

CHAPTER 1

INTRODUCTION

Cochabamba, Bolivia, was home to some of Bolivia's earliest recognized archaeological cultures, and later in time, to a series of distinctive archaeological complexes. Prehispanic populations in this fertile region interacted with two of the largest polities to develop in prehispanic South America: the Tiwanaku and the Inka states. The archaeological evidence and ethnohistoric documents reveal an immense effort by the Inka to reorganize the valley and increase production in the rich maize growing areas (Morris, pers.comm; Wachtel 1982). Drawing on the Inka example, prehistorians have posited a similar strategy of imperial "verticality" in Cochabamba by the Tiwanaku polity some four centuries earlier (Kolata 1993a; e.g. Isbell and Schreiber 1978). To date, the existing archaeological evidence from Cochabamba has not been adequate to either support or reject this hypothesis. My research was the first systematic archaeology aimed at examining relationships between the Tiwanaku state and the Cochabamba populations not to be based on stylistic similarities in pottery. My goal was to address the issue of Tiwanaku effects on Cochabamba by identifying changes in settlement and land use associated with the appearance and disappearance of Tiwanaku style materials in the region.

The departure point for this investigation of Cochabamba prehistory was Alan Kolata's hypothesis that the highland Tiwanaku state, centered at the site of Tiwanaku near Lake Titicaca, established colonies in Cochabamba to ensure access to warm-land crops, primarily maize. He (1993a:269) writes that Cochabamba was "the focus of intense Tiwanaku colonization," and that, "Tiwanaku directly colonized and subsequently controlled key economic resources in lower-lying regions, such as the Cochabamba Valley (1992:80).

As Kolata (1993a:270) goes on to note: "we have little primary evidence to reconstruct the history of Tiwanaku in Cochabamba." In short, that the Tiwanaku style materials found on the eastern slopes of the Andes in the mesothermal Cochabamba Valley represent imperial verticality --rather than other forms of interaction-- has been assumed rather than archaeologically tested.

As one way of testing this hypothesis, I made the assumption that if prehispanic populations concerned with increasing surplus agricultural production will settle so as to readily exploit the best soils, or, in areas of higher agricultural productivity. It follows that if the strategy of the Tiwanaku state (or segments of that highland society) was the extraction of maize (Kolata 1993a, 1993b), then Tiwanaku style materials should be densest in the lands with greater agricultural production capacity. To test this hypothesis, I chose two study areas -- the Capinota-Parotani and Mizque Valleys -- with contrasting ecological conditions and agricultural potential. I also

adopted a diachronic approach to studying settlement in these study areas in order to assess changes and continuities in land use patterns.

One hypothesis underlying human-land relationships is that the organizational features of cultural systems have subsistence strategies at the core of their adaptive concerns (Blanton 1976; Butzer 1982; Moran 1990; Sanders and Nichols 1988). Within specific modes of subsistence, population distribution and settlement location should be directly correlated with the distribution of resources leading to an association between population concentrations and the most productive lands (Blanton 1976; Kirkby 1973; Sanders 1968; Sanders and Nichols 1988; Sanders et al. 1979; see Crosby 1986). This is not to deny that sociopolitical and economic factors have important effects on the regional distribution of the population and create settlement patterns that depart, in some cases considerably, from the ideal correlation between settlement and the best soil zones (Hastorf 1992, 1994; Feinman and Nicholas 1990; Kowalewski 1982; Nicholas 1989; Plog 1990a).

The Capinota-Parotani and Mizque survey areas, two sub-areas of the Cochabamba mesothermal region, present similar patterns of rainfall and temperature (Figure 1). However, they are drastically different in terms of the amount of agriculturally productive land and in the quantity of water available year-round. In order to understand the nature of interaction, if any, between the Tiwanaku polity and the local populations in these areas, I needed to evaluate the sequence of land use and settlement in each area, and determine whether the two research

areas differed in their pre-Intermediate Period, as well as Intermediate Period occupations (the latter period characterized by the presence of Tiwanaku style materials).

