



## WHAT WAS TIWANAKU?

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The culture of Tiwanaku represents one of the great civilizations of the ancient world. It is easily on par in size, complexity, and sophistication with the more well-known civilizations of the Near East, Mediterranean, and Asia. In fact, Tiwanaku eclipses many other famous civilizations of the classical world in many aspects of interest here—physical size and architectural complexity of the capital, population size, regional dominance, economic production, long-distance exchange, and the complexity of its sociopolitical organization.

In spite of this, some scholars still do not recognize what is obvious to archaeologists working elsewhere in the world who review the data—that Tiwanaku was a state society with all of the attributes common to the great ancient civilizations of the rest of the world. The reasons for these views are many and all are certainly legitimate, but several stand out. First, the traditions of scholarship in the Andes that were set up in the 1960s, as so nicely described by Moseley in his paper in this volume, have inadvertently come together to diminish the achievements of Andean civilizations such as Tiwanaku. This is reinforced by a lack of texts for cultures such as Tiwanaku. Furthermore, anthropological archaeologists working in the Andes have adopted what I call a straw-man model for premodern states. The expectations of this model can never be met because they

are unrealistic and do not match any known state in world history. As a result, an analysis of Tiwanaku using the criteria found in this model will always conclude that it was not a complex, archaic state. Finally, until recently we have had few modern archaeologists of indigenous descent who have worked on Tiwanaku. In this paper I will outline the latest data for Tiwanaku and try to place it in a broader comparative and intellectual context.

### RESEARCH TRADITIONS

Andeanists can understandably be a somewhat insular group, working in an area that in sheer distance alone would touch three areas of Old World first-generation state development (from the Nile to the Indus). As a result, it is not often that Andeanists refer in any depth to other cultures around the world that are structurally similar to those found in western South America. Most Andeanists are surprised to find that the iconic “city” center of Mycenae in the ancient Greek Peloponnese—the “city of kings”; the place founded by Perseus, husband of Andromeda and father of Agamemnon and Menelaus; home to palaces, guardhouses, and storehouses; and a principal city in the Trojan War—was, at its height, less than 3 ha in size. That is correct—3 ha. The architectural core of Mycenae fits inside the area bounded by

the Sunken Court, Akapana, and Kalasasaya in Tiwanaku. The total, maximum size of the “city” of Mycenae was no more than 75 ha, including all surrounding domestic settlement and cemeteries. Aegean archaeologist Todd Whitelaw (2001:29) actually estimates it at a mere 40 ha. The entire settlement complex of Mycenae was about half the size of just the architectural core of Tiwanaku. In short, Tiwanaku is at least six times larger than the settlement of Mycenae and is comparable in size to the great Minoan Crete cities of the Bronze Age. Whitelaw (2001:29) estimates the maximum size of Knossos at 80 ha, about 7.5 times smaller than that currently proposed for Tiwanaku. Tiwanaku, by any comparison to many other ancient cities, is as architecturally complex and is in the general site range of non-imperial archaic states in most areas of the world.<sup>1</sup>

There are no historical documents available for the Middle Horizon and only vague references to the Late Intermediate periods. The lack of documents represents a huge difference between the Andes and many parts of the Old World, particularly the Near East and Mesopotamia. At Mycenae, for instance, we have the great Homeric epics to tell us that King Agamemnon led armies of thousands to Troy. We have Linear B fragments that describe the administration of state societies in Bronze Age times. If we had comparable documents for the culture of Tiwanaku, perhaps one that told of the exploits of the legendary King Taypihuanca, who with his gold-studded scepter led his army and navy to the north, defeated the combined forces of the swift-footed Taraceños and Arapans, and returned with the great trophy of the Thunderbolt Stela on a huge triumphal march around the lake, we would perhaps be more sympathetic to viewing Tiwanaku in the same way we view comparable Old World civilizations.

As mentioned, we unfortunately have few scholars of indigenous descent who work on Andean archaeology. One can imagine the frustration of someone who has a genealogical or emotional connection with Tiwanaku culture and who has to live with the dizzying array of social and political tensions that swirl around this magnificent civilization. Here is an ancient society with a capital as large as or larger than any Mycenaean or Minoan Aegean Bronze Age center and comparable in size to the city of London in the sixteenth century. It has demonstrated influence around a vast area from desert to forest, created

beautiful works of art on a massive scale, carved huge stelae with stones dragged from 20 km away, and built roads, temples, and palaces, and in spite of all this evidence, foreign scholars simply will not give their ancestors credit for creating a civilization on par with those of the Mediterranean, Mesoamerica, and Mesopotamia. I am firmly convinced that if more indigenous peoples were involved in the writing of Tiwanaku history, the archaeological fairy tales of a vast empty ceremonial center would disappear as fast as they were created.

These factors have combined to create a very curious research tradition in the region that has disengaged the study of Tiwanaku and other Andean cultures from comparative anthropological and historical analysis. Some scholars think that this is appropriate and that “lo Andino” should be the basis for our studies. In my opinion, such disengagement does us a disservice and opens the doors to archaeological flights of fancy similar to those of the generation of Mayanists who argued for the “peaceful” Mayans who built “empty ceremonial” cities like Quirigua and Tikal. Archaeological interpretation must be grounded in something real. If it is not grounded in the data of history and ethnography utilizing rigid criteria of verification, then it will be no more than just-so stories that reinforce some particular social or academic fad at any moment.

Within this tradition of research in the Andes, perhaps the greatest theoretical and methodological flaw is to set up a straw-man argument in the form of the traditional state model of complex, coercive, stratified societies and to then conclude that Tiwanaku did not fit this model. I will argue below that this conception of hierarchical states is fatally flawed. It is a straw-man argument that does not represent reality anywhere on the planet, anytime in history. Once the straw-man model is rejected, the way is then open to the most creative models imaginable. Some Andean scholars, for instance, pick and choose elements from Tiwanaku’s great religious traditions and architectural feats to argue that there were no political hierarchies. From a comparative anthropological and historical point of view, that is, in all due respect, an untenable theoretical position. No society of any size and complexity—certainly one that was capable of building a few square kilometers of planned urban space out of hewn volcanic rocks—has ever existed without some kind of hierarchical

political structure that mobilized and organized human labor. Some scholars reduce this great capital city of a great ancient state to a place where peaceful peasants came together to eat, drink, dance, and reinforce social bonds. The reification of contemporary Western spiritual fads in scholarly work is indeed intriguing from the perspective of intellectual history but is at odds with the empirical data from Tiwanaku as well as from systematic comparative analysis of other states of similar size and complexity from the rest of the ancient world.

