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Core, peripheries, and regional realities in Middle Horizon Peru

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Abstract

In this article, I argue that the basic structure of the core–periphery models of dependency and world system theories are so deeply embedded in archaeological interpretations of early states and empires that social scientists working inside, outside, and against these paradigms tend to frame their arguments, often implicitly, around a core–periphery model of radiating lines that connect peripheral zones to the core. I suggest that the dominance of this model significantly inhibits our ability to understand the social dynamics of outlying groups in some instances. Using a case study from the Wari state of the Pre-Columbian Andes, I demonstrate one example of a situation where a core–periphery model fails to capture the emergent properties of a regional system embedded within the cultural and economic milieu of the expanding Wari state. Without a more serious consideration of regional dynamics, archaeologists may misinterpret the past at all levels of inter-regional interactions involving state societies in the Andes and elsewhere.
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In the earliest expansionary states from around the world, rapid urbanization created increasing import demands for people, staple products, and luxury goods. Since the flow of imports underwrote population growth, craft specialization, and elite displays, the development and stability of the state became dependent, in no small measure, on production from groups living far removed from the state's urban centers (Algaze, 1993a). Geographic, technological, and organization hurdles to increasing and maintaining inter-regional exchange networks were daunting (Stark, 1990, pp. 250–256; Stein, 1999b, pp. 160–165), and state leaders met these challenges by variously establishing colonies, forming trade

partnership, forging political alliances, developing elite ideologies, and waging war in outlying areas (e.g., Adams, 1984; Algaze, 2001; Goldstein, 2005; Gosden, 2004; Stein, 1999a; Zaccagnini, 1987). The political economies of states were therefore linked in different ways to the political economies of other regions, and, in many cases, significant change occurred in these contacted areas because of inter-regional interaction.

Apart from diffusionism, the first sustained consideration of the link between early state development and peripheral change occurred during the late 1970s when archaeologists were introduced to dependency and world systems theory. Over the last thirty years, these theories have had an immense influence on the field and have spurred a widespread interest in inter-regional interaction (e.g., Algaze, 1993b;

Champion, 1989; Cusick, 1998; Gosden, 2004; Hall and Chase-Dunn, 1993; Kardulias, 1999; Peregrine and Feinman, 1996; Stein, 1999a). Over this time, the theories have been significantly modified (e.g., Berdan et al., 1996; Chase-Dunn and Hall, 1992; Rowlands et al., 1987; Schreiber, 1992), cogently attacked (e.g., Stein, 1999a; Schortman and Urban, 1998), and rejected for rival models (e.g., Cusick, 1998; Lyons and Papadopoulos, 2002). Perhaps counter intuitively, I argue that this long debate has propelled the radial core–periphery model that structures dependency and world systems theory into the discipline's practical consciousness.

In this paper, I suggest that recent debates on the inter-regional interactions caused by expanding states have failed to challenge the underlying architecture of the core–periphery model of dependency and world systems theory. Instead, conceptions of state–local relationships are so strongly influenced by this model that social scientists working inside, outside, and against these paradigms frame their arguments, often implicitly, around a state core that connects to peripheral zones through lines radiating out of the center. The largely tacit acceptance of the radial model might be because it is the best representation of a complex reality. I suggest, however, that the radial core–periphery model of expansionist states often fails to capture many of the realities of inter-regional exchange and local political development in outlying areas. I argue that the model accentuates core–periphery relationships, assumes structural links within the system, and neglects regional networks. To illustrate my argument, I examine how core–periphery relationships fail to compellingly explain the relationship between the Pre-Columbian Wari state and the people of the Cotahuasi Valley in southern Peru.

Cores and peripheries in the ancient world

Before the introduction of dependency and world systems theory in the 1960s and 1970s, archaeological rationalization for culture change were largely limited to explanations of the migration of populations, the diffusion of ideas and technology, or environmental shifts (Schortman and Urban, 1987, 1992). These new theories forced archaeologists to more fully consider the existence of sustained, systematic links between societies and to explore the relationship of these linkages to culture change. The theories introduced or inspired an analytical vocabulary of cores, peripheries, hegemonies, direct control, and prestige goods that have been very useful for modeling the interactions in the past. In this section, I briefly describe dependency and world systems theory, the engagement that archaeologists have had with these theories, and the deficiencies of the radial model for describing some cases of inter-regional interactions.

The emergence of the radial model

Dependency and world systems theory initially arose out of a context of increasing concern over the connection between the growth of the western world and the stasis or decline of what would become known as the third world (Fig. 1). Frank (1966, 1967) the key developer of dependency theory, first drew the outline of the radial core–periphery model by positing a systematic, structural connection between

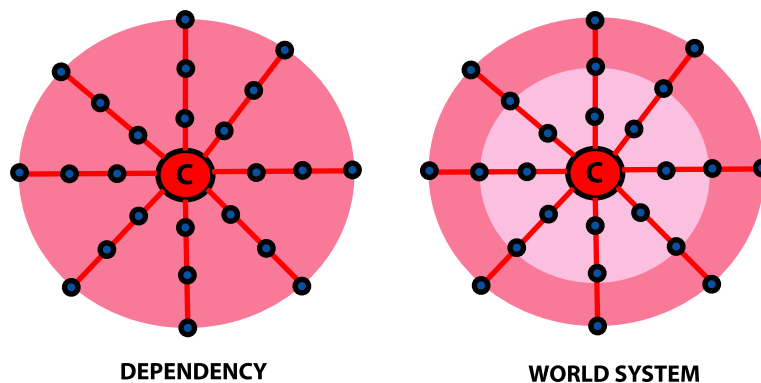**DEPENDENCY**   **WORLD SYSTEM**

Fig. 1. Graphical representations of dependency and world systems theories. The core (C) is connected to peripheral regions (black dots) through the flow of goods. In the dependency model, the system is controlled (represented in gray) by the core. The variations of gray in the world systems model demonstrate how core control changes in the semi-periphery and periphery.

rich and poor nations. He suggested that the third world was locked in an exploitative relationship with the first world because of an international division of labor, the extraction and exportation of third world raw materials, and third world dependency on first world high-value, finished goods. The third world could not follow the development path of the West because colonialism in these countries had restructured these political economies to meet Western interests.

Wallerstein (1974) built on Frank's dependency work and created a new world systems model that nevertheless left the basic radial model of core–periphery relations intact. According to Wallerstein, a world system can be divided into three major zones, a core, semi-periphery, and periphery, that are tied together by a world market of bulk commodities that are necessary for every-day life. Each zone has its own economic structure and system of labor control. The core contains strong governments and generally supports industry and wage labor, the periphery contains weak states typified by coerced labor and monoculture, and semi-strong states with limited industrialization make up the semi-periphery. Surplus wealth flows into the core from peripheral and semi-peripheral nations. The strong states in the core increase and sustain the flow of wealth through extra-economic means.

While André Gunder Frank embraced Wallerstein's elaboration of his ideas, the two scholars disagreed on the applicability of the world systems approach in the ancient world. Wallerstein (1974, pp. 15–16) suggested that his model could not be applied to understanding the pre-capitalist world both because ancient states had insufficient control over peripheries and because the system lacked the technologies necessary to produce a significant surplus. Nonetheless, he suggested that at certain points in history, "world empires" had risen to hold economic sway over large areas of the world. In these cases, the periphery was closely integrated to the core through administered, tribute paying provinces (1974, p. 16). Frank, on the other hand, thought that the modern world system was the end result of thousands of years of evolution. In his more recent work, he directly connects the Uruk expansion of fourth millennium BC Mesopotamia to the present day through cycles of capital accumulation and core–periphery relations (Frank, 1993; Frank and Fills, 2000).

The resiliency of the radial model

The scholarship of Frank and Wallerstein was attractive to archaeologists because it linked politics, economics, and geography in ways that were archaeologically visible (Stein, 1999a, 2002b). World system analyses became popular in the discipline in the 1980s and 1990s, and the model was brought to bear across the world and throughout time on a wide variety of societies (e.g., Chase-Dunn and Hall, 1992; Kardulias, 1999; Rowlands et al., 1987). At one extreme, Chase-Dunn and Hall described a "very small world-system" that operated among the Wintu and rival groups in California's Sacramento Valley (1997, pp. 121–189). At the other extreme, the world system approach was used to understand the relationship of the Roman Empire to northern Europe, the Middle East, and northern Africa (Nash, 1987).

While some scholars hoped to bring the world-systems approach into the ancient world largely unchanged, most archaeologists were critical of world-systems to one degree or another and, as Schortman and Urban (1992, p. 19) suggest, "the theory is never accepted without reworking, redefinition, or other adjustments." Schneider (1977) offered perhaps the most influential early critique of Wallerstein's work by suggesting that the flow of small amounts of luxury goods could also bind two regions together because luxury goods conferred prestige to those that acquired the items. Other archaeologists challenged other core aspects of the theory, such as the existence of a semi-periphery and the long-term stability of the core (e.g., Blanton and Feinman, 1984; Ekholm and Friedman, 1979; Kohl, 1978, 1987; Upham, 1986). These early critiques led to three major developments in the ways that archaeologists have conceptualized the inter-regional interaction of ancient states.

The first development has been the introduction of new models that are more appropriate for the ancient world (Fig. 2). At one extreme, the models are only slightly modified versions of dependency and world-systems theories that downplay core dominance and highlight structure and interdependence (e.g., Chase-Dunn and Hall, 1997, pp.12–15; Denemark et al., 2000, p. xvi; Kardulias, 1999; Peregrine and Feinman, 1996). At the other extreme are new models that have been introduced that change the items moving through the system, alter the flow of goods, deny core dominance over the periphery, and demonstrate peripheral influence
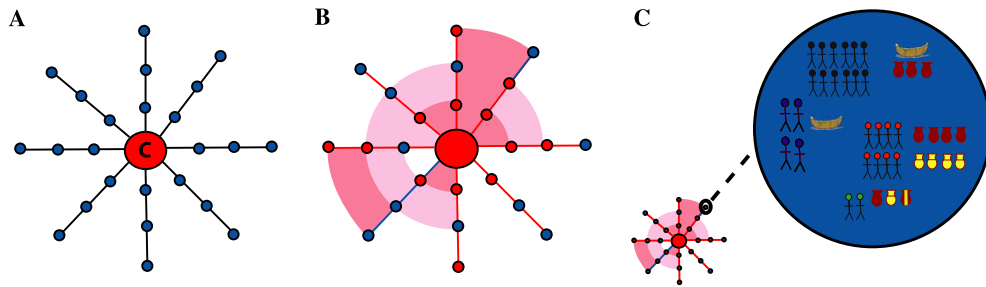
Fig. 2. Graphical representations of recent conceptualizations of early state interaction systems. (A) Represents a prestige goods economy where peripheral elites become dependent on core goods, (B) is an interaction model that stresses variability in the ways that peripheral areas are integrated into the state, and (C) represents a focus on peripheral agency and the local effects of state expansion.

over core culture (e.g., Earle and D'Altroy, 1989; Schneider, 1977; Stein, 1999a). Some of the later models are offered as counters to world systems and dependency approaches.