According to the Tiwanaku colonization/maize extraction hypothesis, if creation of lowland agricultural products for highland populations was an important part of articulation with the Tiwanaku polity, then we would expect more evidence of interaction with Tiwanaku in the Mizque area than the Capinota-Parotani, despite the former's greater distance from the **altiplano** Tiwanaku homeland. And if differences existed between the two areas in the density of Tiwanaku style remains, we would need to know further if this difference resulted from differing agricultural potential alone, or was related in more complex ways to pre-existing patterns of local development in each area.

To approach this hypothesis in a testable framework, I wanted my fieldwork to address three basic questions: (1) What do settlement patterns during the Intermediate Period suggest about land use strategies in each area; (2) Do the Intermediate Period patterns represent changes from prior patterns; and (3) What was the legacy of the Intermediate Period in Cochabamba (in other words, did patterns of settlement and land use in each area change with the collapse of the Tiwanaku polity between the 11 and 13th centuries A.D.).

As part of answering these three questions I had to document the broad evolution of human-land relationships over the long-term in Cochabamba. Thus my investigation was not limited to questions of

"Tiwanaku in Cochabamba," but rather documented long-term trajectories of human-land strategies in two ecologically contrasting areas.

Two lines of evidence guided analysis. The first was the relationship between settlement and land use, based on the size and distribution of occupation in relation to productive soils and specific topographic zones. The second was the nature and distribution of Tiwanaku style materials within and among settlements.

Although Andean archaeologists have the habit of describing as "Tiwanaku pottery" any pottery that resembles ceramics from the highland center, I concluded that the vast majority of Tiwanaku style ceramics I saw in Cochabamba was, in fact, locally produced (Bennett 1936; Rydén 1959). That most of the Tiwanaku style ceramics did not represent a trade good brought from the altiplano complicates assessing the nature of interaction between the highland state and local populations. Clearly stylistic preferences and decorative styles can have broad diffusion outside of trade ties, political domination, and colonies. On the other hand, it seems reasonable to assume that the distribution of the Tiwanaku style could represent differential interaction (even if indirect): local populations with greater ties to the highlands would display more Tiwanaku style designs and borrowing than local populations without such ties.

Territorial expansion of Andean states

The processes of interaction between large centralized states and peripheral areas have often been analyzed in order to understand the

strategies of domination by the expansive polities (Algaze 1993; Conrad 1981; Conrad and Demarest 1984; D'Altroy 1992; D'Altroy and Earle 1985; Doyle 1986; Hassig 1985; Postgate 1992; Sinopoli 1994; Schortmann 1989; Schreiber 1987; Smith 1987; Stark 1990; Wright 1977, 1982). Typically, analysis of the territorial expansion is made from the perspective of the dominant polity, and centers on understanding the modes of control imposed on the local populations.

A variety of forms of interaction and control may occur within a single expansive polity. Direct rule by the center was part of Inka and the Wari imperial statecraft, although each polity also incorporated populations through other means (Anders 1991; D'Altroy 1992; Earle et al. 1980, 1987; Feldman 1989; Hastorf 1993; Lumbreras et al. 1982; Matos 1993; McEwan 1989; Morris 1982; Morris and Thompson 1982; Moseley et al. 1991; Schreiber 1987, 1992; Wachtel 1982). Indirect rule, for instance, has long been seen as an important strategy used by the Inka state (Hyslop 1986; Julien 1983; Lalone and Lalone 1987; Menzel 1959; Morris 1988; Sandweiss 1992). The role of local elites in cases of direct and indirect rule has been analyzed for the Mantaro Valley (Costin and Earle 1989; Hastorf 1990, 1991) the Chillón Valley (Dillehay 1987), and other regions. Additionally, Inka imperial expansion has been shown to have been gradual in some areas, such as in the northern Andes (Salomon 1986; Earle 1985), and rapid and highly disruptive in others, such as the Cochabamba Valley where Inka conquest was followed by populations replacements (Wachtel 1982). In short, it is dangerous to generalize

about the nature and effects of interaction between an expansive state and outlying provincial or peripheral populations.

