pp. 627–631.
- Rowe, J. H. (1962). Stages and periods in archaeological interpretation. *Southwestern Journal of Anthropology* 18: 40–54.
- Rydén, S. (1947). *Archaeological Researches in the Highlands of Bolivia*, Erlanders Boktryckery Aktiebolag, Göteborg, Sweden.
- Sandefur, E. (2001). Animal husbandry and meat consumption. In D'Altroy, T. N., and Hastorf, C. A. (eds.), *Empire and Domestic Economy*, Kluwer Academic, New York, pp. 179–202.
- Sandweiss, D. H. (1992). The archaeology of Chincha fishermen: Specialization and status in Inka Peru. *Bulletin of Carnegie Museum of Natural History* 29: 1–162.
- Sandweiss, D. H. (1995). Cultural background and regional prehistory. In Heyerdahl, T., Sandweiss, D. H., and Narváez, V. A. (eds.), *Pyramids of Tiúcume: The Quest for Peru's Forgotten City*, Thames and Hudson, New York, pp. 56–77.
- Sandweiss, D. H., and Narváez, V. A. (1995). Tiúcume past. In Heyerdahl, T., Sandweiss, D. H., and Narváez, V. A. (eds.), *Pyramids of Tiúcume: The Quest for Peru's Forgotten City*, Thames and Hudson, New York, pp. 190–198.
- Santillana, J. I. (1984). La Centinela: un asentamiento inka-chincha. Rasgos arquitectónicos estatales y locales. *Arqueología y Sociedad* 10: 14–32.
- Santoro, C. M., and Chacama, J. (1982). Secuencia cultural de las tierras altas del área centro sur andina. *Chungará* 9: 22–45.
- Santoro, C., Hidalgo, J., and Osorio, A. (1987). El estado inca y los grupos étnicos en el sistema de riego de Socorama. *Chungará* 19: 73–92.
- Santoro, C. M., Romero Guevara, A., Standen, V. G., and Torres, A. (2004). Continuidad y cambio en las comunidades locales, períodos intermedio tardío y tardío, valles occidentales del área centro sur andina. *Chungará* 36(suppl.): 235–247.
- Sapp, III, W. D. (2002). *The Impact of Imperial Conquest at the Palace of a Local Lord in the Jequetepeque Valley, Northern Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- Schiappacasse, V., and Niemeyer, H. (1989). Avances y sugerencias para el conocimiento de la prehistoria tardía en la desembocadura del valle de Camarones (región de Tarapacá). *Chungará* 22: 63–84.
- Schiappacasse, V., Castro, V., and Niemeyer, H. (1989). Los desarrollos regionales en el norte grande (1000–1400 d.C.). In Hidalgo, J., Schiappacasse, V., Niemeyer, H., Aldunate, C., and Solimano, I. (eds.), *Culturas de Chile: prehistoria desde sus orígenes hasta los albores de la conquista*, Editorial Andrés Bello, Santiago, pp. 181–220.
- Schreiber, K. J. (1987). Conquest and consolidation: A comparison of the Wari and Inka occupations of a highland Peruvian valley. *American Antiquity* 52: 266–284.
- Schreiber, K. J. (1992). *Wari Imperialism in Middle Horizon Peru*, Anthropological Papers No. 87, Museum of Anthropology, University of Michigan, Ann Arbor.
- Schreiber, K. J. (1993). The Inca occupation of the province of Andamarca Lucanas, Peru. In Malpass, M. (ed.), *Provincial Inca: Archaeological and Ethnohistorical Assessment of the Impact of the Inca State*, University of Iowa Press, Iowa City, pp. 77–116.
- Schreiber, K. J. (1999). Regional approaches to the study of prehistoric empires: Examples from Ayacucho and Nasca, Peru. In Billman, B. R., and Feinman, G. M. (eds.), *Settlement Pattern Studies in the Americas: Fifty Years since Virú*, Smithsonian Institution Press, Washington, DC, pp. 160–171.
