The Use of Coca Leaves in the Peruvian Central Highlands before the Inka

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Coca is a non-frost resistant tropical rain forest plant that cannot be cultivated in the highlands. In spite of being non-native to the highlands, coca leaves play a central role in the life of highland populations. Early documents left by the Spaniards indicate that coca leaves were not only very important, but also had different uses. Here it is my aim to explore whether coca leaves were also important before the Inka State**.** In order to do that, first I will provide with a brief review of the uses of caca leaves within the Inka State and contemporary highland populations of the Central Andes.

Several documents produced by the Spaniards highlight the central role of coca leaves within the Inka State. For instance, during public festivities, coca was the single most important vegetable offering. Bernabe Cobo (1653) pointed out that 'on passing by the *apachitas* and some other *guacas*, chewed coca and feathers of various colors were tossed to it as an offering,' while Sarmiento de Gamboa (1572) observed that 'the people left the roads along which he had to pass and, ascending the hills on either side, worshipped and adored … Others offered handfuls of a very precious herb called coca.' Likewise, Cristobal de Molina (1575?) noted that "they offered up to the same *huacas,* certain bags of coca, called *paucar-runcu*, and others called *paucar-quintu* like coca, and toasted maize, and red and yellow sea shell called *mullu*.'

Early during the colonial era, Juan de Ulloa Mogollon (1586) also noted that 'the principal deities were, and still are, the high snow mountains.' Therefore, these snow mountains were worshipped and often received offerings that included child sacrifice. Indeed, **[9]** Juan de

Betanzos (1551) observed that 'these children would be collected from all over the land and would be carried in litters together and by pairs to be buried.' Betanzos continued adding that 'the things the dead wore included jewels, small jars full of *chicha,* bags of coca and pots full of roasted and cooked maize.' Ramos Gavilan (1621) added that 'when the hour of sacrifice came, they placed in the child's mouth a fistful of crushed coca leaves.' Thus, within the Inka State, even the dead carried coca leaves in their mouths.

Pedro Cieza de León, a Spaniard who travelled across the Andes region shortly after the Spanish conquest, provides one of the most valuable accounts about the use of coca leaves in the region. Cieza de León 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.' Coca leaves were of such high value that the Inka administration colonized the tropical rain forest region, east and north of Cuzco, the Inka capital to cultivate their own coca supply.

Much of what was recorded by Spanish chroniclers continues being practiced across the Peruvian central highlands. Indeed, countless anthropological studies throughout the region have consistently shown the multiple roles that coca leaves play in contemporary Andean communities. For instance, peoples throughout the central highlands continue making coca offerings to the mountains and other significant spots in the landscape. Rituals, such as the one associated with animals, known as *herranza*, divination, marriage, sharing and socialization, and funerals, to mention some, all require the use of coca. Therefore, it is not an overstatement to

argue that from the perspective of the peoples of the Andes, life itself, from birth to death, is deeply immersed in the use of coca leaves, *cocamama* or mother coca. Because of such a central role, coca is the single most important plant that cannot be matched and/or replaced by anything else.

Confirming to a large extent the account of Cieza de León, these studies also show that coca chewing continues across the region and the reasons for chewing the precious leaves are the same: it 'acts as a stimulant and a painkiller; as a result, at high altitudes the use of coca leaves is nearly universal.' Likewise, labor is exchanged for coca, and without coca leaves no work is done.

Equally important is that coca is a greatly valued commodity that is used in the exchange of goods, a practice that existed during colonial times and more likely also in pre contact times. Currently, coca leaves are still used to barter for products in the Sunday market in Huanta and other neighboring communities in the Ayacucho Valley.

Were the Inka the first to use coca leaves and to spread their consumption throughout the Andean region? Organic remains such as coca leaves seldom survive in archaeological contexts, especially in a region such as the Peruvian highlands. As a result, it is uncertain when coca leaves were first used in the region. Not surprisingly, the earliest known evidence for coca chewing comes from the Pacific coast where preservation is better than in the highlands. Indeed, evidence indicative of coca chewing has been found at pre-ceramic and early ceramic sites.

For the highland region, direct botanical evidence for the presence of coca leaves is fragmentary. Even for the case of the Inka, there is little or no archaeological evidence at all for

the occurrence of coca leaves. In fact, without the records left by Spaniards, it would have been very difficult to know that coca had widespread use within *Tawantinsuyo*. A rare exception is the finding made by Hastorf (1987) at Hatunmarka in the Mantaro Valley from Late Intermediate Period and early colonial period contexts.

Despite the absence of concrete archaeological evidence, archaeologists have suggested that coca was likely already in use by the time the Wari State flourished several centuries before the rise of the Inka State. For instance, Bergh and Jennings (2012:7) recently pointed out that coca was "used for its medicinal properties, as an important ceremonial material, and sometimes as a medium of exchange."

The idea that not only was coca chewing practiced during the time the Wari State flourished, but also that the Wari administration cultivated their own coca supply is largely 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 highland Wari outposts. On the basis of those findings, Raymond (1985:42, 1992:30) has convincingly argued that Wari colonization of the Apurimac Valley likely was in order to secure coca leaves. More important, perhaps, is Raymond's observation that all known Wari settlements in the Apurimac Valley were found at elevations suitable for coca cultivation.

Available archaeological evidence strongly indicates that during the time the Wari State emerged the peoples of the central highlands were already familiar with the tropical forest region and thus more than likely with the use of coca leaves. Confirming this observation, there is a Wari ceramic drinking cup molded in the shape of a tapir foot that was found at the Wari

settlement of Taqsa Orqo in the Pampas Valley, south of the Wari capital. The tapir (*Tapirus terrestris*) is the single largest mammal of the tropical forest of South America.