In this paper, I will first try to briefly summarize what we know, empirically, about Tiwanaku. Second, I will compare some of these empirical facts with other historically documented civilizations from other areas of the world. Ultimately, I conclude that while Tiwanaku, like all ancient states, had unique characteristics, it is structurally similar to the classical nonimperial civilizations in the Old World as well as to those in the Americas such as Teotihuacán, Tula, and the classic Maya states. To be sure, it is not an empire like that of the Inca. But it was certainly a centralized and complex political entity that we recognize as a first-generation state with a dominant elite and many other powerful groups that interacted in a myriad of ways.

Tiwanaku, like all ancient states, was an urbanized polity that created a huge city center for economic, political, social, religious, and cultural activities and expanded its influence, albeit selectively, over a vast area. Tiwanaku was not just a ritual gathering spot, a big place to throw ideologically charged parties, an empty religious center, an astronomical observatory, or a pilgrimage destination. Like every great capital among the world's civilizations, it had elements of most or all of these, sustained by a political and economic organization that produced, exchanged, and created valuable resources, backed by a military and religious elite that created Tiwanaku's political ideology and cultural values and offered them to, promoted them to, or forced them on peoples who lived in an area about the size of the modern U.S. state of California. And it successfully did this for almost a half millennium.

#### WHAT WE KNOW NOW

Archaeologists working diligently over the past few generations have unearthed the cultures of Tiwa-

naku. Unlike its counterparts in the ancient classical world, there are no surviving documents from Tiwanaku times. As a result, we do not have the rich narratives that bring to life the sophistication and complexity of these cultures with ease. We have to work much harder to unlock the secrets of ancient Tiwanaku using all the tools, both theoretical and methodological, at our disposal. By combining state-of-the-art fieldwork with sophisticated theoretical work, we are able to deduce the broad structure of Tiwanaku society. The results of some of this work can be summarized into a series of empirical observations:

1. Tiwanaku was an urbanized, class-based society, centered in a huge city located on the altiplano in the eponymous site in Bolivia.
2. Tiwanaku had a large, permanent resident population that numbered at least 20,000 and probably much more. There was an additional rural population in the Tiwanaku Valley as well as people living in quasi-urban sites such as Lukurmata on the Taraco Peninsula. The total population for the Tiwanaku polity most likely reached up to six figures.
3. Tiwanaku maintained colonies on a large scale, the only one seriously studied to date being the Omo complex in Moquegua. Others include the Azapa Valley in northern Chile and Cochabamba in Bolivia.
4. Tiwanaku maintained long-term and long-distance trade relationships with autonomous and semiautonomous groups throughout a vast area in a dizzying array of ecological zones. The most famous of these is San Pedro de Atacama, where local elites adopted Tiwanaku accoutrements and maintained some kind of economic trade relationship.
5. The city of Tiwanaku hosted a class of expert craft specialists, mainly in architecture and artisan goods such as pottery, metal, and cloth. Tiwanaku artisans engaged in commodity production in pottery and cloth and possibly in other objects as well.
6. Tiwanaku artists drew off of a millennium of tradition, borrowing and reinterpreting Chavín, Pucará, and other highland cultures in the Andes. These Tiwanaku artists created works of unprecedented sophistication and beauty, most

notably in megalithic stone, textiles, and pottery but also in bone and metal.

7. Tiwanaku architects created a planned, urban space that embodied a number of ideological and/or religious constructs unique to its culture, creating a monument of unprecedented sophistication. It was almost certainly a great pilgrimage destination, bringing in people from around the south-central Andes for short and possibly semi-permanent residence.

#### POPULATION ESTIMATES FOR TIWANAKU

The size of the population at Tiwanaku has always been a difficult and contentious issue, yet it is one that we cannot dodge because of its theoretical significance. The population estimates for Tiwanaku vary widely, based upon the assumptions one uses in calculating densities, longevity of sites, the area covered, and so forth.

The first issue is to define precisely the area that we are calling Tiwanaku. We can usefully define four areas of the Tiwanaku phenomenon that can be used to propose population levels. First, there is the architectural core itself, comprising a bit over 1 km<sup>2</sup>. Second is the surrounding area of a few square kilometers where mounds and surface debris indicate some kind of domestic occupation well beyond the core. The third area can be defined as the Tiwanaku Valley itself, from roughly 2 km east of the Akapana and west all the way to the lakeshore some 17 km away. The fourth area would be what we can call greater Tiwanaku (Figure 9.1). This would include the Tiwanaku Valley, the Katari drainages/Pampa Koani, and the northern Desaguadero area. This area is based upon a one day's walk to the city, about a 25-km radius from the Akapana.<sup>2</sup>

Archaeologists have used a variety of sound methods to calculate the population of Tiwanaku. One approach is to deduce the carrying capacity of the land and to derive minimum and maximum figures for the population at its height. One then makes adjustments for various factors, usually bringing the estimate toward the lower end. A second approach is empirical. We measure the known areas of residence as determined by survey and excavation and then project out to the rest of the area in question. A third approach is to use comparative data from cities around the Andes, or even the ancient world, whose

political and economic characteristics are similar to those of Tiwanaku. Finally, historical data on populations in the region can be used as baselines to make meaningful projections.

Each of these approaches has strengths and weaknesses. The deductive approach that derives carrying capacity suffers from what all models are plagued with: slight variations in underlying assumptions can lead to very wide variations in model outcomes. The empirical approach is plagued by huge gaps in data, so the projections onto unsurveyed areas are also subject to wide variation. There is also the problem of contemporaneity of sites and multiple residences. The comparative approach provides good empirical parameters to bracket the estimates, but the nature of the political and economic structure of every culture is different and so is the population density. Finally, historical data are useful, but in the case of Tiwanaku, there is a 500-year gap between the earliest census data and the collapse of Tiwanaku.

Archaeologist Jeffrey Parsons (1968) first offered an estimate for Tiwanaku of between 5,200 and 20,000 people based upon his calculation of the urban center (2.4 km<sup>2</sup>) and using comparisons with Mesoamerican cities. In this instance, he appears to have been estimating just the urban core and immediate surrounding area. Carlos Ponce (1981:62) later calculated an urban area almost twice the size (4.2 km<sup>2</sup>) and an urban population of 42,000. Again, this number referred strictly to the city core and the surrounding and adjacent urban area. Both archaeologists were using the figure of around 10,000 people per square kilometer as a baseline assumption, a number that was derived from studies mainly in Mesoamerican urban centers.

A little later, Alan Kolata and Carlos Ponce (1992:332) argued that "an estimate of thirty to sixty thousand is not unreasonable" for the "permanently resident population" of the city. They also upped the estimate for the size of the city to 6 km<sup>2</sup>.