Despite several analyses of the regional distribution of Tiwanaku style materials outside the Tiwanaku heartland, the relationships between native local societies and the Tiwanaku polity have only been superficially addressed (Berenguer 1978; Goldstein 1989, 1990a; Isbell 1983; Kolata 1983, 1993a; Lumbreras 1981). Analysis of Tiwanaku style materials in other regions has focused mainly on the nature of the Tiwanaku style assemblage itself (pottery, textiles, architecture), and in reconstructing relationships to the capital, rather than on local processes or the local context (see Bermann 1993; Oakland 1993).

As noted previously, interpretations of Tiwanaku's expansion into Cochabamba have been largely speculative (Browman 1980, 1984a; Kolata 1992, 1993a, 1993b), given the little actual archaeological study (Figure 2; Bennett 1936, 1946; Ibarra Grasso 1965; Ibarra Grasso and Querejazu 1986; Rydén 1954, 1959; Walter 1966). Several scholars, including some of those who favor a Tiwanaku colonization scenario, have pointed out the lack of sufficient information for reconstructing Tiwanaku's relationship to this region (Bermann 1989; Goldstein 1989).

Approaches to interregional interaction

Most recently, analysis of interregional interaction has focused on the role of interaction in the sociopolitical development of local polities. For example, center-periphery approaches explore the social and political transformation of peripheral areas under the influence of

the dominant polity (Blanton and Feinman 1984; Champion 1989; Chase-Dunn and Hall 1991; Haselgrove 1987; Kohl 1987; Wilkinson 1991). In earlier perspectives of interregional interaction (Price 1978; Renfrew 1986). The consequences of this interaction may range from formation of peripheral secondary states or prestige-good systems to economic dependency or the disintegration of local political structures.

The use of the center-periphery models in archaeology has the benefits of promoting consideration of temporal changes in the spatial location of power, a broader analysis of interregional interaction strategies, and relating local economic processes to macrorregional institutions. As a consequence, this center-periphery models, for all their shortcomings, have brought recognition of the two-way dynamics involved in interregional interaction, and encourage a "bottom-up" type of analysis, focusing on the local "influenced" societies as dynamic entities in their own right, ones that might even voluntarily affiliate with conquest states.

A "local perspective" approach to Andean prehistory (Bermann 1990; 1994; Schreiber 1992) contrasts with the "capital-centric" perspective common to the analysis of large-scale political expansion. Bermann (1994:11) writes: "'Capital-centric' approaches are inherently regional in scope, focusing on settlement hierarchies, the distribution and nature of administrative architecture, elite provincial residences ...". This approach seldom considers local developmental trajectories relevant for the interpretation of interaction because local populations are

essentially viewed as passive and homogeneous. From this capital-centric perspective, regional variability is seen as the result of differences in modes or intensity of interaction with the capital, rather than as differences in local organization.

Emphasizing the role of local developments in the spread of Tiwanaku style materials treats Tiwanaku not as an "invading" polity, but as a component in the local political scenario.

Part of the "capital-centric" approach in Andean prehistory stems from the reliance on regional ceramic distributions to reconstruct social and political ties. Yet conquest or colonization scenarios cannot be based solely on the presence of imported pottery, let alone simply on sherds in the "style" of the external polity. As Bermann (1994:12) notes, we should examine the different assemblages of state style pottery in sites of different sizes as a reflection of differences in local political patterns, not just as differences in interaction with the capital.

It was to avoid many of these difficulties that in my study I took a diachronic approach to land use and settlement patterns. The potential role of Tiwanaku itself is limited to a portion of these temporal trajectories; the Tiwanaku state only existed from approximately AD 400 to AD 1000. As a consequence, my investigation does not shed light on some aspects of the direction of Tiwanaku-Cochabamba interaction. So, for instance, a high proportion of Tiwanaku style pottery in an area of high population density and agricultural production may suggest a

Tiwanaku "strategy" of interacting with the residents of this area. Also plausible, however, is that higher levels of agricultural production would support the kinds of complex polities more likely to interact with distant political centers.