Furthermore, recent archaeological research at Vilcabamba, east of the Apurimac Valley and already deep in the tropical forest region, has uncovered the burial of an elite Wari leader. This represents an unprecedented finding and demonstrates that Wari colonization of the tropical forest region was indeed successful. I estimate that Vilcabamba is about three and half days walking distance from the Wari capital. Moreover, the finding from Vilcabamba demonstrates that the Wari elite took an active role in the colonization process. As initially suggested by Raymond, the reason for Wari's incursion into the tropical forest region may have been indeed aimed at coca cultivation. The direct involvement of the Wari elite in such a process may also indicate that coca leaves played a critical role within the political economy of the Wari State.

Additional indirect archaeological evidence further supports the idea of coca chewing during Wari times. For instance, an offering pit excavated at Pikillaqta, a Wari provincial center in the Cuzco region, reveals – among other items – the presence of several miniature Wari warriors**.** The most interesting aspect of the miniature warriors for the purposes of this discussion is their bulging cheeks. This is identical to the bulged cheeks of the Inka gold and silver male statue offerings found at Llullaillaco that Reinhard and Ceruti (2010) interpret to indicate the chewing of coca. As initially reported by Cieza de León, and substantiated by ethnographic studies, it is well known that coca chewers held the coca leaves between the mouth and gums, resulting in bulging cheeks. Therefore, it is possible that the bulging cheek of the Pikillaqta miniature warriors indicate coca chewing.

This observation leaves open the possibility that the Wari military personnel received supplies of coca leaves. As coca leaves are regarded as an excellent stimulant to overcome hunger, thirst, fatigue, and altitude sickness, an armed contingent on constant move and facing these types of challenges 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 may have been one of the reasons that transformed the value of this tropical resource, making it of widespread use across the Central Andes as early as the Middle Horizon.

Recently, at the site of Convento, in the locality of Puerto San Antonio (3450 m asl), in Tayacaja (Huancavelica), and about 90 km North of the ancient Wari capital, workers building a school unearthed archaeological remains, including human bones and ceramics. 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. Unfortunately, the archaeological remains were smashed, while others were removed and taken away by the working party.

One burial cist was exposed shortly before the arrival of a friend of mine, Juan Taboada, who upon realizing the importance of the archaeological finding decided to intervene. The burial was already open and some of its offerings also smashed; among the broken ceramic vessels there were fragments of what appeared to be pieces of an anthropomorphic vessel. Human skeletal remains, all poorly preserved, had also been smashed. However, a ceramic vessel was recovered intact and consists of a small bottle decorated in the distinctive Cruz Pata style that

dates to the end of the Early Intermediate period and the beginning of the Middle Horizon. The stylistic identification of the bottle is crucial in the absence of absolute dates.

In association with the Cruz Pata bottle, and as part of the burial offering, were also two metal *tupu* pins, one placed over the other. I should mention that *tupus* are artifacts with a strong gender association, as they were used to fasten women's clothing. Therefore, the artifacts noted here likely represent the grave goods of a female individual. Most noteworthy is that between these two *tupu* pins were coca leaves. In a region such as the central Andean highlands, organic remains such as coca leaves seldom survive; consequently this finding is already extraordinary.

As noted, the stylistic placement of the bottle is of critical importance in order to elucidate the significance of this finding. The Cruz Pata Pata is a ceramic style indigenous to the Ayacucho Valley and continued being produced during early Wari times.

From the above observation, it becomes evident that as early as the end of the Early Intermediate period – therefore prior to the Middle Horizon – the inhabitants of the Ayacucho Valley were already familiar with this tropical rain forest resource. Whether the inhabitants of the Ayacucho Valley already maintained outposts in the Apurimac Valley around this time is uncertain. It is of interest to note that Raymond (1992:25-26) points out that the Simariba ceramic tradition from the Apurimac Valley shares some formal features with "those found in the neighboring highlands from the latter part of the Early Intermediate period." Therefore, the noted similarity may well be because the Simariba ceramic tradition resulted from the interaction between the highlanders and the eastern lowlanders; alternatively, the Simariba ceramic tradition may actually represent original highland occupation established prior to the

emergence of the Wari State. Nevertheless, on the basis of current available archaeological information, the suggestion can be made that the earliest highland outposts in the Apurimac Valley were perhaps initially established at the time the Cruz Pata ceramics were manufactured in the Ayacucho Valley.

The geographical proximity between the highland valley of Ayacucho and the eastern lowland valley of Apurimac should be emphasized. Indeed this is a distance that can be walked within only a few days. More importantly, there are several trails that link these two valleys, some of which continue being used in contemporary times and some of which perhaps initially were established prior to the Middle Horizon.

A final point that I would like to make is that Cruz Pata is one of the first ceramic styles of the Ayacucho Valley to depict late Nasca designs from the Peruvian south coast region, indicating that the inhabitants of the Ayacucho Valley and those from the Peruvian south coast established contact. More importantly for the purposes of this discussion is that around the time this interaction began, Nasca artisans produced for the first time modeled effigy vessels with bulging cheeks. As in the case of the Pikillaqta miniature warrior figurines, the bulging cheeks of the Nasca effigy vessels strongly suggest coca chewing on the south coast. Since coca leaves are absent in early Nasca contexts, it is apparent that coca leaves and therefore the concept of coca chewing were introduced to the south coast from the Ayacucho Valley. Supporting this interpretation, coca leaves have been reported in the lower Ica Valley from Middle Horizon Wari contexts. Thus, the fundamental reason that perhaps motivated and encouraged the inhabitants of the south coast to maintain relationships with their neighbors of the Ayacucho Valley may have been to secure coca leaves.