In his 1993 book, Kolata (1993:204–205) calculated carrying capacities and marshaled the then available archaeological data for the "metropolitan" Tiwanaku region, which he defined as the Pampa Koani–Tiwanaku–Machaca area. This area is quite close to what I refer to as greater Tiwanaku above. He concluded that the population during the peak of Tiwanaku "approached approximately 365,000, dis-

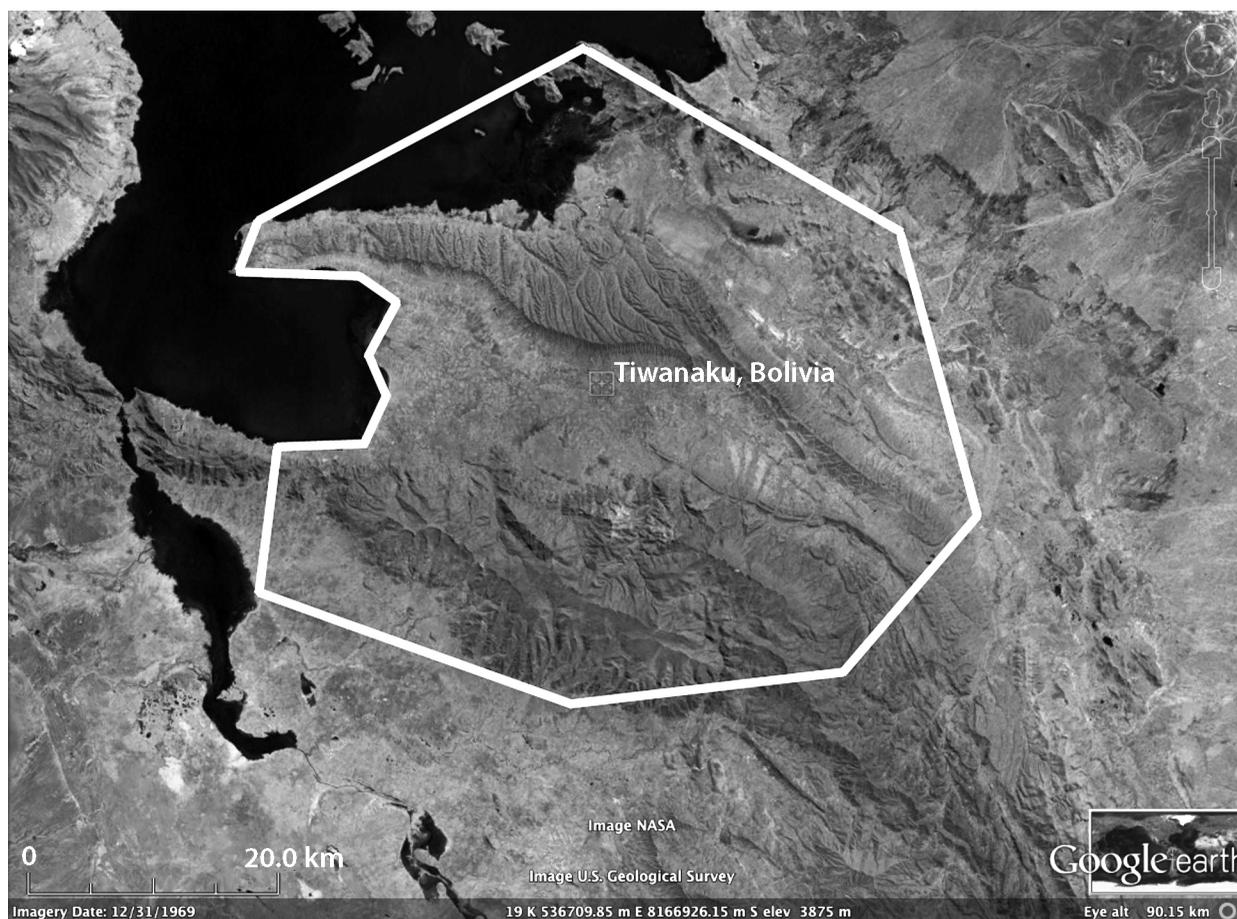


FIGURE 9.1. The area of greater Tiwanaku, an approximate 25-km radius from the city center.

tributed into a concentrated, urbanized component of some 115,000 and a dispersed rural component of 250,000.” This figure was significantly below his calculation of the carrying capacity but implied larger numbers than either Ponce or Parsons had suggested earlier. Some mistakenly think that Kolata’s figure of 115,000 meant only the resident population of Tiwanaku. However, he most likely refers to not just Tiwanaku but to the other urban centers in the greater Tiwanaku area, such as Lukurmata. This would leave an estimate for Tiwanaku itself a bit unclear in this calculation but certainly consistent with the 30,000 to 60,000 figure published a year earlier with Ponce.

One of Ponce’s latest articles (1995:32) repeats his argument that Tiwanaku reached a population of at least 40,000 in the urban center and up to 100,000 total including the “outskirts” (*aldeños*). It is not clear what outskirts he refers to, but it is most likely an area within the 25-km radius of the city center.

In a later publication, Kolata (2003:15) lowered his population estimate of Tiwanaku to around 15,000 to 20,000. This figure, however, refers to just the urban architectural core and the adjacent surrounding residential area. It does not include the Tiwanaku Valley and the greater Tiwanaku area. Kolata bases this figure on new archaeological data analyzed from Proyecto Wila Jawira. John Janusek likewise (2008:128) estimates the total population of Tiwanaku at 10,000 to 20,000, arguing that about half of the city was empty space.

The work of these scholars is commendable. We must have some idea of the size of this city and its surrounding area to proceed with our research in a meaningful way. However, the simple fact is that we do not have a good database to determine the size of Tiwanaku with any great precision, and this is evidenced by the shifting and at times contradictory estimates. When the data are ambiguous, Tiwanaku scholars tend to rely upon their professional and

individual perception of what Tiwanaku was in the past. Not surprisingly, those of us who see Tiwanaku as a classic archaic state tend to estimate high, while those on the other side tend to estimate low.

In this light, it is possible to briefly review the different modes of assessing Tiwanaku population:

### Carrying Capacity

The work of Kolata and his associates mentioned above suggests that a very high population density was possible in the greater Titicaca region. While this in and of itself does not prove high populations, it indicates that such levels are theoretically possible. While one could alter these figures and assumptions, the fact is that the altiplano in that region, with raised fields and more rainfall, has a capacity to support a fairly dense population, at least in the greater Tiwanaku region.