The second development is the increasing recognition of variability within each core–periphery system. In contrast to a monolithic system of direct or indirect control over a periphery, scholars have noted that the relationship between states and outlying areas can be dramatically different from place to place (e.g., Berdan et al., 1996; Malpass, 1993; Rothman, 2001; Schreiber, 1992). Variations in interaction have been linked to a wide array of factors, including the political economies of the core, the political complexity of the contacted area, the transportation costs of reaching the area from the core and vice versa, the area's economic resource potential, and the ideological importance of the contacted area. The variability models often combine aspects of dependency and world systems models with the newer models introduced for the ancient world.

The third development in the ways that archaeologists have conceptualized the inter-regional interaction of ancient states has been a movement down in scale to study the nuances of local agency, heterogeneous identities, technological innovation, and other aspects of culture change. Coinciding with postcolonial concerns of the subaltern (Spivak, 1994), this development has been particularly pronounced in peripheral areas, where archaeologists have formulated a more nuanced view of the political, economic, and social consequences of culture contact by focusing on the interactions between state agents, local populations, and material culture (e.g., Dietler, 1990, 1998; Domínguez, 2002; Stein, 1999a,b; Wells, 1999). This work has demonstrated the importance of smaller scale analyses to the understanding of inter-regional interactions, and

has demonstrated that core dominance and economic hegemony was often much weaker than in modern systems. With the exception of Stein (1999a,b, 2001, 2002a,b), scholars have not generally proposed macro-level interaction models based on their studies of local dynamics.

Over the last three decades, archaeologists and other social scientists have debated the merits of dependency and world systems based interpretations of the past. Scholars have adapted the core–periphery model outlined in these theories to the ancient world by shrinking the system, making the core less dominant, allowing a more active and varied periphery, and diversifying the types of connection between the two zones. These substantial shifts have been the result of fruitful exchanges between supporters and detractors of world systems and dependency theory (especially see Chase-Dunn and Hall, 1997; Deagen, 1996, 1998; Frank, 1993; Lightfoot, 1995; Stein, 2002a; Schortman and Urban, 1998). While this scholarship has significantly advanced our understanding of early state dynamics, I argue that these ideas are variations on a theme that leaves the radial core–periphery model embedded in our interpretations.

The deficiencies of the radial model

I suggest that the radial model has become a model of ancient reality that has been naturalized over the course of our engagement with dependency and world systems theories (Bourdieu, 1977, p. 164; Geertz, 1973, p. 93). While archaeologists shift terminology, create new models, and explore peripheral agency, the basic architecture remains unchallenged because it is part of our "practical consciousness" that is rarely articulated to ourselves and each other (Giddens, 1984, p. 7). The consequence of its non-discursive acceptance is the

imposition of an a priori structure on the relationship between a polity and outlying regions. Technology, ideas, people, and trade items are envisioned as flowing from the core to a peripheral area (and vice versa) along a series of connecting pathways that are sometimes anchored by colonies and/or administrative centers. The structure of the model detrimentally influences, often implicitly, interpretations of the material record in at least three linked ways (Fig. 3).

First, the model accentuates core–periphery relations by privileging the connections between the state and outlying areas. For example, a handful of state style sherds at a peripheral site are given much more weight than ceramics from other regions, local reactions to state ideology are highlighted, the amount of state investment in local resources is monitored, and the adoption of peripheral foods in the core is studied. Understanding inter-regional interaction within and around states becomes tantamount to understanding the relationship between the core and a peripheral area because the structure of the model highlights the importance of this relationship. Following the model's logic, studying the relationship between the core and each peripheral area reveals the nature of the inter-regional interaction system. The whole is equal to the sum of its parts, and the parts are cores and peripheries linked together.

The second deficiency of the radial model is that it assumes important structural links between the core and the periphery. In some cases, this link is through direct state control or the establishment of colonies. In other cases, the system is a more dendritic one in which core and periphery goods flow back and forth between many intermediate traders through unbalanced economic exchanges (Santley and Alexander, 1992). Despite these conceptual variations, the underlying model assumes that these

connecting links exist and that these core–periphery links form the defining relationship of the peripheral area's inter-regional interaction. Archaeologists therefore attempt to find the links between their area and the core, and use this data to argue for "direct control", "indirect control", or "outside influence" of their area by the state. Outside interactions are effectively collapsed into a single relationship with the core.

The final deficiency, the neglect of regionalism, builds on these first two critiques. By accentuating the core and the periphery and assuming core–peripheral structural links, there is little interpretative space for intra-regional interactions. Contact between areas in the periphery is seen as less important, and tangential to interpretation of inter-regional interactions with the state. Connections between places are often considered as intermediate links between the core and a peripheral area, cultural change is a result of the dynamics of a core–periphery interaction, and the logic of different actors is explained by their position within the structure of the radial model. Possible emergent properties of regional interactions are ignored or poorly interpreted because the framework of the radial model is not conducive to exploring these relationships.

Core and periphery in the Wari state

The radial model's architecture of inter-regional interaction is deeply embedded in our understanding of the Wari state of the ancient Andes. While I discuss in another paper the history of Wari scholarship (Jennings, in press), I only consider in this section the available data and consider how the radial model informed our current interpretations of the state's relationship with outlying areas. Like other areas of the world, the development of archaeological views on Wari has played out within the context of the discipline's general engagement with dependency and world systems theory. The nuances of this engagement over time are less important to us than a general grasp on the Wari data and the ways in which these data have been generally interpreted.

During the Middle Horizon Period (600–1000 AD), the Wari state developed in the Ayacucho Valley of the Peruvian Andes (Fig. 4). The Wari capital (also called Wari) quickly grew to reach a population size of at least 10,000 people (Isbell, 1997, p. 186), and, as the population became more
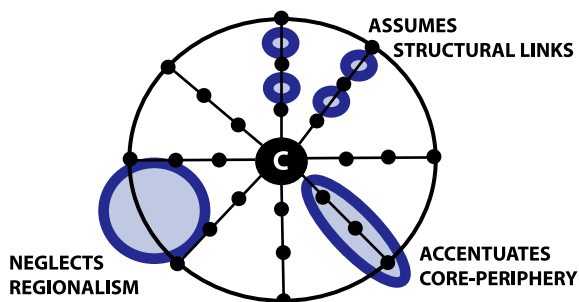

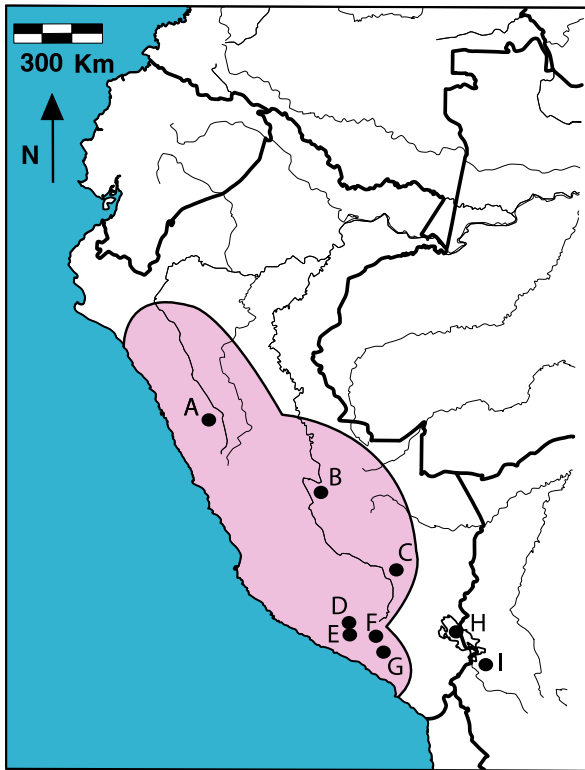Fig. 3. Deficiencies of the radial core–periphery model.

Fig. 4. Map of northwestern South America with modern political boundaries marked in bold outline. The area of Wari stylistic influence encompassed much of Peru and is shown in dark grey. The dots show the locations of places mentioned in the text: (A) Chavín de Huantar, (B) the Wari capital, (C) Cuzco, (D) Cotahuasi, (E) Chuquibamba, (F) Colca, (G) Arequipa, (H) Lake Titicaca, and (I) Tiwanaku.

dense, increasingly specialized and wealthy (Gonzalez Carre, 1981, p. 94; Isbell, 1997, p. 206; Spickard, 1983, pp. 153–154; Von Hagen and Morris, 1998, p. 130), the demand for non-local goods increased. The need for agricultural products appears to have been largely met by intensification and state regulation of surrounding valleys (Browman, 1999; Isbell, 1977; Raymond, 1992; Raymond and Isbell, 1969; Vivanco and Valdez, 1993), while less bulky and/or non-perishable goods likely came into the valley from more distant regions (Jennings and Craig, 2001).

Inter-regional exchange increased significantly during the Middle Horizon throughout Peru. Wari and other cultures during the period benefited from the increased flow of prestige goods, staple items, and ideas (Burger et al., 2000; Lechtman, 1980; Shady Solís, 1988). Wari was an important, if not the most important, node in this exchange network. Raw materials and finished products flowed into the

city from across the central Andes, and specialists at the capital produced textiles, stone figurines, ceramic vessels, metal objects and other items that were exchanged across a wide area of Peru (Isbell, 1997; Pérez Calderón, 1999). The extension of Middle Horizon exchange networks was paralleled by the establishment of at least twenty sites with Wari style architecture outside of the Wari heartland. Surveys and excavations at four of these sites have demonstrated that the sites were built and occupied by settlers from the Wari heartland, and three of these sites most likely administered activities in the valleys that surrounded the sites (Isbell, 1989, 1991; McEwan, 1987, 1991, 1996; Schreiber, 1992, 1999; Williams, 1997, 2001; Williams and Isla, 2002).

In the predominant model of Wari political economy (Fig. 5), the Wari capital and its surrounding valleys were the core of the state and all of the sites with Wari style architecture served as nodes in a Wari administrative hierarchy that helped to organize local political economies for the extraction of desired resources (Isbell and McEwan, 1991; Isbell and Schreiber, 1978; Jennings and Craig, 2001; McEwan, 1987, 1996, 2005; Schreiber, 1978, 1987, 1992, 1999, 2001). The model stresses the variability of state–local relationships, with the administrative sites anchoring pockets of direct control within an imperial mosaic of direct and indirect control that was determined by state interests, logistical concerns, and local conditions (Schreiber, 1992, p. 276).