Approaches to prehispanic verticality

Prehistorians have viewed verticality as a pervasive part of the economy and political organization of prehispanic Andean populations (Conrad and Rice 1989). The notion that prehispanic peoples deliberately sought to control directly productive areas at other altitudes is largely derived from ethnohistoric accounts and ethnographic studies of modern populations (Brush 1974, 1977; Condarco 1978; Murra 1975, 1985a, 1985b; Oberem 1978). Over the last two decades, inter-regional variation in artifact assemblages or stylistic preferences have often been interpreted in the framework of different forms of verticality (Salomon 1985; Stanish 1989, 1992).

The verticality model has been extended to the largest political formations of the prehispanic world, with the argument that polities such as the Inka empire (Dillehay 1976; 1979) and Wari empire (Isbell 1977, Raymond 1992) deliberately pursued a strategy of vertical expansion in order to exploit resources not available in their homelands. These polities may have assumed control or dominated traditional and pre-existing verticality systems for both economic and political reasons.

Tiwanaku is one of the largest and earliest prehispanic polities for which vertical organization has been proposed (Kolata 1993a). Verticality, at least in the form of archipelago colonies, however, has only been partially indicated archaeologically, as in the Tiwanaku expansion into the Moquegua Valley, Peru (Goldstein 1989). Yet even here, the role of the Tiwanaku administrative site in relation to local settlements is still unknown.

The motive behind verticality is almost always identified as a desire to exploit directly non-highland agricultural resources. Because of this, any research incorporating assessment of land use patterns and agricultural production speaks directly to the crux of verticality arrangements. The patterns sought out in this research, based on variables such as soil productivity and settlement distribution, are an essential component of verticality arrangements, that have not often been addressed archaeologically.

Traditional archaeological approaches to recognizing verticality or colonies of any kind have focused on *artifact* assemblages from individual sites, artifact comparisons to those from highland sites, and tracing the regional distribution of pottery styles (Dillehay 1979; Goldstein 1989, 1990; Mujica 1985; Raymond 1992; Stanish 1992). Through these measures, archaeologists have sought to identify the permanent presence of altiplano settlers in local native villages or multiethnic settlements (Dillehay 1987; Murra 1975; Mujica et al. 1983:97-101; Stanish 1989, 1992), or the sharing of territories by various groups

(Saignes 1986). As Marcus and Silva (1988) point out, such approaches have not yet proven very productive in elucidating the occurrence and nature of this type of prehispanic interregional interaction.

As an approach to verticality, this study differs in several ways from previous studies. First, my investigation focused on changes in human-land relationships and agricultural production. Second, I took a diachronic perspective, comparing pre-Intermediate and Intermediate Period patterns. Finally, I combined information on stylistic distributions and population distributions in relation to agricultural potential to examine verticality in its most essential feature -- direct access to areas of lowland agricultural resources.

Research questions

Specific research questions I sought to answer through survey included: (1) Is the occupation with Tiwanaku style materials largest in the most agriculturally productive area (Mizque)?; (2) Are Tiwanaku style materials differentially distributed among sites within each area?; (3) Are there preferences for settling the best soils *within* either survey area during any period?; and (4) What changes in settlement size and location were associated with the appearance of the Tiwanaku style materials?

Intensification does not necessarily result from pressures from above, however, and may stem from household strategies independent of tribute demands by an elite. If strong forces favoring agricultural intensification were at play in the Intermediate Period, as the result

of Tiwanaku "strategies" or local processes, then we would expect to see settlement preferences for the most productive soils.

Therefore, I treat as evidence of intensified production a settlement preference for the best soils (i.e. disproportionate settlement on the best soils relative to their proportion in the survey area as a whole), and terracing of middle and higher slopes and canals.

Models for the political organization of the Cochabamba Valleys.