### Historical Data

Demographic data from the Toledo Tasa are very precise for *encomiendas* in the Titicaca region, but we do not know how dispersed these populations were. Places in the northern lake area like Saman, Taraco, and Paucarcolla have around 4,000 to 5,000 total inhabitants in the *encomienda* lists. The towns themselves were around 1 km<sup>2</sup> in size. Including the entire *encomienda* tribute list from these towns would still give a population figure below the 10,000 per square kilometer used in earlier estimates for Tiwanaku. However, these were entirely rural towns made up almost completely of farmers and herders, with no economies of scale, production areas, intensive trade, and so forth. We also know that male taxpayers would leave the area before the census takers came. Many of the males also were meeting tribute obligations, working in the gold-bearing areas of Carabaya or possibly even in the silver mines of Bolivia.

### Comparative Analysis

As mentioned above, Tiwanaku is almost an order of magnitude larger than the icon of Aegean Bronze Age archaeology, Mycenae. It is also larger or about the same scale as the four great Minoan cites of Phaestos, Knossos, Malia, and Zakros. Whitelaw

(2001:29) estimates Neopalatial Knossos at its height to have around 14,000 to 18,000 people in an urban area of around 80 ha. Averaged over the entire site area, he calculates a population density of 200 to 250 per hectare. That would give a density substantially larger than the 10,000 used in earlier estimates for Tiwanaku.

Skipping forward to the medieval period in England, the town of London in A.D. 1086 had approximately 17,850 people (Barron 2004) in an area substantially smaller than that estimated for Tiwanaku. In a short two centuries, that figure rose to between 50,000 and 80,000, falling again in the fourteenth century after plagues decimated Britain. Around 1300, the largest cities in Europe, Florence and Paris, had about 100,000 inhabitants each.

A famous map of the city of London in 1562 depicts an urban space of approximately 300 ha, from the Tower in the east to Somerset House in the west. The city is bounded on the south by the Thames and on the north by pasture lands. Combined with the city of Westminster about 2 km to the southwest, the urban space of greater sixteenth-century London is roughly equal to the 500 to 600 ha estimated for Tiwanaku. The population density would have been around 10,000 to 15,000 people per square kilometer, a number consistent with earlier assumptions for Tiwanaku. If London had been abandoned in the late sixteenth century, the architectural signature would look similar to that of Tiwanaku—a few stone buildings in ruins with the bulk of the former city covered in sod mounds. The analogy is not unwarranted.

Coincidentally, the population density of sixteenth-century London is about the same as that of modern Puno, Peru. Puno has about 125,000 people living in about 6 km<sup>2</sup> of area; the vast majority are single families living in single- or two-story adobe or brick houses. There are many open spaces in Puno as well. The same densities hold for Juliaca and other modern towns in the region. The problem here, of course, is the commensurability of modern towns and pre-Hispanic Tiwanaku.

From a worldwide perspective, estimates for greater Tiwanaku below 40,000 appear to be quite low compared to cities of similar geographical size and complexity. The 15,000 population range is similar to that of settlements like Cahokia, a complex settlement to be sure but hardly a fitting analogy to Tiwanaku.

### EMPIRICAL DATA FROM SURVEY AND EXCAVATION

What we can say is that there was an indisputable presence of about 1 km<sup>2</sup> of a relatively dense urban construction (ritual constructions, buildings, plazas, alleyways, palaces, temples, and so forth), built in carved and shaped basalt, sandstone, and andesite blocks.

We can also say that surrounding the core of Tiwanaku comprised several additional square kilometers of residential and domestic-use space. There was likewise a substantial population of nonurban villagers who lived from the edges of Tiwanaku itself up to the lakeshore, a distance of some 17 km. This is based upon the survey work of Albarracín-Jordan (1992, 1996a, 1996b) and Mathews (1992). During their Tiwanaku IV and V periods, they documented hundreds of settlements in the region between suburban Tiwanaku and the lake edge.

To the north was the Katari Valley and the Taraco Peninsula. Sites such as Lukurmata reached at least 1.5 km<sup>2</sup> in size (Stanish 1989). Dozens of other Tiwanaku sites populated the Katari Basin and the Taraco Peninsula. Bandy (2001) surveyed the Taraco Peninsula. His data indicate a population drop during the Late Formative 2 period, suggesting an out-migration to Tiwanaku, an observation that confirms the settlement pattern dynamics in the Tiwanaku Valley. During the Middle Horizon, the population rebounded to near normal levels while Tiwanaku continued to grow at a very high rate. These data strongly suggest that the initial growth of Tiwanaku was a result of a depopulation of the surrounding area, but once established as an urban center, this part of greater Tiwanaku was fully repopulated. These data support a population estimate for Tiwanaku on the high end.

Archaeologists have also excavated outside the core area of the Tiwanaku urban zone and have found fairly dense domestic settlement. The modern town of Tiwanaku is full of archaeological debris from the late Tiwanaku IV and V periods. We do not know the extent of the entire settlement complex at Tiwanaku. Certainly, there are areas near the architectural core that do not have evidence of settlement. However, there are also areas near the core with very intense domestic occupations. In particular, the work of Alconini (1995), Couture (2002), Janusek (2008),

Escalante (1997), Portugal (1993), Rivera Casanovas (1994), and many others has uncovered craft production and residential areas. Tiwanaku artisans manufactured a great variety of commodities, from musical instruments to textiles. These commodities have been found in distant areas, such as San Pedro de Atacama in northern Chile some several hundred kilometers away.

So how large was Tiwanaku? My inclination is always to defer first to the empirical data and second to comparative analysis. We do not have historical census data for Tiwanaku as an urban phenomenon. From this perspective, greater Tiwanaku would have had a population of about 70,000, with perhaps half of this concentrated in the urban center at any one time. There would have been many instances of multiple residences for families, and the total population of the center would have varied according to the ritual and agricultural calendar.

The question that immediately arises is: Does demographic size matter? The answer is yes. Non-hierarchical societies simply have structural limits for growth. Such a society could not build a city like Tiwanaku. The relationship between population size and internal complexity is not linear. But at certain “tipping points” of demographic densities, structural shifts toward greater complexity are unavoidable. There does not exist a single example in the history of the world where a site as large and complex as Tiwanaku was not constructed by a fairly complex state society. In every single instance where we find sites like Tiwanaku with historical documents, we also find that there were unequivocal social and political hierarchies, backed by intensive economic production and exchange.

Looked at from another angle, there does not exist a single historically documented empty pilgrimage center or ceremonial site of even a quarter the size of Tiwanaku found outside of a state organization. Sites such as Mecca, Delphi, and others all have large permanent settlements attached to them and functioned within a regional political organization. From yet another perspective, every historically documented ancient city in the world was home to pageant and ceremony. Medieval London was the center of royal celebrations on a grand scale. One could easily pinpoint empty spaces in this city, and a creative archaeologist could discuss the more than 100 documented churches within 4 km<sup>2</sup> to argue

that London in the sixteenth century was a huge ceremonial center built for overly religious peasants. Of course, we know otherwise because we have texts, and also perhaps because we value the image of our ancestral civilizations as something more than passive, praying peasants and disheveled agrarian serfs.