Wari administrative centers were locations where "administrative elites controlled vast resources by exerting authority over the labor of others or influence over local leaders who possessed labor and resources" (Nash and Williams, 2004, p. 154). The state intensified production of resources valued in
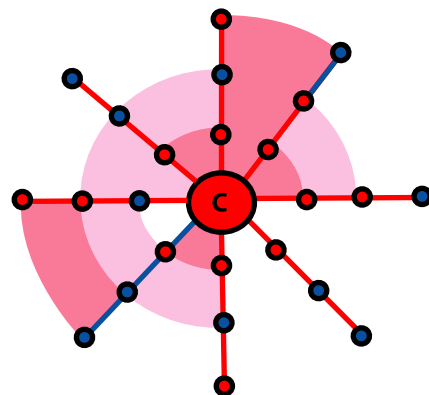

Fig. 5. Model of the Wari state and its variable interaction with peripheral zones.

the core, collected these resources at state centers, and sent these items to the Wari capital (Schreiber, 1999). In return, the state provided prestige goods and lavish hospitality to local leaders and their clients (Cook and Glowacki, 2003; Nash and Williams, 2004). Regions without administrative centers, according to this model, were still "absolutely consolidated under the administrative system" through indirect control (Schreiber, 1992, p. 31). Wari indirectly controlled regions through collaboration with local leaders, the re-organization of economic structures, patron-client feasting, the threat of force, and/or the capture of mummies and sacred objects (Cook and Glowacki, 2003; Isbell, 1988; McEwan, 1998, 2005; Schreiber, 1992).

This model of Wari is not without its critics. Some scholars have argued that Wari control was non-existent, or largely ephemeral, over some areas (Grossman, 1983, p. 85; Hastorf, 1993, p. 46; Lau, 2002, p. 300; Mackey, 1982, p. 330; Shady Solís, 1982, 1988, 1989; Shimada, 1985, p. 361; Wilson, 1988, p. 358), and these data have been used to suggest that the state's territorial extent was far more limited (e.g., Topic, 1991b, p. 244), and, more rarely, that Wari was only a minor highland polity (e.g., Bawden and Conrad, 1982, pp. 31–32; Shady Solís, 1982, pp. 63–64). Other archaeologists do not necessarily dispute the spatial extent of Wari, but suggest that the evidence points to a more consensual relationship between the state and local populations or a relationship based more on religious conversion than on conquest. (e.g., Topic, 1991a, p. 162). This opposition to the prevailing model of Wari, however, tends not to challenge the structural assumptions upon which the model was based. The alternative models only change either the variety of core–periphery relations at the local level or alter the geographic spread of the core–periphery system.

While recent scholarship stresses the variable nature of Wari control strategies across Peru, the model used to describe interaction during the Middle Horizon remains based on a radial core–periphery model. The model frames our understanding of the period in Peru, and thus shapes the ways in which archaeological data are interpreted. Evidence for agricultural intensification coupled with Wari influenced architecture and/or artifacts, for example, is taken as evidence for Wari extraction of agricultural products and the eventual consumption of much of these products in the state's core. Wari ceramics and textiles in a region points to Wari influence over an area, and shifts in political organi-

zation and settlement pattern are attributed to Wari manipulation of local populations. In some areas, Wari likely did re-organize groups for resource extraction in a manner similar to that proposed by the proponents of the Wari core–periphery model. In other areas, however, this model fails to reflect the reality of the state's impact on people's lives. One area that is poorly served by the core–periphery model is the Cotahuasi Valley.

The Cotahuasi Valley and the Wari state

Located at 14° south latitude and 73° west longitude, the Cotahuasi Valley lies in the highlands of southern Peru almost 300 km from the Wari capital.[1] The valley is a resting point along a natural corridor between the sierra and the sea (Trawick, 1994, p. 33) and contains rich sources of obsidian, gold, silver, copper, and rock salt (Burger et al., 1998; Canchaya et al., 1995; Zapata Llano, 1904). In part, these features led the later Inca Empire to invest heavily in the valley by building an administrative center, placing a major road through the canyon, and creating a ceremonial center out of a local ritual site (Jennings, 2003a,b). The valley's geographic position and natural resources may have been equally desirable to the Wari state, and there is significant evidence for social, political, and economic change in the valley that correlate to Wari influence.

During the Middle Horizon, population significantly increased, new sites were found, agricultural production expanded, exploitation of the valley's obsidian, precious metals, and rock salt intensified, and social stratification increased. These changes occurred at a time of profound Wari influence on local ceramics, the possible importation of Wari ceramics and textiles, and the establishment of a site named Collota with Wari-style architecture. The correlation of Wari influence with societal change led previous scholars to suggest that Wari directly influenced the valley (Chávez Chávez, 1982, p. 86;

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[1] From 1999–2000, my field crew and I conducted a settlement survey of the upper reaches of the valley between the modern towns of Puica and Cotahuasi. Due to the valley's extreme, and at times dangerous, topography, the survey used a mixed strategy of full coverage survey and judgmental survey based on informants' knowledge and topographical criteria. During this time, we also excavated seven test units at the site of Ancient Alca in order to build the local chronology. Unless otherwise indicated, the Cotahuasi data discussed in this paper are drawn from the 1999–2000 survey and excavations (Jennings, 2002).

Trawick, 1994, p. 72). In my own work, I have moved away from an earlier initial argument of direct control (Jennings and Craig, 2001) to one more recently of Wari indirect control or influence over the valley (Jennings, 2002; Jennings and Yépez Álvarez, 2001a,b).

Arguments of Wari direct control, indirect control, or influence fit the data to a degree, but they are limited by the structure of the core–periphery model within which they are formed. A closer inspection of the Cotahuasi data leads to a different vision that de-emphasizes the core's importance, highlights regionalism, and clarifies local agency during the period. I believe that this alternative interpretation better captures the reality of Middle Horizon life in the valley by considering the emergent properties of regional interactions during this period. As with any interpretations based largely on surface remains, one must be aware of post-depositional changes that can affect the material record. In Cotahuasi, sites tend to be well preserved and significant looting in the area has only begun over the last ten years. Moreover, excavations at two sites in the valley demonstrate that surface remains often correspond closely to excavated assemblages. Nonetheless, further excavations are needed to test interpretations based on surface remains.

To make my argument against the utility of a radial core–periphery model in this case, I consider two broad themes in the valley's material record from the Inchoate Period (900 BC–600 AD)[2] through the Middle Horizon that reflect change in inter-regional interaction. First, I look at the flow of goods and ideas between Cotahuasi, the Wari heartland, and other regions. Second, I consider the role of the Wari state in the socio-political changes that occurred in the valley during the Mid-

dle Horizon. After each section, I evaluate the fit between the data and the radial core–periphery model of the Wari state and propose what I think is a more appropriate interpretation of the available data.

The flow of goods and ideas

The flow of goods into the valley can be traced primarily through importation of ceramics and the exportation of natural resources. During the Inchoate Period, the valley was largely insulated from the outside world. The pottery style from the period, called the Aicano-style, was part of a broad regional ceramic tradition in Arequipa that includes the Hachas, Sopora, and Ayawala styles (Neira Avendaño and Cardona Rosas, 2001). Pots were often undecorated, and when decorations are found on vessels they often include an appliqué of raised lines running parallel to the lip of the vessel, applications of a modeled human face with circular incision for the eyes and mouth, or depressions made by the use of a thin circular stamp on the surface of the ceramic (Fig. 6). While Nazca and Early Tiwanaku styles significantly influenced adjacent traditions (Bauer, 1999, pp. 123–141; Neira Avendaño, 1998, pp. 29–33), the Aicano style was remarkably stable with very few changes in form and decoration from the introduction of the styles on the coast around 1400 BC to the Middle Horizon. The stability of Cotahuasi's ceramic style was not a marker of cultural isolation, but rather marked a lack of emulation. The presence of seven imported sherds in the valley from undefined styles of the central or southern highlands of Peru suggest regional contacts during this period.

Cotahuasi's geologic resources flowed out of the valley during the Inchoate Period. Obsidian from Cotahuasi, known as the Alca type obsidian, was first used on the coast of Arequipa by at least 13,000 years ago (Sandweiss et al., 1998, p. 1832). During the Inchoate Period, distribution was generally confined to the south central Andes, but Alca obsidian was found as far away as Chavín de Huántar in the northern highlands of Peru (Burger et al., 2000, p. 313). Cotahuasi was the prominent regional supplier of volcanic glass for much of what are now the departments of Cuzco and Arequipa (e.g., Burger and Asaro, 1979, 1993, p. 33, p. 198; Burger et al., 2000, p. 314; Cardona Rosas, 2002, p. 49), and a supplier of "moderate abundance" to sites in the northern Titicaca basin (Burger et al., 2000,