Several lines of evidence have been used to monitor the political expansion of prehispanic states in the Andes. The weakest of these lines of evidence is an expansion in the distribution of iconographic styles and/or imported trade goods (Costin and Earle 1989; D'Altroy and Bishop 1990; Hodge and Minc 1990; Oakland 1985, 1992; Smith 1987). Several archaeologists have proposed intrasite residential patterns and domestic architectural styles as a better indicator of social, ethnic, or political affiliation (Hastings 1987; Isbell 1991; Spickard 1985; Stanish 1989, 1992). The strongest evidence is the spread of state public architecture in the form of administrative centers, fortresses, or productive facilities (Anders 1991; D'Altroy 1992; D'Altroy and Hastorf 1984; Isbell and Schreiber 1978; Morris 1972, 1986; Schreiber 1992). These architectural components have been particularly useful for reconstructing Inka and Wari regional organization. Unfortunately, truly comparable structures have not been documented for the Tiwanaku polity.

Goldstein (1993) however, has persuasively argued that Tiwanaku style platforms/sunken court complexes served as manifestations of a Tiwanaku control rooted in ritual and ideology. No such architectural markers of control or ideo-political ties were found during my survey. Instead, my reconstruction of Tiwanaku-Cochabamba interaction, of necessity, is limited to inferences based on changes in settlement. Therefore the four scenarios outlined below highlight aspects of land use and population distribution.

1. Political subordination scenario

Expansion from a core area has been recognized as a common process in the growth of large Andean polities (Lumbreras 1981; Isbell 1991; D'Altroy 1987, 1992; Schreiber 1992). This conquest strategy, often accompanied by direct rule of a subject region, is characterized by a high degree of political control, and a high degree of resource extraction from the subject region. In essence, the region becomes a province of the central polity, with the state administrative hierarchy deployed in the region.

Archaeological correlates for the process would be settlement reorganization in Cochabamba and development of a regional settlement hierarchy with Tiwanaku administrative, residential sites, and Tiwanaku style public architecture (i.e., sunken temples).

Changes in land use and settlement patterns would also be characteristic of the process. To facilitate high resource extraction there would be a reorganization of settlements to maximize agricultural

production, and we would expect to see settlement concentration on the best producing soils (D'Altroy 1992; Schreiber 1992).

A key archaeological marker of this process would be an abrupt shift in patterns of settlement and land use, and an increase in the occupation area of external settlements. As Schreiber (1992: 28) notes, "once a region has been conquered...the focus of imperial concerns is turned towards economic matters." From the perspective of the dominant political system, reorganization of settlement would not only facilitate the mobilization of surplus, but would have the added political benefit of breaking up pre-existing polities or territorial units.

Judging by archaeological and ethnographic cases from elsewhere in the Andes, such an extreme form of political subordination (conquest and direct control) will be readily visible archaeologically. An example is the Wari conquest of the Carhuarazo Valley, and the accompanying settlement shifts in the Willka phase, when much of the valley was terraces (Schreiber 1992:260). The state-directed emphasis on maize production led to the movement of villages from higher elevations to lower elevations and the *kichwa* zone. Similar disjunctions in settlement could be described for the Inka conquest of the Mantaro Valley and Cochabamba (D'Altroy 1992; Hastorf 1990; Wachtel 1981).

In this scenario, we would expect a widespread occurrence of Tiwanaku style materials. State style pottery would be locally manufactured as a product of the long-term permanence of Tiwanaku control. If, after the collapse of Tiwanaku, settlement patterns

reverted to pre-Tiwanaku patterns, this would provide additional evidence for an important dynamic role for interaction with the Tiwanaku polity in the sequence of settlement evolution in Cochabamba.

2. Verticality scenario

The strategy of verticality has been documented ethnohistorically in highland populations as a mechanism for obtaining lowland resources (Murra 1975, 1985a, 1985b; Dillehay 1979; Mujica et al. 1983; Stanish 1992; Raymond 1992). The principal feature of this strategy, at the largest scale, is the establishment of colonies, as independent sites or in multi-ethnic settlements, distributed discontinuously in different ecological areas (Mujica et al. 1983:97-101; Murra 1975). The archaeological identification of the verticality strategy is a problematic task when pottery or architecture are used (Marcus and Silva 1988). Whether a verticality strategy was implemented as part of a geopolitical strategy by the Tiwanaku state (Kolata 1992), or individually by altiplano ayllus (Albarracín 1991) this process has been put forward to explain the distribution of Tiwanaku style material in Cochabamba.