Based upon the data available and analogies to comparable centers the world over, the city of Tiwanaku was an architectural monument that was simultaneously a pilgrimage destination, a political center, an economic powerhouse, and a residential place for elite, specialized labor classes and a large proletariat. Like Jerusalem since the ninth century B.C., perhaps the quintessential icon of a religious center in the West, Tiwanaku was first a political and economic center that also hosted an array of highly charged religious institutions and events. Anyone who argues that Tiwanaku was an empty ceremonial center or just a pilgrimage destination holds an extraordinarily high burden of proof given the lack of any historically verified analogue from any culture on five continents throughout the course of human history.

#### THE STRAW-MAN MODEL OF THE COERCIVE HIERARCHICAL STATE

The term *hierarchy* is one of the most widely used and most poorly developed concepts in the archaeological literature. Scholars in archaeology in general seem to adopt an idealized concept of hierarchy best represented by those pyramid charts from the late 1970s published in the older evolutionary anthropological literature. In this model, there is a paramount or king/queen, with discrete levels of decision making layered one on top of another. These classes are, to use another term, stratified. The implication is that the highest decision maker receives and gives information through a formal network of subordinates. This model also implies that each subordinate level is subject to the control of the level above. In theory at least, each superordinate level has virtually life and death power over subordinates. Most significantly, each level has different access to resources and wealth (e.g., see Schortman 1989).

In the 1970s, archaeological theorists took this concept to a new level, looking at hierarchy not only internally within a society but regionally, over a landscape. In this model, multitiered settlement patterns represented congruent control over people's lives and

resources. A typical statement is: "Simple chiefdoms have one decision-making level, or control hierarchy, above the local community; complex chiefdoms have at least two such levels" (Beck 2003:643). States were different in the degree to which force was monopolized. Some states became empires, with Rome being a kind of default model. In this theoretical construction, the state was composed of elite who exerted their will by military force and other kinds of coercion. Most importantly, there was strong structural continuity between these levels. By that, these different stages were seen as smooth and evolutionary, with states intensifying the structure of chiefdoms and with empires effectively being hyperstates that were simply larger.

This was a good model. It is parsimonious, bold, useful, and testable. Unfortunately, from a historical perspective, it is wrong; no matter where one looks in the historical literature, we never find a stratified society in which power is so elegantly and rigidly distributed. Even the most hierarchical preindustrial society in the world that we know of—say, the France of Louis XIV or Rome under Augustus—imposed limits on the power of the elite and dispersed control to various groups and institutions. There are always multiple sources of power in any society, no matter how rigid and stratified it may be or, more importantly, how powerful the elite claims to be. Kings need senates and parliaments, the non-elite resists encroachment constantly, middle classes famously usurp the power of the aristocracy, religious societies form counter-hegemonic entities that threaten the state, and so forth.

As anthropological archaeologists searched for these ideal hierarchies in the dirt, they of course came up empty-handed since they did not exist. Instead they encountered reality—multiple contemporary palaces, "corporate" elite strategies, non-elite households with lots of "elite" goods, humble tombs with priceless objects, ephemeral elite from Teotihuacán to Harappa, "network" states, nodal communities, and the like. Instead of questioning the empirical utility of the traditional hierarchy model, we Andeanists instead came to believe that "real" hierarchical states were indeed found "over there" (usually in the Mediterranean, Aegean, and Mesoamerica, where the documents told us there were indeed kings) and that the cultures that we studied "here" did not in fact have hierarchies. We therefore in-

vented or borrowed new terms like *heterarchy*, *segmentary states*, and so forth to try to explain the apparent absence of centralized, hierarchical states in the pre-Inca Andes.

The reality is, to repeat, that there is no such thing in the real world as the rigid hierarchy model as used in archaeology. The case of London in the later Middle Ages is a telling example of the complexities of power and authority in a premodern state. England at this time was the quintessential centralized, premodern bureaucratic state with a king, a parliament, armies, navies, police forces, exchequers, sheriffs, taxing bodies, bishops, earls, dukes, royal courts, a strong state-supported church in which the king was head, embassies, palaces, a feudal aristocracy of landlords and knights, vassals, serfs, indentured servants, and the like. Yet authority was distributed in anything but a pyramid of power.

The work of Barron (2004) provides an excellent summary of power and authority in England and London from 1200 to 1500. As she puts it, the relationship between the king and London could be reduced to the fact that “the king needed money and the Londoners wanted self-government” (Barron 2004:9). This fundamental economic and political fact underlay much of the tension over centuries. The power of the Crown waxed and waned over time. In theory, the Crown always retained *de jure* rights to govern the city. If one were to read official documents from that era, it would appear that there was a clear-cut political hierarchy with the king on top. This, indeed, echoes the political ideals set out in other more fragmentary documents, such as Linear B tablets and cuneiform texts. In fact, to the contrary, there was a great deal of negotiation and formal and informal political restrictions on elite action in England at this time.

A look at how power actually was distributed in medieval England is far from the stratified pyramids that we assume. As Barron says (2004:10), because the king spoke with one voice, the Crown “had a distinct advantage in formulating and carrying out policy but, if push came to shove, the Londoners could muster a sizeable military force.” A mayor and a court of aldermen, institutions that changed throughout the centuries, governed the city. There were 24 wards in the city in the early thirteenth century (Barron 2004). Under the aldermen were a number of offices such as ward beadles, rakers, scav-

engers, and constables. These were all answerable to the aldermen, being sworn in before them and the mayor. Mayors were elected early on by the barons of London under royal charter. Over time they were elected by groups of aldermen from each ward, with waxing and waning influence by the commoners. The history of the institution shows periods of interference by the Crown, without question, but the choice of mayor rested in the hands of the lesser elite and at times the commoner classes (Barron 2004). Sheriffs were likewise selected this way. There were times when the king tried to interfere, but the city protected its right to select the sheriffs (Barron 2004). Other members of the bureaucracy were almost all appointed by the city and not the king.

Over time a variety of democratic institutions took hold in London. In anthropological terms, we would view these as centers of non-elite resistance to authority. These institutions included those such as the Folkmoot and the Hustings Court. By the later fourteenth century, the court of common council took over from these earlier institutions (Barron 2004). Along with the aldermanic councils, these institutions sought ways to raise money for communal projects. By the fifteenth century, taxes for these projects could be raised only by consent of both the commoner and aldermanic groups (Barron 2004). These projects included piping in water to the city, the repair of granaries, and the improvement of the city walls and ditches (Barron 2004). From an archaeological perspective, significant construction of the urban area was done virtually outside of royal or “state” control.

