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**INCA OFFERINGS ASSOCIATED WITH
THE FROZEN MUMMIES FROM MOUNT LLULLAILLACO**

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Five centuries ago, the highest Andean mountains were climbed by Inca priests for the ritual performance of sacrifices, and the subsequent burial of human victims and associated offering assemblages. Spanish chroniclers wrote about the ceremonies of *Capacocha* during which young women and children—usually the sons and daughters of local rulers—were offered to the imperial deities together with a diverse assortment of symbolic items, such as gold and silver figurines, shell necklaces, high quality textiles, pottery, food, and firewood, for the good fortune of a recently crowned Inca emperor, and to ensure the fertility of the crops and llamas. In this paper I discuss the assemblages of offerings associated with the three frozen Inca mummies discovered during archaeological research conducted by Johan Reinhard and myself on the summit of Mount Llullaillaco, a volcano in northwestern Argentina. By correlating the archaeological evidence with the historical sources, interpretations will be presented regarding the role of mortuary offering assemblages associated with Inca mummies on sacred Andean peaks.

Introduction

Three frozen bodies belonging to a young woman and two children were found at an altitude of 6,715 meters above sea level (22,031 feet) during scientific excavations funded by the National Geographic Society and directed by Johan Reinhard and myself. The Inca shrine on the summit of the Llullaillaco volcano is believed to be the highest archaeological site in the world. The three mummies discovered there are those of children who were sacrificed five hundred years ago, under the rule of the Inca empire, as part of a state ceremony known as *Capacocha*.

According to the historical sources written during and shortly after the Hispanic conquest of the central Andes, the practice of human sacrifice was restricted among the Incas to rare occasions such as natural catastrophes or the death of an emperor (Cobo [1653] 1990, p. 151). Selected children were taken in processions to the highest summits and symbolically sent as messengers into the world of the ancestral spirits to appease the mountain deities, ensure fertility, and bring about the well-being of the recently crowned new emperor (Ceruti 2004).

The Inca frozen bodies from Mount Llullaillaco are those of a fifteen year old girl, a seven year old boy, and a six year old girl. The older female is known as the “maiden” because she had probably been incorporated into the system of “chosen women” or *acclakuna*, who were kept secluded and in a virginal condition until they were in their mid-teens (Acosta [1590] 1962). The younger female and the boy may have been offered by their presumably noble parents to partake in the *Capacocha* ceremony as part of political strategies that allowed local rulers to strengthen their links with a new Inca monarch, as narrated in the chronicles (Hernández Principe [1621] 1986).

The Llullaillaco individuals are among the best preserved mummies ever recovered. The scientific study of these bodies was coordinated for five years at the Institute of High Mountain Research at the Catholic University of Salta. Important results were obtained in the fields of paleoradiology (Previgliano et al. 2003, 2005), dental studies (Arias Aráoz et al. 2002), hair analysis (Cartmell 2001; Wilson et al. 2013), ancient DNA (Reinhard and Ceruti 2010, pp. 103-104), as well as contributions to the archaeology and ethnohistory of the ritual life of the Incas (Ceruti 1999, 2003, 2005, 2002-2005; Reinhard and Ceruti 2006, 2010).

The Llullaillaco mummies were buried about 1.7 meters deep in individual pits inside a funerary platform, approximately ten by six meters in length and width (Reinhard and Ceruti 2000). They had been buried together with a total of more than one hundred sumptuary objects that included textiles, gold and silver statues, pottery, food, and feathered headdresses. According to the chroniclers' accounts these were conceived as supplies for the journey into the world of the ancestors as well as propitiatory offerings to be presented to the imperial deities and the local mountain spirits. This paper focuses on the social use and the symbolic meaning of such pieces of associated offerings, based on scientific analysis, as well as ethnohistorical and ethnographic references.

Description and Interpretation of the Offerings Associated with the Llullaillaco Mummies

The sacrificial victims of Inca *Capacocha* ceremonies were buried in textile bundles with assemblages of offerings in accordance with their sex and age. Gender-specific offerings such as male and female figurines are generally found to be associated with sacrificial victims of the same sex represented by the statues (Schobinger 2001, pp. 266-301; Reinhard and Ceruti 2010, p. 16). Pottery offerings are more widely represented in female burials, although certain types such as arybalos and plates can also be found in male burials. It appears that the offerings are more numerous and more varied in the case of female victims than they are in the case of male victims.

Metal and Seashell Figurines

Small anthropomorphic and zoomorphic figurines made of metal were placed in close association with the bodies of the Llullaillaco mummies. Chroniclers note that precious metals such as gold (*qori* in Quechua) and silver (*collqe* in Quechua) were not only appreciated for their economic value, but were actually worshiped as symbolic manifestations of the divinity of the sun and the moon. (Murúa [1590] 1946, p. 278).