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[2] The Inchoate Period combines the Early Intermediate Period (200 BC–600 AD) and Early Horizon Period (900–200 BC) in the general central Andean sequence developed by Rowe (1962) because there are no stylistic changes that mark the shift between the two periods in Cotahuasi. The Cotahuasi chronological sequence is built from a local ceramic and point typology that is sequenced and dated by both our own excavations and comparison with similar artifacts from other regions (Jennings, 2002). Only seven of the 1340 diagnostic sherds collected during the course of the fieldwork can be dated to the Early Intermediate Period based on comparisons to ceramics from other regions. Since excavation data from Ancient Alca suggest that there was no break in occupation during the Early Intermediate Period, I argue that Cotahuasi's ceramics changed little during the Inchoate Period.
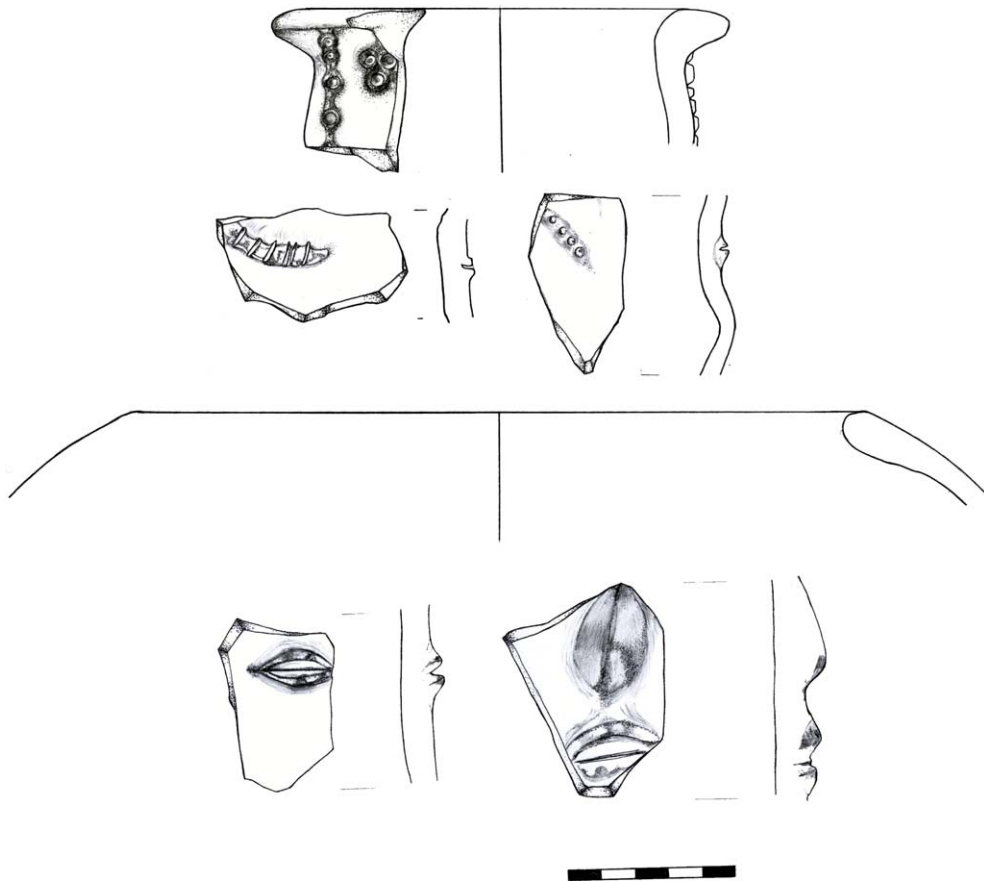
Fig. 6. Aicano style ceramics from the Inchoate Period.

p. 267). Although undocumented archaeologically, small amounts of other locally available resources, such as rock salt and ochre, were likely also exchanged during this period.

The Middle Horizon brought sweeping changes to the ceramic assemblages of the Cotahuasi Valley. With the exception of a few utilitarian forms, Aicano style ceramics were completely replaced by ceramics painted in black, white, red, or purple that emulate Wari styles in form and design (Fig. 7). Based on petrographic temper analysis of the pastes, 97% of the sherds collected during our fieldwork were manufactured locally. Most of these locally made ceramics (60%, $n = 171$) were in a Wari influenced local style that did not relate to any other known Wari state or regional ceramic style. Sixty of the collected sherds (21%) closely followed the decorative motifs of the Viñaque style, a common Wari style found throughout the Peruvian highlands (Menzel, 1964, p. 36), and six sherds were painted in loose imitation of the Chakipampa (1.7%, $n = 5$) and Okros (.03%, $n = 1$) styles, two styles common

in the state's heartland (Menzel, 1964, pp. 17, 67). The remaining locally produced Middle Horizon sherds from the valley are in the Ccocscopa style (Neira Avendaño, 1990, p. 129), a regional style from the nearby Chuquibamba Valley (14%, $n = 36$).

There are only eleven Middle Horizon sherds manufactured with pastes unknown to the valley in previous or subsequent periods. Six of these sherds are in the Ccoscopa style (Neira Avendaño, 1990, p. 129), two sherds are in a local Cuzco related styles (Bauer, 1999) and the three remaining fragments are Viñaque sherds. The most likely source for the Viñaque sherds is perhaps the Wari centers of Pikillacta and Huaro in the Cuzco area both because the sites are the closest major Wari center to Cotahuasi and neutron activation analysis suggests that most of the Wari style pottery found at least at Pikillacta was manufactured locally (Montoyo et al., 2001, p. 181). Although Viñaque style ceramics are quite rare at and around Pikillacta (Bauer, 1999, pp. 83–85; Glowacki, 2005, p. 105),
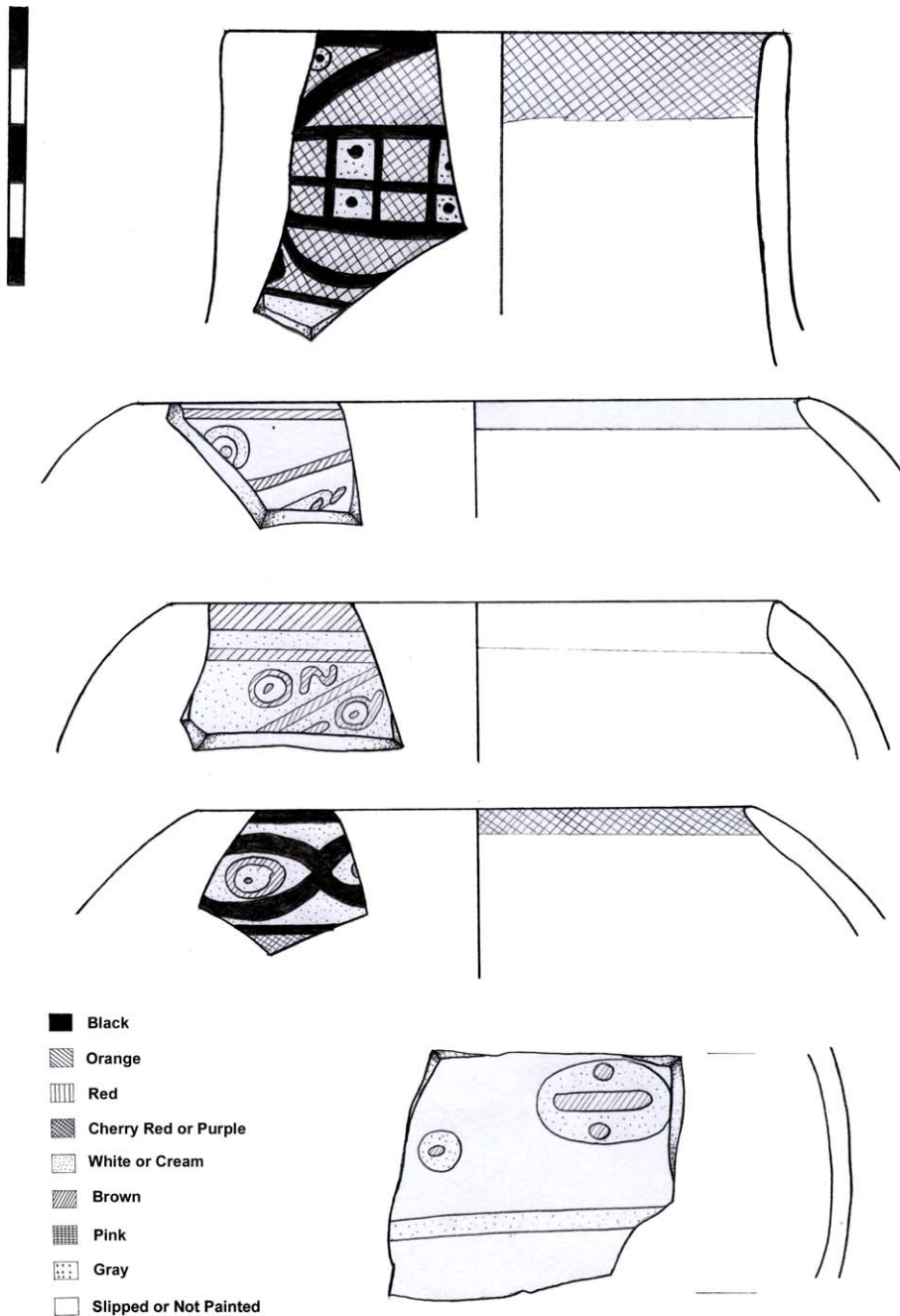
Black
Orange
Red
Cherry Red or Purple
White or Cream
Brown
Pink
Gray
Slipped or Not Painted

Fig. 7. Wari influenced ceramics from the Middle Horizon.

they are much more prevalent at the site of Huaro (Glowacki and McEwan, 2001).

Geologic resource exploitation in Cotahuasi increased dramatically in the Middle Horizon. The trade volume and distribution range of Alca obsidian increased significantly during the Middle Horizon (Burger and Asaro, 1979, p. 36; Burger et al., 2000, p. 324). While continuing to be used most

heavily in Cuzco and Arequipa, Alca obsidian was used at the Wari capital and at several provincial sites scattered across Peru (Burger et al., 2000). The intensification of Alca obsidian exchange may correlate with the founding of five small quarries at the source (Jennings and Glascock, 2002, p. 114), but no artifacts found at these sites could be used to securely date them.

The arsenic rich copper ores available in the valley were first used in Andean metallurgy during the Middle Horizon (Lechtman, 1980, 2005, p. 307, p. 132; Olchauski and Dávila, 1994), and the only datable mine in our survey area is a small copper mine that was used during the Middle Horizon and Late Intermediate Periods.[3] Since my field crew and I documented no evidence of smelting activities (i.e., Lechtman and Klein, 1999; Van Buren and Mills, 2005), I suggest that miners may have crushed the ores manually, separated metal-bearing minerals from the rock matrix, and then exported these minerals (i.e., Van Buren and Mills, 2005, pp. 7, 25). It is doubtful that the valley's copper was traded outside of the region because mines in northern and central Peru likely served metalworkers in those regions, and Bolivian artists used exclusively tin-rich ores that were not available in Cotahuasi (Lechtman, 2003, 2005, p. 133).

Cotahuasi contains one of the few rock salt sources in Peru (Zapata Llano, 1904). Besides its use as a seasoning and an additive in metal smelting, rock salt is seen today as a superior preservative relative to salt brines, and thus is a highly valued commodity. At present, the importance of rock salt in the barter economy far outweighs that of the metallurgical deposits that remain in the valley (Trawick, 1994, p. 86). Although no archaeological remains are found in or adjacent to the present day rock salt mine, sherds dating to the Middle Horizon and after were found at Huarhua, the town adjacent to the mine. Oral histories in the village also suggest a pre-hispanic origin of the mine and describe how the salt was traded extensively deep into the past. The rock salt is traded today throughout the region.