Another check on both city and royal power was the institution of sanctuaries controlled by the church. Effectively the 100 or so churches provided havens from state authorities for criminals and even people accused of treason. In 1566, though, the sanctuary was abolished, as the combined political power of the city and Crown diminished the church’s role (Barron 2004). The king did have power of life and death over some people, particularly political troublemakers. However, this power was exercised in the city only sparingly. On the ground, other elite had palaces, controlled long-distance exchange, created their own bureaucracies, and the like. Middle-class merchant groups had considerable power over everyday life, a sphere where the Crown could not interfere, no matter how

much it tried. Even commoners could exact demands from the authorities, including the king, mayor, barons, and other minor aristocracy.

A historical anecdote is quite telling. In 1369 Edward sent a royal writ to the city, telling it to clean up the disgusting filth in the streets left by butchers. The aldermen effectively ignored the order for more than 20 years (Barron 2004). The king of England, the apex of a stratified hierarchical state, while capable of occasionally executing a heretic and able to raise armies and navies at will, could not even force the people in his capital city 2 km away to clean up their garbage. If this is not heterarchy or “segmentary,” I don’t know what is.

The oft-cited article by Fritz (1986) about the Hindu imperial capital of Vijayanagara falls into this kind of archaeological theory-building trap. He describes Vijayanagara, following the historian Stein (1980), as a “segmentary state, consisting of relatively autonomous polities.” Quoting Appadurai (1978:51), he describes this urban capital of more than 10 km<sup>2</sup> of core architecture as housing a state with “no single, centralized, permanent bureaucratic organization, but a temporary affiliation of local groups, authoritatively constituted by, or in the name of the king, and empowered to make public decisions on specific matters.” These three scholars from three disciplines—archaeology, anthropology, and history—contrast this segmentary model with apparently that of a nonsegmentary or stratified hierarchy model. But, as we can see, their description of the “segmentary” state fits very well, almost to a tee, sixteenth-century England. If sixteenth-century England is not a centralized state, then what is? If it is not, then the concept of a coercive, hierarchical state has no analytical meaning.

This straw-man hierarchy model is part of our discourse on Tiwanaku. Goldstein (2005) brings in Vijayanagara as a kind of analogy for Tiwanaku. He argues, following Sinopoli and Morrison (1995), that the rulers of the southern Indian state did not control domestic relations of production and had to negotiate with local elite. In his view, therefore, this state is not an example of “globalist model[s] of coercive core-centered hierarchy” but something less hierarchical. To Goldstein’s credit, he clearly articulates what this globalist model is, unlike far too many of us who just assume it to be understood. In this view, a state is hierarchical, bureaucratic, and predatory—the end point of an evolutionary process. It controls

production and interferes in the domestic economy. There must be provinces or colonies as part of the expansion process. These colonies must have administrators and governors.

Goldstein goes on to list several things missing from the Tiwanaku state that one would expect from this coercive state model. In his view, there are no palaces at Tiwanaku that would qualify as royalty. Goldstein also states that there is little evidence that the Tiwanaku elite interfered with domestic production. He says that there were no formal roads. Goldstein, commendably echoing most of our colleagues in this symposium, draws a very profound conclusion of what we should find at a place like Tiwanaku, given the globalist, evolutionary model:

Neoevolutionists thus implicitly assume that horizontally distinct corporate social groups like clans or Andean ayllus wither away as their increasingly redundant functions are usurped by the state’s hierarchy. Patterns of authority and group identity based on kinship and ethnicity are seen to become socially vestigial, politically impotent, and administratively irrelevant in class-based societies. (Goldstein 2005:307)

These are fascinating inferences but are not necessarily born out by the data from comparative history or anthropology. A quick read of the *Iliad* shows how important kinship and ethnicity are in structuring the state civilizations of the Aegean. The Aztec *calpulli* are famous horizontal institutions that were defined by both ethnicity and kinship. The Ottoman Empire had too many ethnic, national, and religious institutions within its midst to even count. In our other example of medieval London, the town was full of horizontal institutions that existed outside of direct royal authority, including guilds, baronial houses defined by kinship, merchant barrios, religious institutions, foreign quarters, and the like. There is literally an unlimited number of examples from history and ethnography to draw from in state societies.

In short, the empirical record shows that *ayllu*-like institutions were found throughout the great states and empires of the ancient world. Far from disappearing as an inevitable result of state development, such institutions flourished as a primary means to structure society in hierarchical, state models. They are historically varied but structurally very similar across space and time. The fact that they ex-

isted in Tiwanaku does not diminish its status as a centralized state; to the contrary, it brings in Tiwanaku as one of the great states of the ancient world.

There is likewise little evidence that the elite of most state societies interfered with domestic production of the non-elite for their own subsistence. Almost all states in premodern times tax primary producers either through *corvée* labor or direct tribute. It is not in any elite group's interest to tell farmers how to farm, to tell butchers how to butcher, and so forth. The elite simply take a portion of that production for their own use. Even the Inca, perhaps one of the most economically intrusive states in the ancient world, did not intervene in local production, preferring instead to use *corvée* labor to work state lands and installations. Local production was largely untouched. While Goldstein may be absolutely correct in deducing this feature as a component of state societies out of the *theoretical* literature, it is not an *empirically* verified component of state societies from around the world.

The Tiwanaku peoples had roads, albeit not like the ones the Inca had. The surveys from the Juli-Pomata area show that the Tiwanaku sites align along roads that were then co-opted by the Inca. The surveys to the north in the Huancané-Putina area also indicate a concentration of settlement on the road system (though these data have not been published). Our (Stanish et al. 2010) recent survey in the area between Desaguadero and Moquegua indicates that there were indeed Tiwanaku artifact scatters on sites along the road between the lake and the largest colony. However, it is quite true that this was a more informal and noncentralized kind of system than we see for the Inca. Nevertheless, while we did not find *tambos* or other kinds of way stations that dated to the Tiwanaku period, we did find a line of sites that led to Moquegua, indicating that some kind of exchange took place along this road.