In the Llullaillaco funerary contexts, statues were aligned to form a row and were deposited on the opposite side of the body from where the pottery and textile offerings were placed. Three female figurines made of gold, silver, and *Spondylus* were aligned on the left side of the Llullaillaco maiden's mummy. Another set of three female figurines was found near her burial. Four female figurines were placed in a row inside the burial of the young girl of Llullaillaco. One anthropomorphic masculine figurine, and one representing a llama, were recovered in direct association with the mummy of the Llullaillaco boy, whereas several groups of the same kinds of figurines were found in separate assemblages scattered nearby in the platform fill (Reinhard and Ceruti 2000, 2010).

Chroniclers provide a few explanations for the symbolic meanings of the metal and seashell figurines that were placed as grave goods or that formed separate offering assemblages. The male and female statues may have represented deities (Anónimo [1590] 1968, p. 160; Murúa [1590] 1946, p. 257) or members of the Inca royal elite (Albornoz

[1583] 1984, p.194; Betanzos [1557] 1996, p. 48). Alternative hypotheses include human figurines representing substitutes for actual human sacrifices (Schobinger 1966, p. 207), female victims being symbolically transformed into votive figurines (Farrington 1998), *Spondylus* seashell statues representing mountain deities in control of weather and fertility (Reinhard 1985), or assemblages representing a miniature of the Inca emperor's cosmos, with statues standing in for those subjected to his rule. In my opinion, male gold figurines are likely to represent Inca ritual experts or priests, because noble attributes such as elongated and pierced earlobes are clearly represented. Female figurines are likely to represent the *acllakuna* or "chosen women", based on the similarity of the miniature feather headdresses found on the figurines and the full size feather headdresses associated with young female victims of *Capacocha* ceremonies (see Ceruti 2003).

The figurines representing llamas may have been intended to increase the fertility of herds (Arriaga [1621] 1984). The symbolic link between zoomorphic figurines and fertility is widely accepted, enhanced by the fact that metal statues have clear representations of erect phalluses. An interesting pattern of association between human male and llama figurines was identified in the offering assemblages distributed around the burial of the boy on the summit of Llullaillaco. Formed by two male human figurines and two or three zoomorphic statues representing camelids, they had been placed in a row, the human figurines ahead and the llama figurines following them (Reinhard and Ceruti 2000). Human male and llama figurines were also associated with the burial of the mummy from Mount Aconcagua, in western Argentina (Schobinger 2001, pp. 266-301) and in the burials from Mount Misti, near Arequipa, in Peru (Ceruti 2013, pp. 359-372; Reinhard and Ceruti 2010, pp. 16-18).

The repetition of this pattern in mountaintop offering assemblages, as well as the importance of miniature figurines representing camelids in ritual ethnographic contexts (Manzo and Raviña 1996, p. 9; Reinhard 1985, p. 313), suggest that these assemblages of figurines on Llullaillaco may have been meant to ensure the fertility of the flocks or the prosperity of the caravans (Reinhard and Ceruti 2010, pp. 16-18). As a matter of fact, chroniclers referred to arrays of statues representing "sheep" (llamas) and their "herders" that were displayed in the gardens of Coricancha, the Sun Temple, at the capital city of Cusco (Cieza [1553] 1959, p. 147). An alternative interpretation is that the rows of human male and llama statues could have been meant to represent the very procession of *Capacocha*, which according to the written sources, was led by priests and accompanied by llamas loaded with offerings (Molina [1553] 1959, p. 96).

Pottery and Wooden Objects

Sets of pottery items were recorded from inside the burials of the two females from Llullaillaco. There was one *arybalo*, one jar, one pedestal pot, and two or three pairs of plates, and a pair of bowls in the burial of the younger female. A pair of miniature wooden vases or *keros* was buried with the Llullaillaco maiden, whereas a pair of full size *keros* was found in association with the younger girl. An *arybalo* was also found in association with the burial of the Llullaillaco boy. It was fractured, with the base detached from the rest of the vessel. Compositional analysis of paste samples extracted from diverse pottery items was performed, with the intention of identifying the area where the Llullaillaco pieces had been originally manufactured (Bray et al. 2005). Ceramics present appear to have originated in Cusco, in the Lake Titicaca region, and locally (ibid., tables 4, 5).

Pottery offerings are more widely represented in female burials, although certain types, such as *arybalos* and plates, can also be found in male burials. *Arybalos* and bottles are functionally related to the transportation, storage, and distribution of chicha, whereas ollas are devoted to cooking, and plates and bowls to the consumption of food. Sometimes the pieces are miniatures, whose primary function is symbolic rather than utilitarian. According to the chronicles, miniature pots in the burials of female sacrificial victims symbolically represented the housewares of married women (Betanzos [1557] 1996, p. 77).

