Abstract: The Wari (500 AD-800 AD) and Tiwanaku (500 AD-1000 AD) states both established settlements in the Osmore drainage of southern Perú. Although the Wari center of Cerro Baúl has often been considered a highly defensible intrusion into Tiwanaku territory, preliminary survey evidence indicates that the Wari actually settled just outside the region occupied by Tiwanaku, in an area that was populated sparsely, if at all. Models of the interaction between Wari and Tiwanaku, and Wari's goals in colonizing the region, are briefly evaluated using settlement pattern maps and other evidence from an ongoing systematic site survey.

Prior to the Inka, the two most geographically extensive polities in Andean South America were Wari and Tiwanaku. Although Wari may have been shorter-lived, these two polities were contemporary, with Tiwanaku controlling the area around Lake Titicaca and to the south, and Wari extending over most of Andean Perú to the north (map 1). Their art styles, and presumably at least some aspects of their ideologies, were quite similar, yet the two states seem to have differed fundamentally in their economic bases, settlement patterns, and probably in their economic and political organizations.

Recent work in Tiwanaku and Wari sites, as well as regional studies within both territories, have begun to suggest some of the outlines of both states (Kolata 1993, Schreiber 1987, etc). A complementary approach to understanding these states is to examine the contrast between them. The natural place to do this is at the Wari-Tiwanaku frontier, where the two states
would have been in direct contact and interaction. At one time it was thought that a wide band of no-man's land separated the Wari and Tiwanaku territories. But in the last few years, Paul Goldstein (1989a,b etc.) has shown that the Moquegua area, or the "middle Osmore drainage", was an integral part of the Tiwanaku sphere. Meanwhile, various reports (Watanabe 1990, Lumbrañas, Mujica, y Vera 1982), and most recently some test excavations by Robert Feldman, have shown that the ruins atop Cerro Baúl, which is visible from some of the Moquegua Tiwanaku sites, were a substantial and extremely defensible Wari center.

Here, then, seems to be the perfect place to look at the interactions of Wari and Tiwanaku: where a Wari fortress towered in the midst of Tiwanaku territory. I am currently engaged in one step of this study, which is an intensive archaeological survey of the upper Osmore drainage, essentially the area around Cerro Baúl. We have completed about 60% of our extended field season, and the data I will discuss here are the preliminary results of that ongoing work.

As the title of the paper suggests, I started with three alternative views of possible relationships between Tiwanaku and Wari, hoping to use the survey results to choose between them. The two states might have been in conflict, competition, or peaceful coexistence. Each of these scenarios has specific archaeological correlates.

The relationship of conflict suggests that Tiwanaku occupied the region first, and that Wari inserted itself there by force. In this case, Wari sites should be defensible, and the Tiwanaku sites should show a pattern of pre-Wari occupation, followed probably by a shift to defensible sites. If the Tiwanaku were very rapidly subdued, the defensible sites might never have been built, or the Tiwanaku people might have retreated from the region altogether.

The relationship of competition, which is not mutually exclusive with conflict, implies that both states should have occupied the same kinds of locations in the same general areas, such that both were using not only the same types of resources, but also the same specific sources of those resources. Sites of the two groups should be close to each other, probably within a few hours' walk, at most.

The relationship of peaceful coexistence is most reasonable in the absence of both conflict and competition. In this case, the sites of the two states should be in distinct types of locations -- suggesting that they used different types of resources -- or they should be located in distinct regions -- suggesting that they had access to different specific sources of resources.

Before we even get to the survey data, there is one snag with evaluating the three hypotheses: we do not know for certain that Tiwanaku and Wari occupied the drainage at the same time. Goldstein (1989a,b) has suggested that there may be a gap in the Tiwanaku ceramic sequence that might correspond to a retreat from the region between the Omo (local Tiwanaku IV) phase, and the Chen Chen (local Tiwanaku V) phase, presumably due to Wari taking control of the area. We simply do not have the data to evaluate this possibility, and I will leave it aside for the moment.
Map 2 shows the area in which Tiwanaku and Wari were in close proximity. The heavy line indicates the survey area, centered on the Wari site of Cerro Baúl and the subsidiary Wari site of Cerro Mejía. Note the large tracts of agricultural terracing further up the valleys, and the large Tiwanaku settlement and cemetery of Chen Chen, about 3 km downriver of the survey area. Most of our work to date has been south of the Torata river, so everything shown north of the Torata is sketched in from air photos and previous site-specific studies. We will cover much of this area during the remaining months of the survey.

The situation before the Wari arrived turns out not to have been quite as we thought. Map 3 shows all of the possible Tiwanaku sites we have located so far, and these include both the pre-Wari Omo phase and the post-Wari Chen Chen phase. All of these sites are basically post-Tiwanaku "Tumilaca phase" sites, with very small proportions of sherds that might be earlier, or might just be conservative or curated. All of the possibly pre-Wari material from the surface of all of these sites would fit in the palm of your hand. It looks as though the Tiwanaku occupation of this area was extremely ephemeral, if not non-existent.