The flow of goods into and out of Cotahuasi was paralleled by the flow of ideas. In the Inchoate Period, there seems to have been little cultural exchange based on ceramic styles. Despite the existence of a handful of imports, only one inchoate period sherd, an imitation of the Pukara style of the Lake Titicaca region (Franquemont, 1990), demonstrates a local

potter's experimentation with outside styles. The longevity of the Aicano style likely reflects a lack of desire for innovation in a social context of ceramic production that reinforced a local tradition that stressed community affiliations (i.e., Dietler and Herbich, 1998). This insularity shifted dramatically in the Middle Horizon with the profound effect of Wari styles on the ceramic traditions of the valley that I described earlier. New forms, colors, and iconography were introduced that swept aside local styles that had remained stable over hundreds of years. Almost all of the Wari style vessels were manufactured locally. The painted designs were often poorly executed relative to true Wari examples, mixed and abbreviated iconographic elements, and drew from Ccoscopa, Ccoipa, and other Wari influenced local style from the region. Unlike the Inchoate Period, Middle Horizon potters were open to innovations and experimented with Wari styles from across the region.

Although Wari profoundly influenced Cotahuasi's ceramic styles, there were few significant changes in the ritual activities of the valley during the Middle Horizon as measured by funerary remains, painted tablet offerings, and ceremonial architecture. There were at least six cemeteries spread out across the valley during the Inchoate Period, and people were buried collectively within these cemeteries in tombs underneath boulders and in above-ground burial houses. During the Middle Horizon, ten additional cemeteries were found, but the dead continued to be buried in all of the preexisting cemeteries, using the same types of tombs, and, in a few cases, old tombs appear to have been reused. At the new cemeteries, the only change was the introduction of chullpas (single-storied burial towers) and tombs set into terraces. The introduced tombs likely reflect increased contact with other areas of the Arequipan sierra where tombs like these were more common (Sobczyk, 2000, p. 53; Wernke, 2003, p. 162).

In some cases, burial customs in the valley overlapped with a long-standing ritual practice involving stone tablets that were placed in graves, in rock hollows, or deposited directly into the earth. The tablets, likely linked to ideas concerning fertility, were almost always painted on only one side, and the iconography on the tablets varies widely and includes an array of anthropomorphic, zoomorphic, and geometric patterns (Fig. 8; Jennings, 2003a; Kauffmann-Doig, 1991; Linares Málaga, 1988). The tablets are often found

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[3] Pre-Columbian mines are difficult to date because they often continued to be mined after conquest and subsequent mining activities tended to destroy or bury most traces of earlier mining. The only datable mine that we documented in Cotahausi, CO-20, is found near the modern town of Alca. We date the site based on eleven ceramic shreds found around the exterior of the mine. Since no sites or agricultural terracing are located above or below the mine, it is likely that the sherds date to the period of the mine's use. We located two other mines that may also be Pre-Columbian, but contain no dateable ceramics.
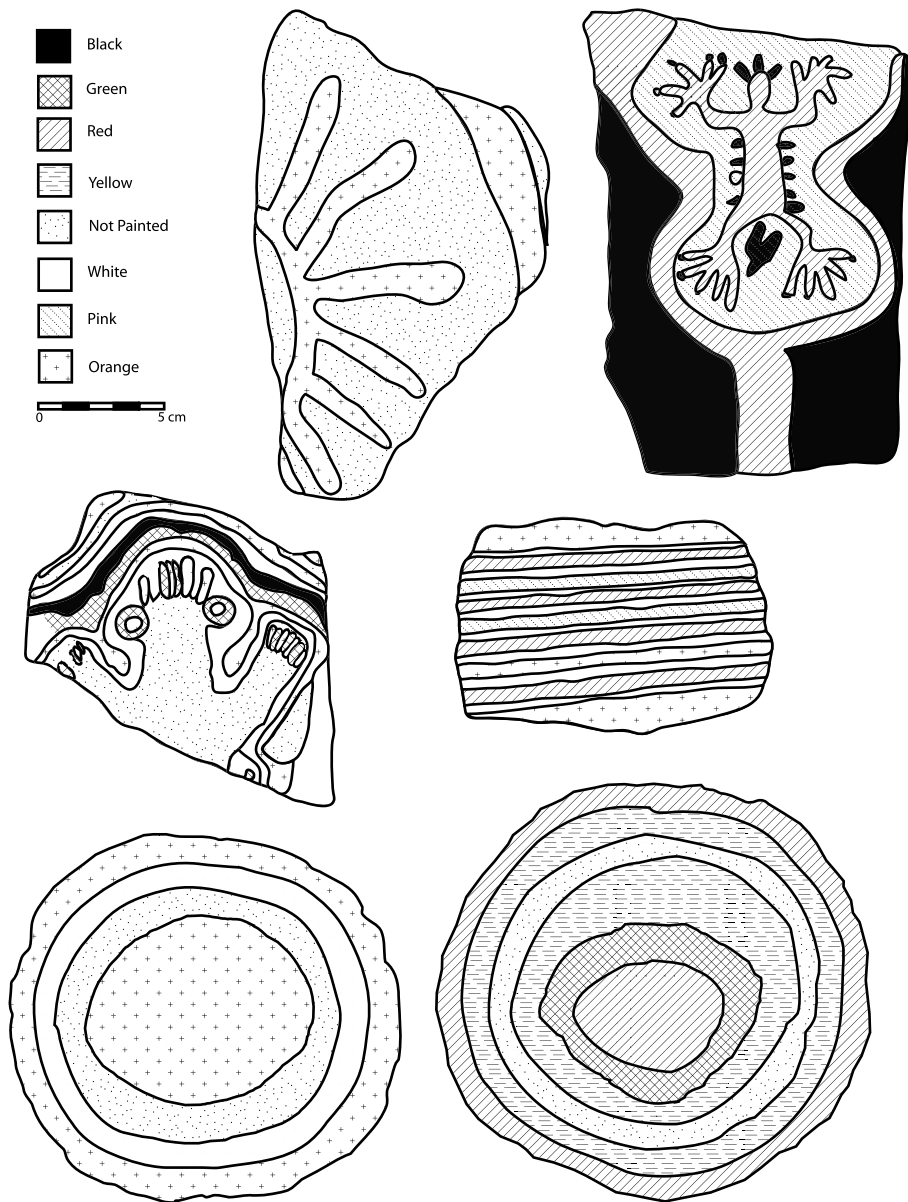
Fig. 8. Painted stone tablets from the Cotahuasi Valley.

together in groups, and are occasionally stacked in pairs with the painted surfaces facing each other. The Cotahuasi tablets are part of a regional tradition that dates to at least 2000 BC (Jennings, 2003a, p. 113; Ravines, 1970). The earliest known tablets from the valley come from the surface of Wayñuna, a site dating to between 6000 and 900 BC. During the Middle Horizon through Late Intermediate Period (1000–1476 AD), the tablet tradition flourished in Cotahuasi and throughout much of southern Peru (Linares Málaga, 1988,

p. 56, 62). Middle Horizon tablets appear to have been generally more colorful and more diverse relative in its iconography than both earlier and later examples. This change, however, does not seem to reflect Wari influence over the medium. On the contrary, the iconography used on Middle Horizon tablets is similar to that used on the region's painted tablets and in rock art in general since at least the Middle Archaic Period (6000–4000 BC) (Kauffmann-Doig, 1991, p. 29; Linares Málaga, 1978, p. 386).

Although ritual architecture is poorly understood for the period, activities in the valley were likely centered on at least three shrines that were adjacent to jutting rock outcrops (Jennings, 2003b). D-shaped structures were important to Wari religion, and these structures are found in Wari sites in Ayacucho and in several sites throughout Peru (Cook, 2001). These structures, at least in the Sondondo Valley of the central highlands, were important means by which local populations were integrated into Wari ideology (Schreiber, 2004, p.143). In Cotahuasi, there are two D-shaped buildings at the site of Ancient Alca, but these buildings date to the Late Intermediate Period and worship at the sites was deeply intertwined with the painted tablet tradition (Jennings, 2003b, p. 444). Since these buildings are later in time and are associated with local ritual practices, they do not reflect any significant Wari influence over religious practices during the Middle Horizon.

Cosmological principles are often key symbols that are integral to the structural organization of a society (Ortner, 1973). These symbols help to form models of and for reality that shape a person's understanding of their culture and their cosmos (Geertz, 1973, p. 93) and are often materialized in places of ritual importance (Bradley, 1998). If evidence from the funerary customs and the tablet tradition can serve as testaments to the beliefs of the people of Cotahuasi, then we see no evidence for substantial cosmological change during the Middle Horizon. The introduction of new tomb types and the sharing of tablet iconography during the Middle Horizon likely reflect increased influences from neighboring valleys with related traditions (Cardona Rosas, 1993; Sciscento, 1989). While Wari styles changed Cotahuasi ceramics, this influence did not spread into the cosmological realm.

From the Inchoate Period to the Middle Horizon, there was a significant change in Cotahuasi relationship with the outside world. More goods flowed into and out of the valley, and, more importantly, there was a fundamental shift in Cotahuasi's social horizons. This shift does not appear to have been orchestrated directly by the Wari state. The valley's ceramic, geologic resource, and ritual data suggest only a tenuous, usually second hand, exposure to the Wari heartland and its state centers. Three sherds and a handful of obsidian flakes are the only goods that moved from the Wari core to Cotahuasi and vice versa. In accordance with the radial core–periphery model, one could use this paucity of data, combined with the Wari influence over ceramics, to perhaps posit "indirect control" or "influence" of Wari over the valley. I argue that either attribution, however, would obscure the reasons behind the changes occurring in the valley during the Middle Horizon.

Although the Cotahuasinos were no doubt aware of the Wari state, the valley's social horizon appears to have largely widened only to encompass the region in which they lived. Most of the trade in ceramics and geologic resources occurred within the surrounding area of Arequipa and Cuzco, most of the ceramic influence came from nearby styles, and the influences on tablet motifs and tomb types came from neighboring valleys. This is not to suggest that Wari did not play a role in these developments. The intra-regional relationships were made possible by the expansion of the Wari state and increasing urbanism in the Wari core. The state's increased demand for non-local products, and perhaps its sponsorship of long-distance llama caravans, stimulated the expansion of long-distance exchange in Cotahuasi and throughout much of Peru.

Wari also stimulated developments in Cotahuasi by the introduction of ceramics styles with iconography that drew on images of widespread cosmological importance (Menzel, 1964). During periods of intensified inter-regional interaction, styles associated with elite, especially ritual, behaviors can quickly become widespread. These "international" styles are often emulated as potters attempt to place their work within a shared cultural milieu (Schortman et al., 2001, p. 325). Objects and their iconography can often be significantly transformed as they are incorporated into new cultural settings (Dietler, 1990; Saunders, 1999), and the lack of change in Cotahuasi's ritual practices suggest that Wari beliefs had no deep impact on local beliefs. Cotahuasi's emerging elites appear to have seized upon the "international" identity of the Wari state less in a desire to associate with a vaguely understood distant state and more in a bid to forge a shared identity with their neighbors. Wari images and ideas (and more rarely objects) became cultural capital in the region (i.e., Bourdieu, 1977, pp. 183–184) that signaled to followers ones connection to the outside world (e.g., Helms, 1988, 1998).