Certain objects, such as plates, bowls, and wooden *keros*, have usually been found in pairs at mountaintop burials. The pairing of the plates and vases can be related to the Andean etiquette of ritually sharing food and drink (Randall 1992, p. 75). Ritual drinking with two vases is described in the earliest Spanish sources (Betanzos [1557] 1996, p. 67) and is also represented in drawings of the mestizo chronicler Guaman Poma de Ayala (Guaman Poma [ca. 1615] 1987, pp. 143, 285).

It has been suggested that the Inca sacrificial victims were buried with the same vases in which they had been given their last drink (Linares Málaga 1968, p. 115). The fact that children were given plenty of food and alcoholic beverages prior to their sacrifice has been explained as an attempt to help them go contentedly to the presence of the Maker (Molina [1575] 1959, p. 93). Nonetheless, there were practical reasons, because alcohol was also intended to dull the senses at the moment of death (Cobo [1590] 1996, p. 236;

Ramos Gavilán [1621], p. 81). In my doctoral dissertation (Ceruti 2003, p. 101), based on the position of the bodies and the bundling techniques of the Llullaillaco mummies, I suggested that the maiden and the girl probably died at the summit shrine, whereas the boy could have accidentally died on the way to the summit, due to complications caused by the extreme altitude. With his torso and flexed legs tightly wrapped with a rope it would have been easier to carry his body during the final stages of the climb. In addition, the artefactual evidence seems to support this hypothesis: Unlike the two females, the boy did not have a pair of wooden *keros* in his burial. In addition, the *arybalo* placed near his body is the only one that was found with visible remains of chicha, indicating that it was never actually drunk during the ceremony on the summit.

Food Items and Coca Leaves

Food items contained in textile bags and placed in the burials of Llullaillaco included corn, peanuts, dried potatoes, and dried meat (charqui in Quechua). Food items may have been symbolically intended to sustain the children in the afterlife, or they may have been meant as food to be offered to the spirits of the mountains and ancestors (Cobo [1653] 1990, p. 115).

Chroniclers describe pieces of coca leaves being placed in the mouths of humans beings just prior to their sacrificial deaths (Ramos [1621] 1976, p. 26). Archaeological evidence supports this assertion, because the Llullaillaco maiden was found to have had small fragments of coca leaves around her mouth, on her lips, and in her hands. The coca leaf was a common offering in Inca times (Murua [1590] 1946, p. 242) and still is in many areas of the Andes today (Allen 1988). Although today the coca leaves have been incorporated into the ordinary diet, the chewing of coca leaves was restricted at the time of the Inca Empire (Levillier 1940, p. 131). Hair analysis performed on the three Llullaillaco mummies tested positive for cocaine (Cartmell 2001; Wilson et al. 2007), thus providing another source of evidence to show that the children selected for sacrifice had been under the strict control of the Inca state.

***Spondylus* Shells and Necklaces**

The *Spondylus* shell, called by the Quechua name *mullu*, was highly esteemed by the Incas, who considered the material to be more valuable than gold (Sarmiento de Gamboa [1572] 1999, p. 167). The Quechua manuscript of Huarochiri states that in prehispanic times, *mullu* was symbolically fed to the sacred places, being one of the favorite “dishes” of the huacas (Taylor 1999, p. 299). Since in South America this sea-shell can only be found in the warm waters of the coast of Ecuador, its exotic nature increased its economic and symbolic value, rooted in its supposed efficacy in attracting rain. The ritual importance of *Spondylus* in the Andean world has survived until the present (Rosing 1996).

The use of *Spondylus* shell has been well documented in the archaeological record from Llullaillaco, where miniature carved figurines are not the only offerings made of this material. On this mountaintop site we found a *Spondylus* necklace woven in wool and human hair, surrounding the assemblage of llama figurines in a row with two male statues mentioned earlier (Reinhard and Ceruti 2010, p. 83). In addition to the artefactual use of *Spondylus*, the natural shell was also incorporated as an offering, which was generally placed close to the surface, after the refilling of the tombs.

Necklaces of sea-shells were noted as being worn during important Inca ceremonies (Cobo [1652] 1990, p. 151). In 2000 I observed a necklace of trapezoidal *Spondylus* beads, almost identical to the one recovered from Llullaillaco, in an exhibit at the Museo Nacional de Arqueología, Antropología, e Historia del Perú, surprisingly in association with a funerary bundle of the Paracas period (about 1,500 years before the time of the Incas). The American Museum of Natural History in New York has a similar specimen with wool cordage, attributed to the Nazca Valley and culture (Craig Morris, personal communication, accession number 41.0/5454). In view of the continuity of Andean beliefs attached to the *mullu* sea-shell, we cannot rule out the hypothesis that the Incas may have been reusing valuable antiques for their own ceremonial purposes.