- Schreiber, K. J. (2001). The Wari empire of Middle Horizon Peru: The epistemological challenge of documenting an empire without documentary evidence. In Alcock, S. E., D'Altroy, T. N., Morrison, K. D., and Sinopoli, C. M. (eds.), *Empires: Perspectives from Archaeology and History*, Cambridge University Press, New York, pp. 70–92.
- Schreiber, K. J., and Lancho Rojas, J. (1995). The puquios of Nasca. *Latin American Antiquity* 6: 229–254.

- Sciscento, M. M. (1990). *Imperialism in the High Andes: Inka and Wari Involvement in the Chuquibamba Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.
- Shimada, I. (1990). Cultural continuities and discontinuities on the northern north coast of Peru, Middle-Late Horizons. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 297–392.
- Shimada, I. (1991). Pachacamac archaeology: Retrospect and prospect. In *Pachacamac: A Reprint of the 1903 Edition*, Monograph 62, Museum of Archaeology and Anthropology, University of Pennsylvania, Philadelphia, pp. xvi–lxvi.
- Shimada, I. (1995). *Cultura Sicán: dios riqueza y poder en la costa norte del Perú*, Fundación del Banco Continental para el Fomento de la Educación y de la Cultura, Lima.
- Shimada, I. (2000). The late prehispanic coastal states. In Laurencich Minelli, L. (ed.), *The Inca World: The Development of Pre-Columbian Peru, A.D. 1000–1534*, University of Oklahoma Press, Norman, pp. 49–110.
- Shimada, M. B., and Shimada, I. (1985). Prehistoric llama breeding and herding on the north coast of Peru. *American Antiquity* 50: 3–26.
- Shimada, I., Shinoda, K., Farnum, J., Corruccini, R., and Watanabe, H. (2004). An integrated analysis of pre-Hispanic mortuary practices: A Middle Sicán case study. *Current Anthropology* 45: 369–402.
- Sillar, B., and Dean, E. M. (2002). Identidad étnica bajo el dominio inca: una evaluación arqueológica y etnohistórica de las repercusiones del estado Inka en el grupo étnico canas. *Boletín de Arqueología PUCP* 6: 205–264.
- Silva, V. E. (1992). Cerro La Cruz: asentamiento chimú en el sector medio del valle de Chao. *Gaceta Arqueológica Andina* 22: 35–49.
- Silva, J. E. (1996). *Prehistoric Settlement Patterns in the Chillón River Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of Michigan, Ann Arbor.
- Silverman, H. (2004). Introduction: Time and space in the central Andes. In Silverman, H. (ed.), *Andean Archaeology*, Blackwell, New York, pp. 1–15.
- Sims, K. (2006). After state collapse: How Tumilaca communities developed in the upper Moquegua Valley, Peru. In Schwartz, G. M., and Nichols, J. J. (eds.), *After Collapse: The Regeneration of Complex Societies*, University of Arizona Press, Tucson.
- Sinclaire, C. (1995). La tradición de fajas y cintas trenzadas en el período Medio o Intermedio Tardío del valle de Azapa. *Hombre y Desierto: Una Perspectiva Cultural* 9: 81–96.
- Stanish, C. S. (1985). *Post-Tiwanaku Regional Economies in the Otoro Valley, Southern Peru*, Ph.D. dissertation, Department of Anthropology, University of Chicago, Chicago, IL.
- Stanish, C. (1989). Household archeology: Testing models of zonal complementarity in the south-central Andes. *American Anthropologist* 91: 7–24.
- Stanish, C. (1992). *Ancient Andean Political Economy*, University of Texas Press, Austin.
- Stanish, C. (1994). The hydraulic hypothesis revisited: Lake Titicaca Basin raised fields in theoretical perspective. *Latin American Antiquity* 5: 312–332.
