

## **COCA LEAVES IN THE CONTEXT OF THE CENTRAL ANDEAN WARI STATE**

By

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### **Abstract**

The Middle Horizon (ca. 550 – 1100 CE) was a period during which the Wari State emerged in the Peruvian central highland valley of Ayacucho and expanded beyond its heartland to exercise political and economic control over most of the Central Andes. One of the probable reasons for the expansion of Wari was to establish direct access over the resources of other regions, including the tropical forest region. In addition to the unprecedented finding of the burial of an elite Wari leader at Vilcabamba, east of the Apurimac Valley, archaeological research carried out in the Apurimac Valley has shown that the Wari State successfully colonized the region. In the particular case of Apurimac Valley, it has been suggested that the establishment of Wari settlements in the tropical forest region was in order to access local products, in particular coca leaves. Until recently, only indirect evidence indicated the use of coca leaves by the inhabitants of the Wari State. New evidence coming from a Wari settlement in the highlands, consisting in the fortuitous and unprecedented finding of coca leaves in association with Wari material culture, confirms that the Wari State produced and consumed coca leaves and that this product was likely transported from the Apurimac Valley.

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Within Central Andean archaeology, the Middle Horizon (ca. 550 – 1100 CE) was a period during which the Wari State emerged and from its center in the Peruvian central highland valley of Ayacucho expanded over most of the Central Andes to establish political and economic control. Wari-style artifacts and several highly uniform architectural complexes – identified as Wari administrative centers – are found throughout much of the Central Andes signaling the presence of the Wari State. The inhabitants of the newly incorporated regions experienced significant changes when their settlements were relocated, often near maize growing ecological zones. Such changes likely mirror the social and economic reorganizations imposed on the local conquered peoples by the Wari administration. Available archaeological evidence indicates Wari's expansion beyond the Ayacucho Valley likely was to establish direct access over the resources of other regions.

One such region incorporated into the Wari domain was the Apurimac Valley, a tropical forest region east of the Ayacucho Valley and only 3 days walking distance from the Wari capital. In contrast to the highlands and the western lowlands, the tropical forest region offered a whole range of resources such as colourful feathers and other exotic resources (Raymond 1988:290) that could not be found elsewhere. However, it has long been suggested that one of the most valuable tropical forest resources was coca leaves (*Erythroxylum coca*). This suggestion assumes that coca leaves were consumed at the time the Wari State flourished in the Central Andes.

Coca is a tropical rain forest plant and non-frost resistant, therefore it could not be cultivated in the highlands, such as in the Ayacucho Valley (Allen 1988:221; Raymond 1992:23). For the Inca State coca leaves were a highly valued resource, but in order to cultivate them the state colonized the tropical rain forest region (Gade 1999:139). However, colonization of a totally different ecological zone, such as the tropical rain forest region, was nothing new since several centuries before the rise of the Inca State, the Wari State already had established lowland outposts in the Apurimac Valley.

It is also important to point out that at the time of the Spanish conquest coca use in the Andean region of South America was widespread (Burchard 1974). Cieza de León (cited by Mortimer 1974:151) pointed out that 'throughout Peru the Indians carry this coca in their mouths; from morning until they lie down to sleep they never take it out. When I asked some of these Indians why they carried these leaves in their mouths, which they do not eat, but merely hold between their teeth, they replied that it prevents them from feeling hungry, and gives them great vigor and strength' (see also Cieza de León 1973:221). In more recent times, coca leaves continue to play an important role in the traditional highland economy, such as the exchange of goods (Valdez 1997:68). Ann Kendall (1973:92) also notes that besides its action as a stimulant or a painkiller, 'coca leaves stop diarrhoea and its juices dry up ulcers.'

The idea that not only coca chewing was practiced during the time the Wari State flourished, but also that the Wari administration cultivated their own coca supply is further supported by the finding of Wari settlements in the tropical forest valley of Apurimac. In 1968 and 1970 Scott Raymond carried out an archaeological survey of the lower Apurimac Valley, locating several archaeological sites, some of which were identified as Wari outposts (Raymond 1985:42, 1988, 1992). On the basis of those findings, Raymond (1992:30) has convincingly argued that Wari colonization of the Apurimac Valley likely was in order to secure coca leaves. Raymond also mentions that all known Wari settlements in the Apurimac Valley were found at elevations

suitable for coca cultivation and, with a single exception, all established along the western side of the valley.

On the basis of available archaeological evidence it can be argued that the tropical forest region was not alien to the Wari State. Confirming Wari's familiarity with the region, (8) there is a Wari ceramic drinking cup molded in the shape of a tapir foot. The drinking cup was found at a highland Wari settlement in the Pampas Valley, south of the Wari capital (Raymond 1979:81). The tapir (*Tapirus terrestris*) is one of the largest mammals of the tropical forest of South America (Gade 1999:123).

Furthermore, recent archaeological research at Vilcabamba, east of the Apurimac Valley and deep in the tropical forest region, has uncovered the burial of an elite Wari leader (Fonseca Santa Cruz 2011; Valdez 2011). This finding is unprecedented and demonstrates that Wari colonization of the tropical forest region was successful. In addition, it appears that the Wari elite took an active role in such a process, as the finding from Vilcabamba suggests. If Wari's presence in the lowlands was indeed aimed at coca cultivation, the participation of the Wari elite may indicate that coca leaves played a critical role within the political economy of the Wari State.