I disagree about the lack of palaces as well. Call them what you want, but from a comparative perspective, if Tiwanaku structures such as the Pumapunku were not elite residences, then surely the palaces of most of the Bronze Age and early Iron Age Aegean and Mediterranean would not qualify either. Indeed, there are no royal tombs like Moche at Tiwanaku. But the Inca did not have royal tombs either. In fact, building elaborate tombs for the elite is not, and appears to never have been, a feature of highland An-

dean culture except for some post-Tiwanaku *chullpas* found only in the south-central Andean region. They are not found in the Tiwanaku, Pucará, Chavín, or Wari cultures, indicating a highland tradition that does not include elaborate tombs for individual dead elite like anything remotely as elaborate as among the Moche.<sup>3</sup>

Goldstein notes that there are no iconographic representations of secular hierarchy in Tiwanaku, unlike among the Moche. There are none in the Inca culture either until the colonial period; nor, for that matter, are any represented in Chan Chan, Teotihuacán, and many other ancient states.<sup>4</sup> There are no Moche-like representations of elite in Wari or Pucará art either. This also appears to be a highland tradition (although the images of people wearing puma headdresses decapitating sacrificial humans in Pucará art might come close).

If the criteria adopted by those testing Tiwanaku against the straw-man argument were applied around the world, then there would be very few ancient states and no first-generation states at all. To put it another way, by the criteria proposed above, most ancient empires and all first-generation states would be segmentary states. I adamantly believe that we have to rethink what a coercive hierarchy really is in practice. In light of the fact that the king of late medieval England could not even get his subjects to clean up their garbage, it is clear that our models of states and even empires need to be substantially revised. As I have implied, I believe that the model used by some and attacked by others is one that never has existed and that, in fact, all societies the world over had multiple axes of power and wealth.

By sticking strictly to consistent archaeological criteria of verification, it is virtually impossible to deny that Tiwanaku was an urban, stratified center of an ancient state more complex than Mycenaean Greece and certainly as complex as twelfth-to-sixteenth-century London, Minoan Crete, and other great civilizations of the ancient world.

## TIWANAKU COLONIES

Virtually all of the great classical civilizations of antiquity in the Old World had colonies. In reviewing the literature on the Andes, I sense that a similar straw-man logic is at work here as well. In this flawed concept, a colony is a product of a reasoned, rational

policy on the part of state administrators to control an area, politically, economically, and/or militarily. A state bureaucracy of some sort decides where to put the colony, and then it amasses military and administrative resources to build an outpost that is incorporated into the political orbit of the home country. Following world-systems theory, the peripheries were completely subordinate to the core, which extracted resources and dominated the political, economic, and at times even cultural life of the periphery.

This is indeed a model that was proposed by some system theorists and incorporated into many processualist models in the 1970s, particularly those that drew off of world-systems theory. But once again, a look at historically documented colonies in the ancient world of states and empires presents a different picture.

Colonies are highly varied. They physically contain all sorts of things, including stores, forts, armies, government agents, religious buildings, residences, and specialized production areas. Sometimes the relationship between colony and home country is strong, sometimes weak; and almost always the relationship breaks down after a few generations. The earliest documented Greek colonization was far from this straw-man model of intentional, rational colonization by home capital city:

These migration settlements were not colonies in the usually understood sense of the term. They were not organized movements, directed from and set forth by a particular city, but small bands of homeless folk dispossessed by the so-called Dorian Invasions. . . . The real colonial movements began somewhat later . . . when the Greek cities of the mainland recovered from the . . . destruction of the Mycenaean centers in the thirteenth and twelfth centuries. (White 1961:444)

Later Greek colonies, such as “Al-Mina and later Naukratis were trading posts, occupied with the consent of Assyria and her successors in Syria and Egypt. Neither the Syrian coast nor Egypt was open for the foundation of true colonies, that is, sizeable settlements of colonists on agricultural land, where an independent new community with full civic life could develop” (White 1961:446).

The most mature Greek colonies were sent out by the home city and do indeed fit aspects of the straw-man model of colonies: “The mother-city or

metropolis selected the site, appointed the leader of the colony, called for volunteers, and organized the colony. The major portion of the colonists usually came from the mother-city, but contingents from other places sometimes participate” (White 1961: 449). However, even the most complex of colonies quickly rid themselves of their political and economic links to the home city, and this deviates substantially from the core of the straw-man model structure: “Once the new city was founded the ties which bound it to the mother-city were those of religion and sentiment only. Colonies were in no sense a colonial empire of the mother-city; they pursued their independent ways, and many soon became more prosperous and more famous than the mother-cities” (White 1961:449).

The short of it is this: bureaucratically administered, formal colonies with politically appointed agents of the state occur virtually only in the most complex of premodern states. And even in these, the ties that bind colony and home country are quite ephemeral, weakening or disappearing in two or three generations. The vast bulk of colonies in the premodern world are far less formal. Virtually all colonies eventually develop their own identities and cease functioning as an extension of the home polity.

From this perspective, Tiwanaku likewise had colonies. The Tiwanaku colony in Moquegua has been ably described by several scholars, most notably Goldstein in a series of publications since the early 1990s. What we know, empirically, is this. There is a huge amount of Tiwanaku pottery found in a series of settlements throughout the Moquegua Valley, stretching from the coast in Ilo to up to 3,000 m in the high drainages. No other pottery styles of any iconographic complexity (with the exception of the very rare Wari sherd found on occasion) are found to coexist with the Tiwanaku pottery in these sites. There is a large site complex called Omo that contains an unusually large amount of Tiwanaku pottery, even for Moquegua. There is a site called Chen Chen that had literally thousands of cist tombs filled with Tiwanaku-style pottery and other artifacts. There is a structure on the main site of Omo that is built in a miniature style similar to that found at the Tiwanaku capital. Below Omo are very extensive fields that up to the present day provide some of the richest agricultural land in the south-central Andes.

The Wari site of Cerro Baúl is also located in the Moquegua drainage and had been ably studied and published by Luis Lumbreras, Bertha Vargas, Robert Feldman, Michael Moseley, Donna Nash, Ryan Williams, and others. It is in the same size category and is as complex as Mycenae, Tiryns, Gla, and other well-known Bronze Age Aegean sites. Moquegua is the only known place in the Andes where there are both Tiwanaku and Wari settlements (though some smaller sites in Moquegua have some pottery from both cultures). The Wari site is located on a famously defensive massif, once aptly described by Michael Moseley as the Masada of the Andes, which provides the highest level of protection available in any pre-modern settlement. Adjacent to Cerro Baúl is the site of Cerro Mejía, also a Wari-affiliated site. Surrounding Baúl is a series of Tiwanaku sites that were, for all intents and purposes, contemporary for a substantial period of time with the site of Wari on the summit above.

There is a very clear ritual/religious component to Cerro Baúl, as there is at Omo, Tiwanaku, Cuzco, Teotihuacán, Tenochtitlán, and virtually every other political center in the ancient world. There are also some Tiwanaku objects found at the summit as well, indicating that the site was a place where Tiwanaku and Wari peoples probably met, drank, possibly slept, and almost certainly negotiated with one another. In Moseley et al.'s excellent characterization, it was an "embassy-like delegation of nobles and attendant personnel that endured for centuries" (Moseley et al. 2005:443).