- Stanish, C. (1997). The settlement history of the southwestern Titicaca Basin. In Stanish, C., de la Vega, M. E., Steadman, L., Chávez Justo, C., Frye, K. L., Onofre Mamani, L., Seddon, M. T., and Calisaya Chuquimia, P. (eds.), *Archaeological Survey in the Juli-Desaguadero Region of Lake Titicaca Basin, Southern Peru*, Fieldiana: Anthropology, n.s. No. 29, Field Museum of Natural History, Chicago, pp. 113–119.
- Stanish, C. (2003). *Ancient Titicaca: The Evolution of Complex Society in Southern Peru and Northern Bolivia*, University of California Press, Berkeley.
- Stanish, C., and Bauer, B. S. (2004). The settlement history of the Island of the Sun. In Stanish, C., and Bauer, B. S. (eds.), *Archaeological Research on the Islands of the Sun and Moon, Lake Titicaca, Bolivia: Final Results from the Proyecto Tiksi Kjarka*, Monograph No. 52, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 23–42.
- Stanish, C., de la Vega, E., and Frye, K. L. (1993). Domestic architecture on Lupaqa area sites in the Department of Puno. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 83–93.
- Stanish, C., de la Vega, M. E., Steadman, L., Chávez Justo, C., Frye, K. L., Onofre Mamani, L., Seddon, M. T., and Calisaya Chuquimia, P. (1997). *Archaeological Survey in the Juli-Desaguadero Region of Lake Titicaca Basin, Southern Peru*, Fieldiana: Anthropology, n.s. No. 29, Field Museum of Natural History, Chicago, IL.

- Strong, W. D. (1925). *The Uhle Pottery Collections from Ancon*, Publications in American Archaeology and Ethnology No. 21, University of California, Berkeley.
- Stumer, L. M. (1954). Population centers of the Rimac Valley of Peru. *American Antiquity* 20: 130–148.
- Stumer, L. M. (1971). Informe preliminar sobre el recorrido del valle de Cañete. *Arqueología y Sociedad* 5: 23–35.
- Sutter, R. C. (1997). *Dental Variation and Biocultural Affinities among Prehistoric Populations from the Coastal Valleys of Moquegua, Peru, and Azapa, Chile*, Ph.D. dissertation, Department of Anthropology, University of Missouri, Columbia.
- Sutter, R. C. (2000). Prehistoric genetic and culture change: A bioarchaeological search for pre-Inca altiplano colonies in the coastal valleys of Moquegua, Peru, and Azapa, Chile. *Latin American Antiquity* 11: 43–70.
- Sutter, R. C. (2005). A bioarchaeological assessment of prehistoric ethnicity among early Late Intermediate period populations of the Azapa Valley, Chile. In Reycraft, R. M. (ed.), *Us and Them: Archaeology and Ethnicity in the Andes*, Monograph No. 53, Cotsen Institute of Archaeology, University of California, Los Angeles, pp. 183–205.
- Thompson, D. E. (1973). Investigaciones arqueológicas en los Andes orientales del norte del Perú. *Revista del Museo Nacional* 39: 117–125.
- Tomczak, P. D. (2001). *Prehistoric Socio-Economic Relations and Population Organization in the Lower Osmore Valley of Southern Peru*, Ph.D. dissertation, Department of Anthropology, University of New Mexico, Albuquerque.
- Tomczak, P. D. (2003). Prehistoric diet and socioeconomic relationships within the Osmore Valley of southern Peru. *Journal of Anthropological Archaeology* 22: 262–278.
- Topic, J. R. (1977). *The Lower Class at Chan Chan: A Quality Approach*, Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge, MA.
- Topic, J. R. (1982). Lower-class social and economic organization at Chan Chan. In Moseley, M. E., and Day, K. C. (eds.), *Chan Chan: Andean Desert City*, University of New Mexico Press, Albuquerque, pp. 145–175.
- Topic, J. R. (1990). Craft production in the kingdom of Chimor. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 145–176.