Textile Garments and Feathered Ornaments

Inca sacrificial victims on mountaintop shrines were usually buried with the clothing that they were wearing at the moment of death, plus outer textile mantles used to wrap them as bundles. Chronicler Martín de Murua ([1590] 1946, p. 319) refers to the custom of including bags, spare sandals, and extra tunics inside the bundles. In the case of the Llullaillaco boy, two extra tunics were included in his bundle, in addition to two pairs of sandals, and two slings placed in the burial close to his body. The young girl from Llullaillaco also had spare moccasins and sandals.

Fine tunics were sent as diplomatic presents by the Inca to local leaders or *curacas*. *Curacas* often had important roles in the *Capacochas*, even offering their own children, as reported by the chroniclers (Hernández Príncipe [1621] 1986). This could explain why fine male tunics were buried together with female victims on Mount Llullaillaco and elsewhere (Reinhard and Ceruti 2000, p. 78). The Llullaillaco checkerboard tunic is of the type described by John Rowe as having been a gift of the Inca to local rulers (Rowe 1979, p. 240-250).

The application of feathers on textile bags and mantles has been well documented in the offerings on Llullaillaco, since a *chuspa* or bag covered in red feathers and presumably containing coca leaves, was placed in the burial of the younger girl, while a similar white feathered bag was buried in direct association with the boy. Feathers were also given special value among the Incas and the use of objects covered in feathers was restricted to noble people and ceremonial contexts (Betanzos [1557] 1996, p. 195).

In Inca times, it was a common practice for a person's own hair and nails to be kept to be buried with his body at death, as they were seen as important for accompanying the soul in the afterlife (Garcilaso [1609] 1966, pp. 84-85). The three individuals from Llullaillaco were accompanied by little bags, apparently made of skin from the testicles of llamas, containing cut hair that belonged to the same children, as proven by ancient DNA analysis (Wilson et al. 2007).

Conclusions

The archaeological items from the summit of Mount Llullaillaco, in Northwestern Argentina, constitute one of the best preserved and best documented collections of Inca offerings ever found. Three mummies and their associated offerings were discovered (and recovered for preservation and study) during scientific excavations that I co-directed at the highest archaeological site in the world.

The mummies are those of children who were sacrificed five hundred years ago, under the rule of the Inca Empire. The sacrifice of the young victims on Llullaillaco was most probably performed to appease the deities and ensure the well-being of the Inca emperor and the local communities. According to the historical sources written around the time of the Hispanic conquest, Inca human sacrifices were performed in response to natural catastrophes, the death of an Inca emperor, or to propitiate the mountain spirits that grant fertility. The selected children and the young *acllas* or “chosen women” were taken in processions to the highest summits of the Andes and they were believed to become messengers into the world of the mountain deities and the spirits of the ancestors.

Interdisciplinary studies conducted on the frozen mummies from Llullaillaco during the nearly six years in which they were temporarily preserved at the Catholic University of Salta (UCASAL) included radiological evaluations by conventional X-rays and by CT scans, which provided information about the condition and pathology of the bones and internal organs, as well as dental studies that estimated the ages of the three children at the time of death. Ancient DNA studies and hair analysis were also performed in cooperation with academic institutions in the United States and Europe, including the Institute of Bioscience at George Mason University, the University of Bradford, and the Laboratory of Biological Anthropology at the University of Copenhagen.

The archaeological discovery and the interdisciplinary studies conducted on the Llullaillaco mummies and their offerings lent visibility to the needs of the indigenous communities in Argentina, motivating governmental authorities to recognize their rights, and inspiring society in general to become interested in their welfare. Consequently, in recent years, numerous communities have coalesced and formed in several Argentinean provinces, in the context of a strong and sustained native revival movement. In multicultural societies like that of northwest Argentina, whose social identity was traditionally anchored in

the Hispanic arrival and the *gaucho* culture, the Andean cultural heritage has become substantially more highly valued. Since the discovery of the Llullaillaco mummies, importance has begun to be placed on the study of the Inca civilization, both in Salta and in other parts of Argentina, as part of the basic content of the school curriculum. There has also been an increase in interest, on the part of the general public, in studying the Quechua language and pre-Columbian cultures.

The Llullaillaco mummies and offerings are among the exceptional evidences of Inca ceremonies of *Capacocha* that survived destruction caused by looting and treasure hunting, having been opportunely rescued in the context of scientific archaeological fieldwork conducted at elevations higher than 6700 meters above sea level. In this paper I have described and analyzed the social use and symbolic meaning of the miniature figurines, pottery items, textiles, ornaments, and food supplies that were buried in direct association with the Llullaillaco mummies. The offering assemblages buried by the Incas on the highest summit shrines contributed to the legitimization of the state cult of the Sun deity, Inti, as well as helped to reinforce the local worship of sacred mountains.

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