Cerro Baúl was also a defensive site that served to keep its occupants safe from the surrounding Tiwanaku settlements. The Tiwanaku-affiliated peoples did not need defensive locations, since they vastly outnumbered the Wari contingent. People who argue against conflict in the Middle Horizon or against a defensive function for Cerro Baúl fail to understand that historically, competing polities rarely have actual battles more than a mere fraction of the time. It is very common in the historical literature to note that a cooperative "live and let live" philosophy is the norm in human affairs, a norm that is occasionally punctured by outbursts of organized violence. These outbursts can indeed have enormous political and other consequences, but they are in fact quite rare. The Hundred Years' War (a total of around 115 years, with 80 of those actually violent) is called what it is precisely because it is so rare. If we use history as our

guide, it is most likely that 99 percent of the time, the Tiwanaku and Wari peoples in Moquegua were interacting in peace for their mutual self-interests. That is not to say that they were not adversaries, and as such they had to maintain defensive postures vis-à-vis each other. But the historical record is replete with examples of adversaries engaged in simultaneous conflict and trade. Usually it is the political elite that promotes the first, and it is the non-elite that engages in the latter. Nevertheless, conflict and cooperation are not mutually exclusive. Once this is realized, the settlement complex around Cerro Baúl makes eminently good sense and fits in well with our historical understanding of complex societies.

I would also argue that the Wari leadership maintained Cerro Mejía to prevent sieges. This walled site is located in a manner that would precisely ensure that the only access to Cerro Baúl could not be blocked. Any attempt to do so would put the besiegers in a tactically impossible position, outflanked on low ground between the two hills of Baúl and Mejía. In premodern military terms, such a position is almost certainly fatal and one to be avoided at all costs, a point constantly reiterated by military strategists from ancient China to modern army manuals.

I would also argue that the construction of Tiwanaku sites around the base of Cerro Baúl is strategic in nature as well. It effectively cuts off Wari "expansion" outside of Baúl and ensures that an uneasy peace existed between the two peoples. Of course the Tiwanaku peoples could have built more settlements, but they did not. I would suggest that, again based upon historical analogies, the settlement system in the Cerro Baúl area preserves the outcome of protracted negotiations and understandings between the two rivals in the only place in their world where they chose to interact on a formal basis. Wari was welcome in Tiwanaku territory in this one instance because it was in each side's interests; but the Wari were apparently given their limits, and they accepted these to achieve other goals. If not, we would see many more Wari settlements up and down the valley—we do not.

According to Williams and Nash (2002), there is a Tiwanaku construction on the summit of Baúl. This is reminiscent of the Teotihuacán barrio in Kalminaljuyu, the Oaxacan barrio in Teotihuacán, the central Mexican temple in Tikal, and countless examples in the history of the Old World. In the

eighteenth-century Ottoman Empire, foreign representatives and ethnic minorities were required to live in their own neighborhoods (Göçek 1987:6). The Hanseatic League had a special area in sixteenth-century London called the Steelyard. Throughout the historical world in state societies, it was common for larger settlements to host a small section of foreigners, who maintained their cultural attributes. It is found at Baúl, and the work of Janusek at Tiwanaku may have found some similar barrios.

The Tiwanaku peoples expanded into other areas in the south-central Andes as well. In their heartland, they established colonies or enclaves in the Puno Bay, in the north near Arapa and Huancané, and throughout the lowlands in areas that we barely understand. Many of the Tiwanaku sites in Cochabamba are colonies that utilized a distinctive architectural style that we see in the northern Titicaca Basin.

Some scholars have suggested that the nature of pottery production in the peripheral Tiwanaku settlements indicates a nonhierarchical relationship between colony and core. They argue that the pottery is all locally manufactured as opposed to being imported from the capital. In their view, this argues for a less centralized state, or no state control at all. I would note that this Tiwanaku pattern is precisely the pattern of pottery manufacture that we see in the Inca Empire. The leaders of Tawantinsuyu militarily captured provinces and installed artisan workshops for pottery, cloth, and metals. Their norm for ceramic manufacture was to create workshops in provincial territories, where Inca canons were executed more or less according to some standard set in Cuzco, although there was considerable borrowing from local pottery traditions. If anything, data from Tiwanaku colonies that indicate that they pursued a policy similar to the Inca simply reinforce the notion that Tiwanaku followed the same norms of state building in the Andes as the Inca. Polities such as Chavín, Wari, and others that did not follow this norm most likely were less complex than the Tiwanaku or Inca, relying instead on earlier practices of the direct movement of ceremonial and feasting objects to distant places.

#### SUMMARY

The model of the coercive, hierarchical state used to assess Tiwanaku is a flawed one—one without empirical foundation. The fact is that Tiwanaku is a city

comparable in size and complexity to medieval London and Bronze Age Knossos, to name but just two iconic sites of the ancient world. The people of Tiwanaku built massive agricultural fields, established colonies over hundreds of kilometers, and built huge temples and palaces adorned with monoliths and great art. They established roads and causeways. They created the Kalasasaya and the Akapana, plus numerous buildings surrounded by a great moat. The city was planned, with components that ranged from a prosaic but sophisticated sewer system to architectural feats that combined centuries of religious principles and an amazing understanding of how to move people through magnificent space. Tiwanaku peoples massed-produced ceramic art on a scale not seen before in the region. They created sophisticated metalworking, textile, and musical instrument industries and much more.

The city of Jerusalem is perhaps a better analogy for Tiwanaku. It was also the political, economic, and demographic center of kingdoms and empires from at least the ninth century B.C., and while only half the size of Tiwanaku in area, it held a population of up to 200,000 in the first century A.D. I see no structural difference in kind between Jerusalem, Tiwanaku, and any other capital of a great civilization.

#### NOTES

<sup>1</sup> I have argued elsewhere (Stanish 2010) that there is a structural limit of around 100,000 people in Andean cities due to the nature of their political and economic organization. The early first-generation states of Moche, Wari (possibly Huaró), and Tiwanaku reached about half this size quickly but did not grow much beyond that. Even Inca Cuzco did not grow beyond 100,000 inhabitants, even though it was the capital of one of the most powerful empires in world history.

<sup>2</sup> An easy walk is about 5 km per hour with an occasional rest. At a fast walking pace, one can cover a kilometer in about 10 minutes.

<sup>3</sup> The only exception would be the Late Horizon *chullpas* at sites like Sillustani and Tanka Tanka.

<sup>4</sup> A possible exception being wooden *keros*, but most of those are colonial in date.

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