- Topic, J. R. (1991). Huari and Huamachuco. In Isbell, W. H., and McEwan, G. F. (eds.), *Huari Administrative Structure: Prehistoric Monumental Architecture and State Government*, Dumbarton Oaks, Washington, DC, pp. 141–164.
- Topic, J. R. (2003). From stewards to bureaucrats: Architecture and information flow at Chan Chan, Peru. *Latin American Antiquity* 14: 243–274.
- Topic, J. R., and Moseley, M. E. (1983). Chan Chan: A case study of urban change in Peru. *Nawpa Pacha* 21: 153–182.
- Topic, J. R., and Topic, T. L. (1993). A summary of the Inca occupation of Huamachuco. In Malpass, M. (ed.), *Provincial Inca: Archaeological and Ethnohistorical Assessment of the Impact of the Inca State*, University of Iowa Press, Iowa City, pp. 17–43.
- Topic, J. R., and Topic, T. L. (2000). Hacia la comprensión del fenómeno Huari: una perspectiva norteña. *Boletín de Arqueología PUCP* 4: 181–217.
- Topic, T. L. (1990). Territorial expansion and the kingdom of Chimor. In Moseley, M. E., and Cordy-Collins, A. (eds.), *The Northern Dynasties: Kingship and Statecraft in Chimor*, Dumbarton Oaks, Washington, DC, pp. 177–194.
- Trimborn, H. (1975). Los valles del Caplina y Sama. In Trimborn, H., Kleemann, O., Narr, K., and Wurster, W. (eds.), *Investigaciones arqueológicas en los valles del Caplina y Sama (Dep. Tacna, Perú)*, Studia Instituti Anthropos No. 25, Editorial Verbo Divino, Estella, Spain, pp. 13–60.
- Trimborn, H., Kleemann, O., Narr, K., and Wurster, W. (eds.) (1975). *Investigaciones arqueológicas en los valles del Caplina y Sama (Dep. Tacna, Perú)*, Studia Instituti Anthropos No. 25, Editorial Verbo Divino, Estella, Spain.
- Tschopik, M. H. (1946). *Some Notes on the Archaeology of the Department of Puno*, Papers No. 27, Peabody Museum of American Archaeology and Ethnology, Cambridge, MA.
- Tung, T. A. (2003). *A Bioarchaeological Perspective on Wari Imperialism in the Andes of Peru: A View from Heartland and Hinterland Skeletal Populations*, Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

- Tung, T., and Owen, B. D. (2006). Violence and rural lifeways at two peripheral Wari sites in the Majes Valley of southern Peru. In Isbell, W. H., and Silverman, H. (eds.), *Andean Archaeology III: North and South*, Springer, New York, pp. 435–467.
- Uhle, M. (1912). Los orígenes de los incas. In *Actas del XVII Congreso Internacional de Americanistas*, Buenos Aires, pp. 305–352.
- Uhle, M. (1919). La arqueología de Arica y Tacna. *Boletín de la Sociedad Ecuatoriana de Estudios Históricos Americanos* 3(7–8): 1–48.
- Uhle, M. (1924). Explorations at Chincha (ed. A. L. Kroeber). *University of California Publications in American Archaeology and Ethnology* 21(2): 55–94.
- Uhle, M. (1991 [1903]). *Pachacamac: A Reprint of the 1903 Edition*, Monograph No. 62, Museum of Archaeology and Anthropology, University of Pennsylvania, Philadelphia.
- Ulloa, L. (1981). Evolución de la industria textil prehispánica en la zona de Arica. *Chungará* 8: 109–136.
- Umire, A. (1994). Inventario arqueológico de la costa norte de Ilo, 1994. Unpublished manuscript on file, Department of Anthropology, Southern Methodist University, Dallas, TX.
- Umire, A. (1996). Inventario arqueológico de la costa norte de Ilo: segunda temporada 1995–1996. Unpublished manuscript on file, Department of Anthropology, Southern Methodist University, Dallas, TX.