Additional indirect archaeological evidence further supports the idea that coca chewing was indeed practiced during Wari times. An offering pit excavated at Pikillaqta, a Wari provincial center in the Cuzco region, reveals – among other items – the presence of miniature Wari warriors (Arriola Suni 2008:34, 36; Arriola Tuni and Tesar 2011: Figures 16 & 19). One interesting aspect of the miniature warriors is their bulging cheeks. Ethnographically it is known that coca chewers held the coca leaves between the mouth and gums, resulting in bulging cheeks (Allen 1988). Therefore, it is possible that the bulging cheek of the Pikillaqta miniature warriors indicate coca chewing.

If this observation is correct, it is reasonable to argue that the personnel of the Wari army were provided with supplies of coca leaves. As already pointed out, coca leaves are an excellent stimulant to overcome hunger, thirst, fatigue, and altitude sickness (Allen 1988:221-222; Flannery, Marcus & Reynolds 1989:43; Cieza de León 1973:221; see also Mortimer 1974). An armed contingent on the constant move and facing the challenges of hunger, thirst, fatigue and altitude sickness likely benefited from the use of coca leaves. Therefore, it would not be an overstatement to argue that – to some extent – the success of Wari's military expansion was perhaps due to the use of coca leaves; ultimately, such an association perhaps was one the reasons that transformed the value of this resource. Other uses of coca leaves in the distant past, such as its linkage with ritual activities, may have been other reasons.

Recently, at the site of Convento, in the locality of Puerto San Antonio (3450 m asl), in Tayacaja (Huancavelica), about 90 km North of the Wari capital, school construction workers unearthed archaeological remains, including ceramics. The fortuitous presence of the second author made it possible to rescue some of the archaeological remains, including a burial offering. As the workers opened trenches in order to establish the foundation of the new school building, they came across several stone walled burial cists, similar to those uncovered at other Wari sites in the Ayacucho Valley, such as Posoqoyyata (Valdez, Bettcher & Valdez 2002:400). Unfortunately, the archaeological remains, in most cases were smashed, while others had been removed and taken by the working party.

The offerings in consideration were partially uncovered when the second author arrived at the location and he was allowed to clear, photograph and recover the findings so that the school construction work would continue. In addition to a large plain ceramic vessel already smashed, there were fragments of what appeared to be pieces of an anthropomorphic vessel, unfortunately smashed. However, a second vessel was recovered intact and consists of a small bottle decorated in the Cruz Pata style that according to Lumbreras (1974:137) dates to the end of the Early Intermediate period. Here it is important to stress that according to Knobloch (1991:248) Cruz Pata ceramics are found at Wari in Middle Horizon 1A contexts. For the specific case of the bottle from Convento, Knobloch identifies it as Cruz Pata white, again placed in Middle Horizon 1A (Menzel 1964). This stylistic identification is crucial in the absence of absolute dates.

In association with the Cruz Pata bottle were also found two metal *tupus* pins one placed over the other. Most noteworthy is that between the two *tupus* noted here there were coca leaves. In a region such as the central Andean highlands, organic remains – such as coca leaves – seldom survive; consequently this finding is extraordinary. We should also mention that *tupus* are artifacts with a strong gender association, as they were used to fasten women's clothing (Kendall 1973:36-37, 170; Malpass 2009:78). Therefore, the artifacts noted here likely are the grave goods of a female individual.

The association of the artifacts noted here and the stylistic placement of the bottle are of critical value in order to elucidate the significance of this finding. On the basis of the stylistic identification provided by Knobloch, it becomes evident that as early as the Middle Horizon 1A - if not earlier – coca leaves were already used in the central highland region. In addition, the evidence in consideration leaves open the possibility that coca leaves already played a magic-religious function. At the same time, the association of the *tupus* with the coca leaves allows arguing strongly that in the ritual activities that involved the use of coca leaves women played a predominant role.

Previous research and indirect archaeological evidence suggested that coca leaves were already in use during Wari times; the evidence presented here largely supports the involvement of the Wari State in coca production. However, the early chronological placement of the Cruz Pata ceramics suggests that by the time the Wari State emerged, coca leaves were already transported and distributed across the central highland region. Therefore, it appears very likely that prior to Wari, highland populations were already familiar with this tropical forest resource, and it is equally possible that the first highland outposts in the Apurimac Valley were established sometime before the emergence of the Wari State.

Here, it is timely to point out that according to Raymond (1992:25-26), the Simariba ceramic tradition from the Apurimac Valley shares some formal features with “those found in the neighbouring highlands from the latter part of the Early Intermediate period.” Such a similarity may well be because the Simariba ceramic tradition is contemporaneous with the highland late Early Intermediate period; alternatively, the Simariba ceramic tradition may actually represent original highland occupation established prior to the emergence of the Wari State. In order to clarify this issue, it is evident that further research is needed in the Apurimac Valley.

On the basis of the present discussion, and to conclude, it is plausible that Early Intermediate period highland communities were the first to establish the earliest lowland outposts in the Apurimac Valley; during the Middle Horizon, the Wari State continued with this

already established pattern. It is certainly possible that with Wari coca production may have intensified, resulting not only in a major occupation in the Apurimac Valley, but also in the widespread use of coca leaves across the central highlands. Ultimately, the Wari State may be the political organization that made this tropical resource of widespread use, which continues to present times.

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