Wari and sociopolitical changes in the Cotahuasi Valley

Shifts in the exchange of goods and ideas, of course, are only part of the changes that occurred
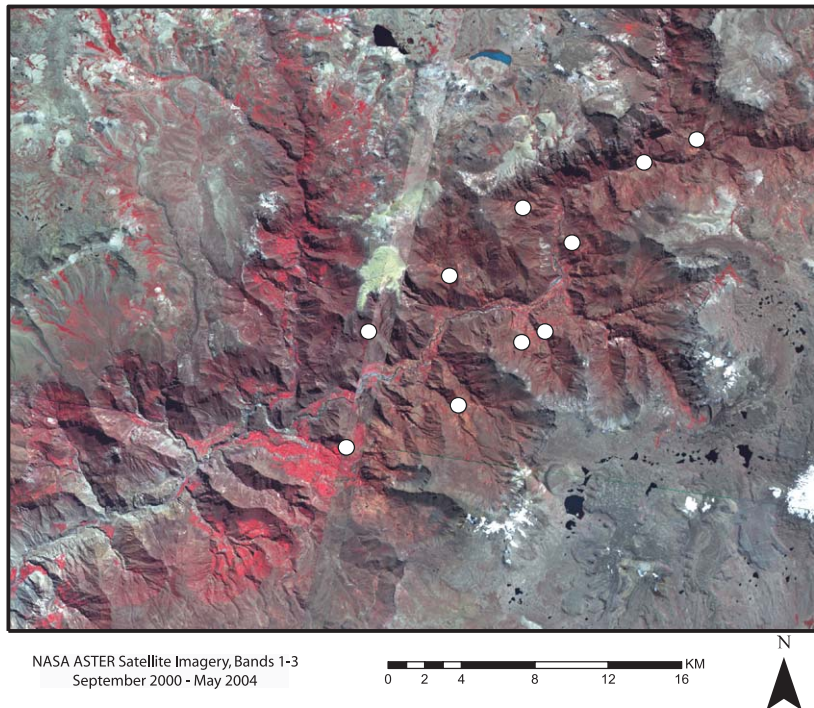
Fig. 9. Locations of villages during the Inchoate Period.

in the Cotahuasi Valley during the Middle Horizon. Population also significantly expanded, agricultural production intensified, social stratification increased, and a site called Collota was built with Wari-style architecture. These changes could also be used to argue for ''direct control'', ''indirect control'', or ''influence'' within the Wari state mosaic of control. Evaluating evidence from the valley's settlement patterns and from Collota, however, demonstrates how the changes that occurred are better explained outside of a radial core–periphery model.

My survey crew and I identified 10 small Inchoate Period villages (1–3 ha) scattered across the valley (Fig. 9).[4] During the Middle Horizon, the population of the valley substantially increased (Fig. 10). All settlements from the Inchoate Period

at least doubled in size, eight new villages were found in our survey area, and seven other new Middle Horizon sites are known from other survey work in the lower reaches of the valley (Trawick, 2003, pp. 40–41, 50).[5] The location of the Inchoate Period settlements suggests that the villagers were agropastoralists that cultivated crops in the lower reaches of the valley and grazed camelids in the valley's upper reaches. The locations chosen for new Middle Horizon sites were similar to where older sites were placed and suggest the maintenance of an agro-pastoral lifestyle. Nonetheless, the increases in the

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[4] Since the valley's extreme topography restricts the amount of land available to construct villages, many of Cotahuasi's sites remained in the same locations over thousands of years. This site stability makes it difficult to interpret Inchoate Period settlement patterns because Inchoate Period levels have been obliterated or obscured by subsequent occupations that were larger and denser. Nonetheless, Inchoate Period site size can be tentatively estimated based on the surface scatter of ceramics. Although size estimates based on surface sherds can be problematic (Lewarch and O'Brien, 1981), excavation data from Ancient Alca correlated well with surface remains.

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[5] Paul Trawick, a cultural anthropologist, documented nine prehispanic sites in the lower reaches of the valley during his fieldwork on the history of Cotahuasi's water management (Trawick, 1994, 2003, p. 91, p. 50). Eight of these sites fall outside of our survey area, and seven of these sites were habitation sites. Trawick collected ceramics from each of the sites, and had the sherds analyzed by archaeologists Neira Avendaño and Pablo de la Vera Cruz (Trawick, 1994, p. 71). The sherds that Trawick collected date from the Middle Horizon to the Late Horizon. Since Inchoate Period ceramics were undefined at the time of Trawick's collection, it is possible that some or all of his sites also date to this period. With this caution in mind, I include Trawick's sites in Fig. 10 only to give a preliminary impression of the settlement pattern in the lower reaches of the valley.
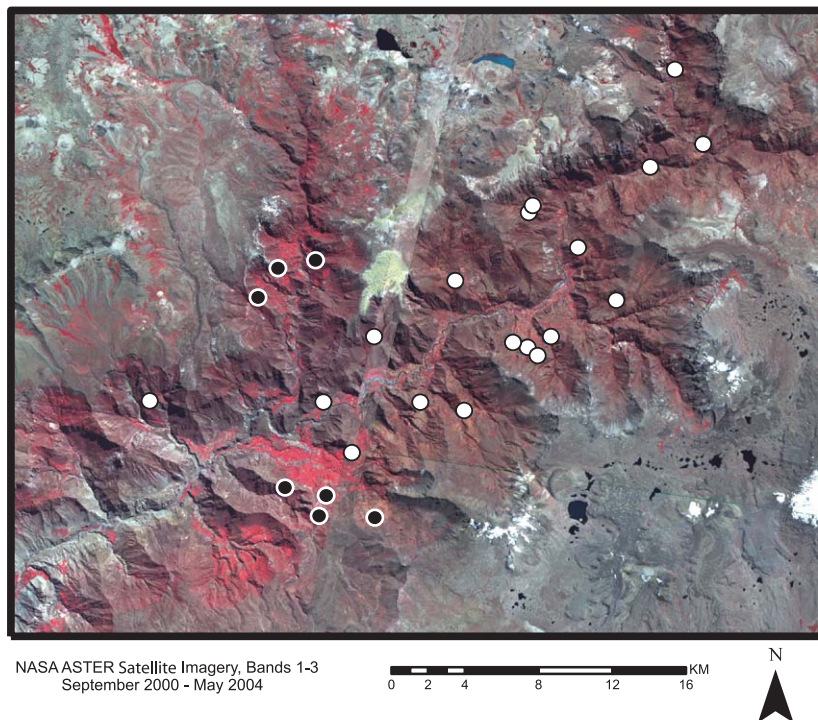
Fig. 10. Location of villages during the Middle Horizon. Sites in white were documented during my survey and sites in black were documented by Paul Trawick during his work in the valley.

valley's population likely required an intensification of agriculture.

The earliest sherds found on the surface of agricultural terraces in the valley date to the Middle Horizon. A Middle Horizon date for the terraces would conform to dates for terracing in the nearby Colca Valley (Deneven, 1986), and some scholars suggest that terracing was first introduced throughout the Andes during this period (Goldstein, 2005, pp. 166–167; Williams, 2002). The introduction of this technology would have allowed for large areas of the valley to be cultivated for the first time. At the same time, inter-regional interaction likely increased the exchange of plants throughout the Andes and led to the introduction of higher yielding varieties in Cotahuasi from the coast and other areas of Peru. If terracing and new crop varieties led to agricultural intensification, then increases in household fertility rates likely led to the valley's population expansion during the Middle Horizon (i.e., Kramer and Boone, 2002).

The first evidence for emerging social stratification in Cotahuasi also comes during the Middle Horizon. Each village that is preserved well enough to examine its overall layout had a group of buildings that can be separated by their size and architectural elaboration from the rest of the site. The buildings' form, associated assemblages, and location on the site suggest that the structures may be the remains of elite houses. Unfortunately, it is difficult to determine the date of construction for many of these buildings, and some may date to the subsequent Late Intermediate Period. Ceramics from excavations and wall fill at the site of Ancient Alca, however, suggest that the group of elite houses at this site dates to the Middle Horizon. Additional evidence for emerging social stratification also comes from elite burials that can be distinguished from others based on the quality of ceramics and tomb architecture. The tombs follow local funerary traditions and usually contain locally made sherds that emulate Viñaque and Ccoscopa styles.

Despite the increase in population and the emerging social hierarchy, there is no evidence for political centralization of the valley. Instead of clustering around preexisting villages, new sites generally spread out to take advantage of under-utilized land. Rank size plots from both periods suggest no political hierarchy between villages (Fig. 11). In each period, the rank–size curve is convex in respect to its log-normal line, the straight lines moving from left-right. The convex rank–size lines indicate a
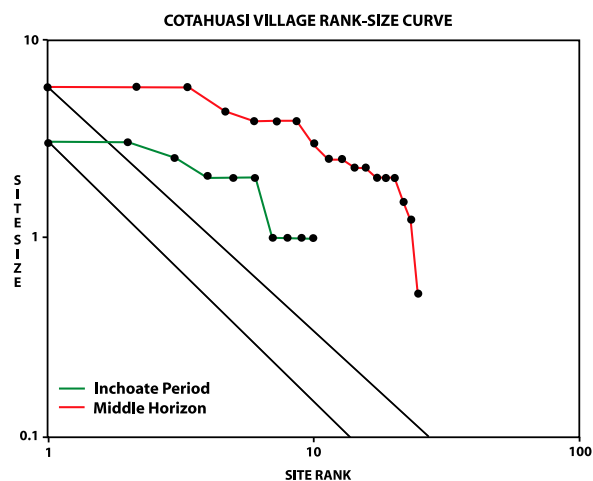
Fig. 11. Rank-size for villages from the Inchoate Period and Middle Horizon in the Cotahuasi Valley.

Fig. 12. Construction sequence (A–D) for Wari sites.

fairly even distribution of villages across the landscape, and by extension, little to no political centralization (e.g., Johnson, 1977, 1980). The *A* coefficient for the rank–size curves, a mathematical characterization of the shape of the curve that varies between 1 and −1 (Drennan and Peterson, 2004), are virtually identical (the *A* = .701 for the Inchoate Period and A = .709 for the Middle Horizon), and further suggest that there were no significant difference in centralization between the periods.