Then who did occupy the region before the Wari? Map 4 shows all of the Early Ceramic period sites we have found so far, including both the fiber temper and olla sin cuello traditions. These sites, too, are extremely ephemeral. Many of the symbols indicate just a few sherds without any visible surface features. Moreover, since these traditions were present in the
Moquegua area for on the order of 1000 years, these few dozens of sherds probably represent the accumulated remains of a millennium of absolutely minimal occupation.

It is possible that there were Tiwanaku or Early Ceramic sites located close to the river, where they would have been obliterated by later agriculture. I doubt that such an occupation would have been substantial, though, because traces of Tiwanaku and Early Ceramic (also called Formative and Huaracan) settlement and cemeteries survive in numerous places in the middle valley, and there is no obvious reason why the evidence should have been much more thoroughly destroyed in the upper valleys. In any case, whatever settlement there was on the lower slopes of the valleys that are now under irrigation would have been in open, undefensible spots.

Finally, map 5 shows the Wari sites we have located. Unlike the "sites" indicated on the previous maps, these are mostly real sites, with stone-faced domestic terraces, defensive walls, and habitation debris, albeit often in very low density. The ceramics include Ocros and Chakipampa B styles, indicating a principally Middle Horizon Epoch 1B occupation.

Now we can evaluate the three suggested relationships between Tiwanaku and Wari. First, if there was no significant Tiwanaku occupation of the region, the two groups could not possibly have been in direct competition for local resources.

Similarly, since there are no defensible Tiwanaku sites in the area -- and Goldstein (1989a,b, 1994) does not report any in the middle valley, either -- it does not look like the two states were
ever in significant conflict, unless it was a rapid, unexpected attack that left the Tiwanaku people completely subdued or expelled from the region.

This leaves us with the peaceful coexistence scenario, with Tiwanaku and Wari occupying distinct geographic areas, possibly even in distinctly different times. "Peaceful" is probably not the right word, given the consistently defensible locations and fortifications of the Wari sites, but it is far from clear who the defenses were directed against.

There may have been a frontier here, but there does not seem to have been an intrusion.

So what were the Wari doing in Moquegua? A variety of reasons have been suggested, and the survey results allow us to evaluate some of them.

Copper production was probably not the reason. Due to a geological fluke, the local deposits are almost entirely sulfide ores, which are hard to smelt with prehistoric Andean technology. We have not found any slag, furnaces, or other evidence of metal production. There are better sources of copper located much closer to Wari.

Feldman found evidence of stone bead production on Cerro Baúl, and we found unfinished and reject beads on several other Wari sites, as well. The beads are made of malachite, azurite, and other blue and green minerals that occur locally but are quite scarce. This does not seem to be a particularly good place to find bead-making material, and I doubt that this minor craft production could have justified the construction of Cerro Baúl and the surrounding Wari sites.
Watanabe (1990) and others have cited an old geological report of an obsidian source near Cerro Baúl, suggesting that the Wari may have extracted obsidian from the region. We have located this source, and although it is technically obsidian, the entire deposit is composed of a grainy vitreous matrix with plentiful phenocrysts, which bears no resemblance to the glassy obsidian points we find in the area. It is definitely not tool-grade material. The Wari must have imported their obsidian to Moquegua; they certainly did not produce it here.

Moseley (1993) has suggested that Cerro Baúl was probably built to exploit the agricultural potential of the region, using long, high contour canals in the highland tradition. The problem with this suggestion is obvious from a glance at the map of Wari sites (map 5). There simply is not much intensive terracing near the Wari settlements. There certainly was at least one long canal, but it irrigated a multitude of little patches of terraces that total up to just a tiny fraction of the cultivated lower slopes of the valleys. Instead, the Wari sites are located centrally between the lower Torata and Tumilaca valleys, which suggests that they focussed their efforts on roughly the areas cultivated today. Exploiting these areas certainly required the construction of canals and terraces, but not of the scale, technical complexity, or unified plan that we see further up the valley.

Finally, the Wari sites could have been located to control traffic and trade between the coastal and middle Osmore valleys and the Altiplano. This role in exchange could have been peaceful and cooperative with Tiwanaku, or it could have been a hostile move designed to cut Tiwanaku off from the coast and its budding Moquegua province.
In summary, the survey suggests that the Wari moved into an empty or underpopulated region adjacent to Tiwanaku territory, and that they probably feared attack but had no well-entrenched opponents. Their purpose might have been to exploit the easily irrigated lower slopes of the Torata and Tumilaca valleys. This would have been a rather direct form of exploitation, since there was little or no local labor force to tap. Alternatively, the Wari might have built Cerro Baul to control traffic and exchange, or to define and maintain a political and military frontier, possibly against anticipated Tiwanaku expansion that never materialized.

As a closing note, it may be significant that the potentially Wari agricultural works in the upper Osmore seem to have been scattered, patchy, and idiosyncratic in construction details. They do not bear the stamp of an organized, unified project such as we might expect of a state-established agricultural colony. The immense, organized terracing systems further up in the survey area don't seem to appear until the time of the later and better understood Inka state (map 6), or the time of densely populated, warring Late Intermediate Period chiefdoms immediately before (map 7) -- but that is a story for another paper.
Map 7: LIP Estuquiña sites in the survey area
References

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