Two problems arise in any attempt to discern a strategy of Tiwanaku verticality in the Cochabamba region. First, the general lack of regional settlement pattern studies that would help identify "foreign" settlements. Second, the Cochabamba Valleys as a whole present greater agricultural potential than the western Andean valleys. In the latter valleys, agricultural soils are restricted and concentrated,

whereas the prime agricultural areas in Cochabamba extend over broad areas.

There is no ethnohistorically known analogs for a large-scale archipelago system in a setting with a wide availability of good agricultural soils and little significant altitudinal differences. Therefore a Tiwanaku verticality strategy in Cochabamba would represent a new variant of the already documented forms of Andean complementarity (Murra 1975; Salomon 1985).

Stanish (1992:43) distinguishes several scales of archipelago colonies. The largest scale is one in which different regions --even small individual valleys within a larger drainage such as Cochabamba-- are controlled by different ethnic groups, leading to a pattern of differences among settlement systems. At a smaller scale, ethnically distinct colonies will be visible as significant diversity among individual sites. And at the smallest scale, "multiethnicity occurs within an individual settlement," that would be characterized by internally differentiated discrete barrios (Stanish 1992:44).

The keys, in Stanish's (1992:45) analysis are thus whether "ethnic" heterogeneity occurs at the regional, local, or site level, and the ability of the archaeologist to identify this heterogeneity with a "relatively consistent set of archaeological indicators." For instance, the distribution of colonies (marked by the use of Tiwanaku style pottery) should be outnumbered by local settlements, should consist in spatially discrete clusters of occupation, or possibly occupy sections

of larger settlements. In any case, new or shared occupation settlements should be located on the best agricultural soils. Because domestic architectural style was not visible on the surface in the areas of Cochabamba that I surveyed, I had to rely on domestic ceramic style preferences, making the assumption that groups ethnically tied to Tiwanaku or the highlands would have used Tiwanaku style pottery.

It must be assumed, all things being equal, that highland groups would have sought to establish colonies in the areas of highest agricultural potential. Naturally, this might not have been possible. The multiethnic settlements documented for some archipelago systems represent one cooperative solution for sharing access to desired lands. A pattern in which sites with Tiwanaku style materials were limited to lesser quality soils might indicate that the highland polity was not able to set up colonies on the preferred soils. Therefore, analysis of style-land relationships during the Intermediate Period has the potential to illuminate the nature of political relationships between highland and lowland populations.

In the few cases where a Tiwanaku colonial strategy has been reconstructed, the inference has been that Tiwanaku colonists were, in fact, able to gain residence on the best lands. In the Moquegua Valley, the large Tiwanaku site of Omo and subsidiary communities overlooking the best agricultural lands in the valley: the Osmore River floodplain, and the flatlands that could be put into production with simple canals (Goldstein 1989:238). A similar argument has been advanced for the Azapa

Valley, where, like Moquegua, the establishment of Tiwanaku colonies represented a marked shift in settlement location. "Es claro," wrote Mujica et al. (1983), "que la población Tiwanaku inicia la explotación de microzonas anteriormente no utilizadas por los pobladores locales como especialmente las partes medias de los valles." As Goldstein (1989:47) has noted, putative Tiwanaku colonies seem to be located in microzonas, "characterized by their potential for the cultivation of temperate crops."

From a diachronic perspective, the highland style materials present in Cochabamba could indicate the scale of zonal complementarity emanating from the altiplano. For example, if verticality was organized by villages and ayllus, we would expect to see highland style materials before and/or after the Intermediate Period. In contrast, if the only evidence of contact with the highlands is during the Intermediate, this would suggest a more important role for the Tiwanaku as an organizing agent in the process.