Of the eight new domestic sites found during the Middle Horizon in Cotahuasi, Collota[6] was unique because of its location along the river and its architectural elements that were derived from the Wari architectural cannon. While these idiosyncrasies have led to interpretations of the site as a Wari administrative center, closer inspection of data from the site suggests that it was more likely a local site established to profit off of inter-regional exchange (Jennings and Yépez Álvarez, 2001a,b). Collota's architecture incorporated elements of the architecture typically found at Wari and its satellite centers outside of Ayacucho. This architecture radically departed from previous building traditions in Cotahuasi and elsewhere (Isbell, 1991; Schreiber, 1978; Spickard, 1983). The most salient difference was a high degree of planning that contrasted sharply with the typical architecture of the more organic communities in the central Andes. Wari sites were

typically composed of high, rectangular walls enclosing internal cells made up of a central patio surrounded by elongated rooms. Structures were generally constructed from the outside in—builders first made the enclosure wall, they then divided the interior into a series of quadrangular cells, and finally added walls, benches, platforms, and other features to each of the cells. Access into Wari enclosures was usually limited to only one or two entrances and movement through the structure and between cells was severely limited (Fig. 12).

Collota was a local site made to look Wari (Jennings and Yépez Álvarez, 2001a,b). The site's sequence of construction, its stochastic variation in room size, imprecision in measurements, conformity to natural topography, and overall initial layout cleaves closely to local concepts of site planning. In later phases of construction (Fig. 13), the site's architecture was brought into closer conformity with Wari cannons by more clearly defining patios and restricting access through the site.[7] The site's high exterior enclosure walls, restricted access, and red and white painted interior walls were notable departures from local building tradition. These features may have been of the greatest importance to Collota's builders because they were likely used as an attempt to signal the group's privileged knowledge of Wari, and thus support an "international" identity for the inhabitants.

Collota's placement on the river bottom was also unusual. The prevailing settlement logic from before, during, and after the Middle Horizon was

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[6] In previous publications (Jennings and Yépez Álvarez, 2001a,b), I have separated Collota into two sites, Collota and Netahaha. In this paper, I treat Netahaha as a sector (B) of Collota.
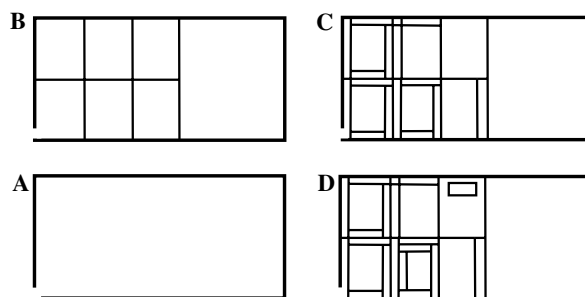
[7] In July of 2005, my colleagues and I began a three-year excavation project at Collota. While our work is ongoing, there is clear evidence for later occupations at the site. Some of the changes in architecture that I identify as a "Warification" of the site may therefore prove to date to later periods. Until further excavations and analysis, however, I will retain the architectural sequence detailed in earlier writings (Jennings and Yépez Álvarez, 2001a,b).
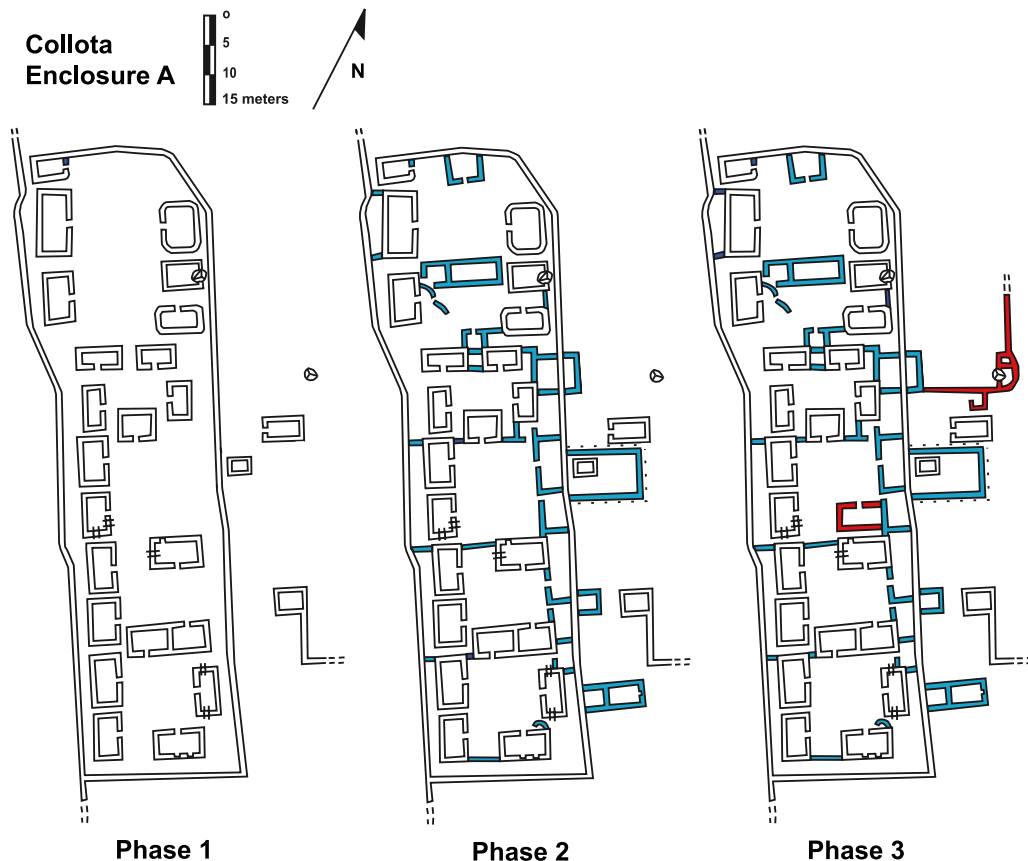
Fig. 13. Construction sequence of enclosure A at the site of Collota in the Cotahuasi Valley.

to place settlements halfway up the valley's flanks in order to exploit spring-fed agricultural terraces in the lower reaches of the valley and high grassland grazing areas in the upper reaches of the valley. From an agro-pastoral perspective, Collota was located in an awful place. The land around the site was not irrigated until the Inca conquest of the region (Trawick, 1994, p. 81), the nearest terraced fields were almost 3 km away, and pastoral land was 1400 m up. Grinding stones and culinary equipment attest to on-site food processing and preparation at Collota, but residents likely relied on barter and kinship ties to maintain much of their food supply. Collota was however placed in an excellent position to monitor inter-regional trade.

Based on inspection of satellite images and conversations with llama herders, there are presently three major entry points into the valley for llama caravans (Fig. 14). The first two entry points were likely part of an Inca road through the valley that connected Cuzco to the Pacific Ocean (Hyslop, 1984; Von Hagen, 1955). The road appears to have

entered the valley above the modern town of Puica, descending the valley along its western side, crossed the river near the modern town of Cotahuasi, and then climbed out of the valley near the rock salt mine at Huarhua (Burger et al., 1998, pp. 193–194). In order to use the Inca route through the valley, a suspension bridge would have been required because the Huarcaya River has formed a deep narrow cleft through this section of the river (see Fig. 14). Since suspension bridge technology was unavailable during the Middle Horizon (Schreiber, 1984, 1992), it is unlikely that this route through the valley was available when Collota was built.

The third major entry point into the valley is above the modern town of Pampamarca. Unlike the Huarhua route, travelers from Puica can cross the river further upstream at a point where the river is braided and more easily bridgeable. If the Puica–Pampamarca route was the major trade route during the Middle Horizon, then Collota was in an ideal location. The site is a few hundred meters downriver from the last bridgeable section of

Huarcaya River and was constructed in a narrow plain between the river's edge and a cliff face (Fig. 15). Traders moving along the Puica–Pampamarca route were funneled into this narrow plain, where they were forced to interact with the people living in Collota.

Collota appears to have been constructed to both associate the residents with the Wari style and to profit in some way from inter-regional exchange. A comparison of surface ceramics frequencies, however, suggests that the site failed to fulfill either of these goals. As described earlier, Middle Horizon ceramics in the Cotahuasi Valley can be divided into three: Wari, regional, and local. Although most Wari and regional vessels were made locally, a higher percentage at Collota of these wares would suggest a greater degree of contact with the Wari state and the outside world in general. This does not seem to be the case (Fig. 16). There are no statistically significant differences between the frequencies of Wari and regional surface sherds at Collota and the mean frequencies for all sites in the survey area.[8] While statistical analyses of surface remains, of course, must be treated as tentative because of taphonomic processes, these data suggest not only that Collota failed to have a stronger relationship with the outside world relative to rival villages, but that people in all of Cotahuasi's villages were actively emulating Wari and regional styles.[9]

The changes that occurred in the valley were most likely the result largely of endogenous change.

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[8] Since sites have significantly different sherd counts based primarily on their state of preservation (see Fig. 16), I have made my calculation based on stylistic frequencies. The mean frequency of Wari sherds to total Middle Horizon sherds at each site in the valley is 21%; the frequency is 17% at Collota (sites = 11, $s = 0.153$). The mean frequency of Ccoscopa sherds to total Middle Horizon sherds at each site in the valley is 22%; the frequency is 4% at Collota (sites = 9, $s = 0.228$). Standard deviations are large because of the small number of surface ceramics collected at each site. For each calculation, there were sites that contained either all or no local sherds. These sites were treated as outliers and eliminated from the frequency calculations above. Including the outliers only widens the standard deviation and does not change the general result.

[9] Although one might suspect that imported vessels are disproportionably found in elite burials and therefore more likely to be looted, my field crew and I found no examples of vessels imported from outside of the region in local collections. Moreover, we found no such vessels when we excavated three intact collective tombs from Collota this summer. Of the more than forty intact or nearly intact vessels recovered, none of the vessels are obvious exports from Wari or from other areas outside of the region.

The introduction of terracing, and perhaps higher yield crop varieties, allowed for the intensification of agriculture in the valley. Intensification led to increased demands on household labor, and this demand fueled increased fertility rates. As existing villages doubled in size, scalar stress increased to the point where preexisting social mechanisms for group cohesion were insufficient (e.g., Friesen, 1999). The reaction in the valley was twofold. On the one hand, larger villages "fissioned" to decrease settlement size and new settlements were found in underutilized areas of the valley (e.g., Bandy, 2004). On the other hand, incipient stratification began to occur as village size continued to creep upward (e.g., Johnson, 1982). Wari's role in these changes was significant, but once again was limited to the state's role in stimulating the increase in inter-regional exchange of goods and ideas throughout Peru during this period.