- Umire, A. (1998). Inventario arqueológico de la costa sur de Ilo: primera temporada 1997–1998. Unpublished manuscript on file, Department of Anthropology, Southern Methodist University, Dallas, TX.
- Valdez, L. M., and Vivanco, C. (1994). Arqueología de la cuenca de Qaracha, Ayacucho, Peru. *Latin American Antiquity* 5: 144–157.
- Vallejo, B. F. (2005). Ychsma style: General characteristics, sequence, and geographical distribution. *Bulletin de l'Institut Français d'Études Andines* 33: 595–642.
- Verano, J. W. (2005). Human skeletal remains from Pikillacta. In McEwan, G. F. (ed.), *Pikillacta: The Wari Empire in Cuzco*, University of Iowa Press, Iowa City, pp. 125–130.
- Villacorta, L. F. (2005). Los palacios en la costa central durante los períodos tardíos: de Pachacamac al Inca. *Bulletin de l'Institut Français d'Études Andines* 33: 539–570.
- Villar Córdova, P. (1935). *Arqueología peruana: las culturas pre-hispánicas del Departamento de Lima*, Talleres Gráficos de la Escuela de la Guardia Civil y Policía, Lima.
- Vivanco, C., and Valdez, L. M. (1993). Poblados wari en la cuenca del Pampas-Qaracha, Ayacucho. *Gaceta Arqueológica Andina* 23: 83–102.
- Vogel, M. A. (2003). *Life on the Frontier: Identity and Sociopolitical Change at the Site of Cerro la Cruz, Peru*, Ph.D. dissertation, Department of Anthropology, University of Pennsylvania, Philadelphia.
- Vogel, M. A. (2005). Life on the frontier in ancient Peru: Archaeological investigations at Cerro La Cruz. *Expedition* 47(1): 25–31.
- Wallace, D. (1971). Sitios arqueológicos del Perú (segunda entrega): valles de Chincha y de Pisco. *Arqueológicas* 13: 4–131.
- Wallace, D. T. (1991). The Chincha roads: Economics and symbolism. In Trombold, C. D. (ed.), *Ancient Road Networks and Settlement Hierarchies in the New World*, Cambridge University Press, Cambridge, pp. 253–263.
- Wallace, D. T. (1998). The Inca compound at La Centinela, Chincha. *Andean Past* 5: 9–33.
- Wernke, S. A. (2003). *An Archaeo-History of Andean Community and Landscape: The Late Pre-Hispanic and Early Colonial Colca Valley, Peru*, Ph.D. dissertation, Department of Anthropology, University of Wisconsin, Madison.
- Willey, G. R. (1943). A supplement to the pottery sequence at Ancón. In Strong, W. D., Willey, G. R., and Corbett, J. M. (eds.), *Archaeological Studies in Peru, 1941–1942*, Columbia University Press, New York, pp. 197–214.
- Willey, G. R. (1953). *Prehistoric Settlement Patterns in the Viru Valley, Peru*, Bureau of American Ethnology, Washington, DC.
- Williams, P. R. (2001). Cerro Baúl: A Wari administrative center on the Tiwanaku frontier. *Latin American Antiquity* 12: 67–83.
- Williams, P. R. (2002). A re-examination of disaster induced collapse in the case of the Andean highland states: Wari and Tiwanaku. *World Archaeology* 33: 361–374.
- Williams, S. R. (1990). *The Skeletal Biology of Estuquirá: A Late Intermediate Period Site in Southern Peru*, Ph.D. dissertation, Department of Anthropology, Northwestern University, Evanston, IL.

- Wilson, D. J. (1988). *Prehispanic Settlement Patterns in the Lower Santa Valley, Peru. A Regional Perspective on the Origins and Development of Complex North Coast Society*, Smithsonian Institution Press, Washington, DC.
- Wilson, D. J. (1995). Prehispanic settlement patterns in the Casma Valley, north coast of Peru: Preliminary results to date. *Journal of the Steward Anthropological Society* 23: 189–227.