3. Prestige-good economy scenario

Increasing political complexity in peripheral societies has been observed to have been a common consequence of interaction with more complex polities. The increase in complexity takes the form of the emergence of an elite stratum or, if this stratum already exists, further empowerment of elites through an increase of status through the operation of a prestige-good economy (D'Altroy 1987; Gledhill 1978;

McGuire 1989; Paynter 1981). In some cases, such core-periphery interaction, may even lead to secondary state formation (Price 1978).

In prestige-good economies, non-local items are critical to establishing, maintaining, or enhancing power relationships within a population (Helms 1979; Oakland 1993; Steponaitis 1991:194). Such goods are typically exotic materials, products of craft specialization, and may bear esoteric decoration. Highland Tiwanaku artifacts (textiles, wooden objects, goldwork) and objects bearing Tiwanaku iconography could have played such a role in Cochabamba societies (Oakland 1985; Money 1991; Walter 1966).

Therefore, we can identify as one potential result of interaction with the Tiwanaku polity the emergence of paramount local political centers in the settlement organization from a relatively egalitarian village pattern (cf. Kowalewski et al. 1983). In many complex societies, the power and privilege of elites is based on domination of economic processes, including agricultural production (Earle 1991). If this were the case in Cochabamba, even before interaction with the Tiwanaku polity, we might expect to see higher-order settlements (the residential sites of elites) located on the better soils. Other archaeological expectations for a prestige-good economy for the Intermediate Period can be suggested.

One expectation would be differentiation among sites in the proportional composition of styles in the ceramic assemblage. Specifically, highland items (including Tiwanaku style pottery of non-

local manufacture) should have a hierarchical distribution, largely limited to larger sites or sites with public architecture. A similar pattern might be observed in the distribution of the Tiwanaku style pottery in general if we assume that elites would be most interested in material displays stylistically linked to the Tiwanaku polity.

A second expectation is that the proportion of Tiwanaku style materials should be low with respect to local styles, given that for items to be "exotic" they must, by definition, be highly restricted in circulation. Third, we might expect pre-Tiwanaku settlements on the best soils to have more decorated pottery than other sites, or more "prestige" goods. And finally, if we see that those sites that had the most Tiwanaku style materials in the Intermediate Period continue to show disproportionate amounts of foreign styles in post-Tiwanaku periods, then this scenario would also be supported.

4. Status quo scenario

A final scenario is one in which there were no significant changes in the settlement and land use patterns associated with the appearance of Tiwanaku style materials. In this scenario, interaction between highland populations and Cochabamba residents would not have disrupted local status orders or economic patterns, or produced changes in land use and settlement patterns. In other words, continuity in pre-existing trends would suggest that interaction with Tiwanaku was such that it had little effect on local organization.

A correlate of this scenario would be one in which there were no significant intersite patterns in the distribution of Tiwanaku style materials. In other words, ceramics in the "Tiwanaku style" would occur in roughly similar proportions at sites of any size and in any topographic zones.

In this scenario, the distribution of Tiwanaku style materials (mainly locally produced) might simply reflect a common and widespread set of stylistic preferences. It would be surprising *not* to find some indications of contact with the Tiwanaku polity, but even in the Intermediate Period materials from the highlands may have been moving into Cochabamba through traditional trade networks, rather than through imperial strategies.

This would be a disappointing "non-result" in the context of many paradigms popular in Andean archaeology. However, finding that the appearance and distribution of Tiwanaku style materials was not concomitant with changes in settlement and land use (at least as I am approaching them) would open a door to more meaningful and powerful explanatory approaches in the future.

This scenario would call into question not only Kolata's hypothesis, but other models that see interaction with Tiwanaku as a prime-mover in causing cultural change. One of the obvious implications of this scenario is that the distribution of Tiwanaku style materials, and by extension, the distribution of any rather loose pottery style, is a poor basis from which to reconstruct issues of regional interaction

and societal development, in comparison, say, to settlement and land use patterns.