Increasing trade contacts presented opportunities for Cotahuasi's emerging elites both because of the "international" appeal of Wari iconography and the potential to control or profit on the goods flowing in, out, and through the valley. Wari iconography were perhaps most important to Cotahuasinos. The styles were transformed into a regional cultural capital that buttressed an inchoate "high culture" (i.e., Baines and Yoffee, 1998, p. 235) that was formed by constructing a regime of common difference (i.e., Wilk, 2004). In other words, one's status became defined by one's knowledge of Wari styles. By trading goods and knowledge with like-minded individuals in other valleys either directly or through llama caravan leaders, elites throughout the regional interaction network helped each other maintain and increase their social positions. The closer knowledge over time of Wari and regional styles by potters from Cotahuasi and neighboring valleys likely reflects increasing contact between regional elites (Sciscento, 1989; Wernke, 2003).

Collota was an attempt to create a new power-base that would out compete with rivals from other villages because of its position along the major trade route through the valley and its emulation of Wari architecture. Local groups across the ancient world often emulated state architecture in order to enhance their status (Schortman and Urban, 1998, p. 111; Wells, 1999, pp. 203–204; Whitehouse and Wilkins, 1989, p. 109), but in this case Wari stylistic influence over Collota was most likely tied to an attempt to symbolize regional connections rather than state ones. Despite their efforts, Collota inhab-
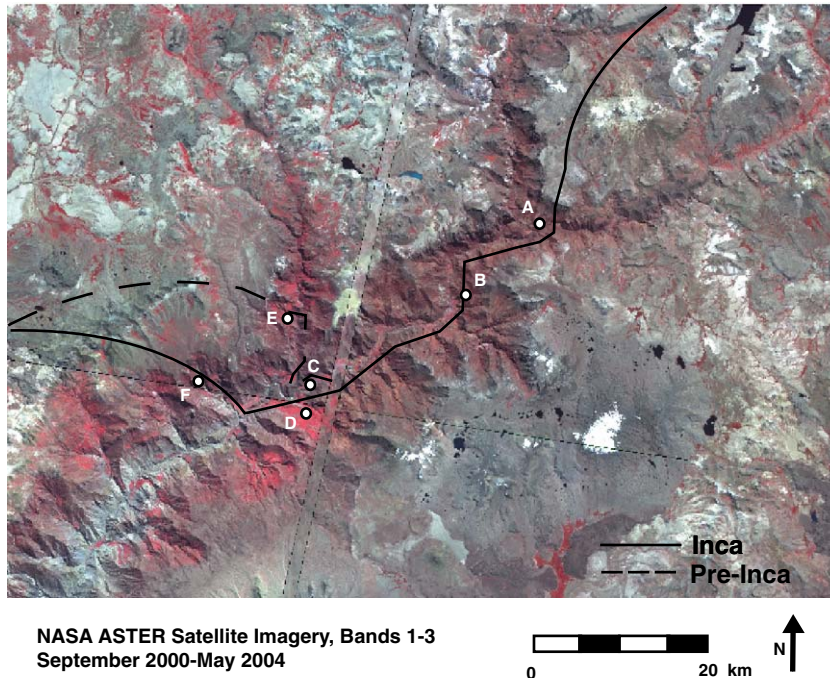
Fig. 14. Major trade routes through the Cotahuasi Valley. The routes pass near the following places mentioned in the text: (A) Puica, (B) Ancient Alca, (C) Collota, (D) the town of Cotahuasi, (E) Pampamarca, and (F) Huarhua.
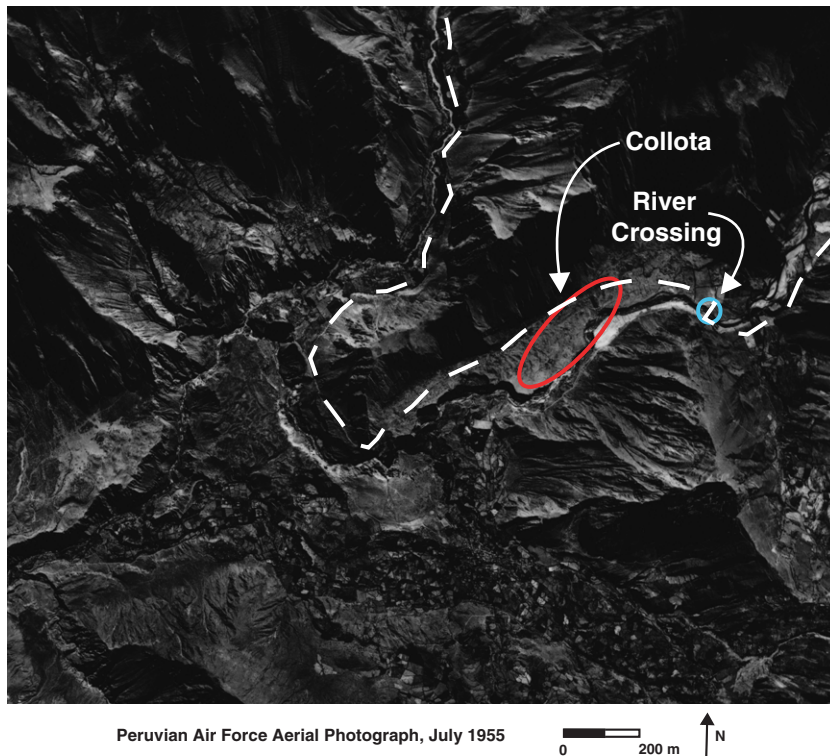

Fig. 15. The location of Collota relative to the probable trade route through the valley during the Middle Horizon.
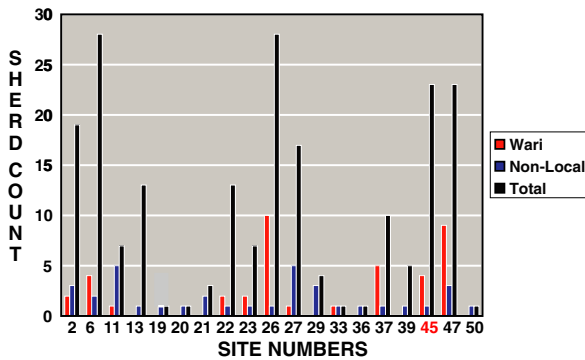
Fig. 16. Middle Horizon ceramic style frequencies from each village in the Cotahuasi Valley. Collota is site 45 (marked in grey).

itants were never able to cultivate close relationships with the outside world. Other sites were probably just as effective, and perhaps more so, in their external dealings. Collota's failings are probably related to the low volume of trade through the valley, its lack of a subsistence base, and its distance from the obsidian, copper, and rock salt deposits that played an important role in inter-regional exchanges. Collota was abandoned soon after the Middle Horizon.[10] Ultimately, land, kin, and other traditional bases of power in Cotahuasi proved more important than contacts with the outside world.

Core, periphery, and regional realities in Cotahuasi

Whether one envisions a group under the imperial boot, locked into unequal exchange relationships, dependent on prestige goods, or acting as an equal trading partner, conceptions of state–local relationships are often informed by the ingrained geometry of the radial model of core–periphery systems (see Fig. 1). Like many archaeologists, my previous discussions of the relationship between Wari and Cotahuasi have weighed the evidence for different kinds of core–periphery relationships and placed the valley on a continuum of state direct control, indirect control, and influence (Jennings, 2002; Jennings and Craig, 2001; Jennings and Yépez Álvarez, 2001a,b). None of these explanations, however, fit

what happened in Cotahuasi because the radial model that structures these arguments significantly distorts the reality of the regional interaction system that was spawned by the expansionary dynamics of the Wari state.

The changes in Middle Horizon Cotahuasi cannot be explained without the expansion of the Wari state. Wari's expansion stimulated the growth of inter-regional interactions across Peru and created a widely emulated artistic style that could be used to legitimate elite positions. These developments allowed for Cotahuasi's sociopolitical development to occur, but this development was based on increasing contacts between Cotahuasi's emerging elites and elites from other neighboring valleys. These contacts led to the exchange of ideas, and perhaps plant seeds, that allowed for agricultural intensification. This intensification led to population increases in villages that caused scalar stress. The scalar stress led to greater intensification (as new areas came under cultivation), village fissioning, and the emergence of elites. Elites seized on intra-regional interaction as a means to legitimate their status primarily through the use of Wari influenced styles as cultural capital that buttressed a system of common difference. The founders of Collota attempted to further capitalize on this cultural capital by both situating themselves along the major trade route through the valley and emulating Wari architecture. This bid ultimately failed because the people of Collota were too far removed from agro-pastoral subsistence zones.

A core–periphery model could be applied to Cotahuasi. In a sense, Cotahuasi was enmeshed in Wari's inter-regional exchange network, its indirect administrative structure, and its prestige goods economy. It would be a mistake however to conceptualize the Cotahuasi data in this matter because we would force an interpretive structure that I argue runs counter to the data (see Fig. 5). For example, we might privilege certain aspects of the ceramic data to suggest a "strong" relationship with the core, or privilege other aspects to argue that the relationship was "weak." We could note the presence of state goods in Cotahuasi and Cotahuasi goods in the core and suggest that the area was "indirectly controlled", or suggest that the low volume of goods circulated between core and periphery is best explained by core "influence" over the periphery. Using a radial model to interpret Middle Horizon Cotahuasi ultimately fails because the model is meant to highlight a kind of core–periphery

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[10] Our ongoing excavations at Collota demonstrate that portions of the site were occupied during the Late Horizon. There is no clear Late Intermediate Period occupation of the site and it seems that the site was likely abandoned and later re-occupied. Further excavation and analyses, however, may reveal a Late Intermediate occupation of the site.

relationship that did not exist in the valley. Instead, Wari expansion stimulated the growth of regional interaction system that appears to have operated largely independently from the state.

André Gunder Frank, Immanuel Wallerstein, and their colleagues developed core–periphery models to understand the structures of integrated inter-regional economic systems in the modern world (Rowlands, 1987, p. 4). Archaeologists have vigorously debated many aspects of the model, such as the strength of core dominance, the size of the system, the types of goods flowing to different parts of the system, and the relative dependence or independence of the periphery. These debates have been fruitful, but have largely played out within the deeply embedded structure of core–periphery models. While archaeologists have long commented on the importance of interaction spheres in the emergence of early states (Yoffee, 2005, p. 230), there has been far less concern about regionalism in the expansion of states. This neglect is a product of a radial model that leaves little space for such intra-regional interactions. In this case study of Middle Horizon Cotahuasi, I demonstrate one instance where the emergent properties of a regional system embedded within the cultural and economic milieu of the Wari state have gone unrecognized. Without a vigorous reassertion of regional dynamics into our interaction models, the realities of life in Cotahuasi and other "peripheral" places around the world will remain poorly understood.

Acknowledgments

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