- Wise, K. (1993). Late Intermediate period architecture of Lukurmata. In Aldenderfer, M. S. (ed.), *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa Press, Iowa City, pp. 103–113.
- Zapata, R. J. (1997). Arquitectura y contextos funerarios wari en Batán Urqu, Cusco. *Boletín de Arqueología PUCP* 1: 165–206.

### Select bibliography of other Andean regions

- Alconini, S. (2002). *Prehistoric Inka Frontier Structure and Dynamics in the Bolivian Chaco*, Ph.D. dissertation, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA.
- Alconini, S. (2004). The southeastern Inka frontier against the Chiriguano: Structure and dynamics of the Inka imperial borderlands. *Latin American Antiquity* 15: 389–418.
- Arellano, L. A. J. (1992). El desarrollo cultural prehispánico en el altiplano y valles interandinos de Bolivia. In Meggers, B. J. (ed.), *Prehistoria sudamericana: nuevas perspectivas*, Smithsonian Institution Press, Washington, DC, pp. 309–325.
- Baldini, L., and Balbarrey, G. (2004). Análisis de pastas cerámicas tardías del valle Calchaquí central (Salta, Argentina). *Chungará* 36(suppl.): 1069–1080.
- Berenguer, J. A. (2002). *Tráfico de caravanas, interacción interregional y cambio cultural en la prehistoria tardía del desierto de Atacama (Chile)*, Ph.D. dissertation, Department of Anthropology, University of Illinois, Urbana-Champaign.
- Bonavia, D. (1968a). Núcleos de población en la ceja de selva de Ayacucho, Perú. In *Actas del XXXVII Congreso Internacional de Americanistas*, vol. 1, Buenos Aires, pp. 75–83.
- Bonavia, D. (1968b). *Las ruinas de Abiseo*, Universidad Peruana de Ciencias y Tecnología, Lima.
- Bravomalo de Espinosa, A. (1990). *Ecuador ancestral*, Artes Gráficas Señal, Quito.
- Bray, T. L. (1991). *The Effects of Inca Imperialism on the Northern Frontier*, Ph.D. dissertation, Department of Anthropology, State University of New York, Binghamton.
- Bray, T. L. (1992). Archaeological survey in northern highland Ecuador: Inca imperialism and the país Caranqui. *World Archaeology* 24: 218–233.
- Bray, T. L. (2005). Multi-ethnic settlement and interregional exchange in Pimapiro, Ecuador. *Journal of Field Archaeology* 30: 119–141.
- Connell, S. V., Gifford, C., González, A. L., and Carpenter, M. (2003). Hard times in Ecuador: Inka troubles at Pambamarca. *Antiquity* 77(295). Posted on the Web at <http://antiquity.ac.uk/projgall/connell/connell.html>.
- Costa, M. A. (1988). Reconstitución física y cultural de la población tardía del cementerio de Quitor-6 (San Pedro de Atacama). *Estudios Atacameños* 9: 99–126.
- Cremonte, M. B. (2006). El estudio de la cerámica en la reconstrucción de las historias locales: el sur de la Quebrada de Humahuaca (Jujuy, Argentina) durante los desarrollos regionales e incaicos. *Chungará* 38: 239–247.
- Currie, E. (2000). Archaeological investigations in the northern highlands of Ecuador at Hacienda Zuleta. *Antiquity* 74: 273–274.
- DeMarrais, E. (1997). *Materialization, Ideology, and Power: The Development of Centralized Authority among the Pre-Hispanic Polities of the Valle Calchaquí*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- DeMarrais, E. (2001). La arqueología del norte del valle Calchaquí. In Berberián, E., and Nielsen, A. (eds.), *Historia Argentina prehispánica 1*, Editorial Brújula, Córdoba, Argentina, pp. 289–346.
- Dillehay, T. D., and Núñez, A. L. (1988). Camelids, caravans, and complex societies in the south-central Andes. In Saunders, N. J., and de Montmollin, O. (eds.), *Recent Studies in Pre-Columbian Archeology*, BAR International Series No. 421, British Archaeological Reports, Oxford, pp. 603–634.
- Faldin, J. J. D. (1990). La provincia Larecaja y el sistema precolombino del norte de La Paz. In *Larecaja, Ayer, Hoy y Mañana*, Comisión Cultural, La Paz, pp. 73–90.

- Higueras-Hare, A. (1996). *Pre-Hispanic Settlement and Land Use in Cochabamba, Bolivia*, Ph.D. dissertation, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA.
- Lecoq, P. (1997). Patrón de asentamiento, estilos cerámicos y grupos étnicos: el ejemplo de la región intersalar en Bolivia. In Bouysse-Cassagne, T. (ed.), *Saberes y memorias en los Andes: In memoriam Thierry Saignes*, IHEAL-IFEA, Lima, pp. 59–89.
- Lecoq, P., and Céspedes, R. (1997). Panorama archéologique des zones méridionales de Bolivie (sud-est de Potosí). *Bulletin de l'Institut Français d'Etudes Andines* 26: 21–61.
- Neilsen, A. E. (2001). Evolución social en Quebrada de Humahuaca (A.D. 700–1536). In Berberián, E., and Nielsen, A. (eds.), *Historia Argentina prehispánica 1*, Editorial Brujas, Córdoba, Argentina, pp. 171–264.
- Neilsen, A. E. (2002). Asentamientos, conflicto y cambio social en el altiplano de Lípez (Potosí). *Revista Española de Antropología Americana* 32: 179–205.
- Neilsen, A. E. (2006). Plazas para los antepasados: descentralización y poder corporativo en las formaciones políticas preincaicas de los Andes curcumpuneños. *Estudios Atacameños* 31: 63–89.
- Núñez, L., and Dillehay, T. D. (1978). *Movilidad giratoria, armonía social y desarrollo en los Andes meridionales: patrones de tráfico e interacción económica*, Universidad del Norte, Antofagasta, Chile.
- Ogburn, D. (2001). *The Inca Occupation and Forced Resettlement in Saraguro, Ecuador*, Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.
- Rodríguez, L. J., Becker, A. C., and González, C. P. et al. (2004). La cultural diaguita en el valle del Río Illapel. *Chungará* 36(suppl.): 739–751.
- Salinas Williams, H. (2004). Tecnología lítica en un asentamiento del período intermedio tardío en la cordillera de Chile central. *Chungará* 36(suppl.): 969–981.
- Sánchez, R. R., Pavlovic, B. D., González, C. P., and Troncoso, M. A. (2004). Curso superior del Río Aconcagua: un área de interdigitación cultural períodos intermedio tardío y tardío. *Chungará* 36(suppl.): 753–766.
- Schjellerup, I. R. (1997). *Incas and Spaniards in the Conquest of the Chachapoyas. Archaeological and Ethnohistorical Research in the North-eastern Andes of Peru*, Department of Archaeology, Göteborg University, Göteborg, Sweden.
- Torres-Rouff, C., Costa-Junqueira, M. A., and Llagostera, A. (2005). Violence in times of change: The Late Intermediate period in San Pedro de Atacama. *Chungará* 37: 75–83.
- Uribe, R. M. (2002). Sobre alfarería, cementerios, fases y procesos durante la prehistoria tardía del desierto de Atacama (800–1600 d.C.). *Estudios Atacameños* 22: 7–31.
- Uribe, R. M. (2006). Acerca de complejidad, desigualdad social y el complejo cultural Pica-Tarapacá en los Andes centro-sur (1000–1450 d.C.). *Estudios Atacameños* 31: 91–114.
- Uribe Rodríguez, M., Adán Alfaro, L., and Agüero Piwonka, C. (2004). Arqueología de los períodos intermedio tardío y tardío de San Pedro de Atacama y su relación con la cuenca del Río Loa. *Chungará* 36(suppl.): 943–956.