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Archaeology of the Incas
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Object Number 31273

Inca Sandals

Religion and religious practices have probably played a role in people's lives since the beginning of civilization. For instance, officials use religion to convince people to act in a certain way and contribute to society. Religion can also be used to justify certain practices, such as sacrifices. Various cultures around the world used sacrifices to explain anything unusual around them. One reason for sacrifices could be to stop natural disasters, such as earthquakes and droughts. People took these events as a sign that their god(s) were angry, so they would sacrifice to them. Another common reason was the death of a king, priest, or great leader, where the sacrificed would act as companions to serve the leader in their next phase of life. Ceremonies and festivals leading up to the actual sacrifice also established religious power and importance, especially through people's clothing. People used clothing to manifest their status and to be honored in the eyes of their god(s).

The Penn Museum Object 31273 was found by Max Uhle found at Pachacamac at the Sun Temple in 1897 as a part of the William Pepper Peruvian Expedition for the Universities of Pennsylvania and California. Pachacamac is an archaeological Inca site located on the coast of Peru about thirty-two km south of Lima named after the god *Pacha Kamaq*, the creator of the Earth and an important oracle (D'Altroy 2002; Uhle [1903] 1991). Due to extensive looting and disturbance, the original design and layout cannot be determined (Eeckhout 2013). Much of the function and use of the Sun Temple had to be determined through colonial accounts and

comparisons to other temples. The Sun Temple at Pachacamac was one of many Sun Temples in the Inca Empire, because the Incas ordered everyone to worship the Sun as their primary deity. This particular temple was built during the reign of Topa Inka (Tiballi 2010). Uhle also documented the Cemetery of the Sacrificed Women on the Sun Temple, the most important contribution by Uhle. Uhle concluded that the Sun Temple was also a place of sacrifice after finding mummified remains of young women wearing their sacrificial costumes in the Cemetery of the Sacrifice Women (Uhle 1991 [1903]). This particular object was associated with one such woman.

Penn Museum Object 2173 is composed of a matching pair: Object A and Object B (Figures 1-3), each composed of Points 1-5 (Figures 4-5). The materials used are undyed camelid fiber, cotton or wool, and animal hide, either of camelids, sea lions, or dogs (Dr. Katherine Moore, personal communication 2019). However, further testing needs to be done to ensure proper identification, such as electronic microscope images and biological DNA tests.

Object A has a length of 17.5 cm and a width of 8.6 cm. The object is composed of two components, Component A and Component B, which are connected by a white cord and leather extensions (Figure 4). Component A is a solid platform of 0.5 cm thick of grey leather, while Component B is made up of a single brown cord of thickness 1.5 cm that goes through many transformation and attachments to other components to provide secure structure and strength of the object. A thin white cord connects Component A and Component B at Point 2A. At Points 1A and 3A, an extension of leather protrudes upward from Component A, connecting the part to Component B. At Point 4A, Components A and B are connected by an extension of Component

A through a hole, allowing a portion of the cord in Component B to pass through it. Point 5A consists of intricate weaving of the cord that connects Points 1A and 2A.

Object B has a length of 17.4 cm and a width of 8.5 cm (Figure 5). Object A and B are fairly similar, but Object B is missing Component A and only consists of one component made up of a single brown cord with thickness 1.5 cm. Point 2B also does not show any signs of having a white cord attached to it. However, Point 5B has the same intricate weaving style as Point 5A, connecting two sides of the object between Point 1B and 2B. Point 3B also has a leather extension attached, similar to Point 3A.

I interpret Object 31273 to be a pair of sandals. Object 31273 matches the description of one the sandals found within the Cemetery of Sacrificed Women at Pachacamac, especially since Uhle states that the brown cord is attached to the bottom layer of the sandal with white string and leather moorings. Component A is the leather sole and Component B and Object B are the camelid fiber straps that go above a person's foot. Points 1A, 3A, and 3B are all moorings, which is where the straps connect to the sole. Points 2A is also a mooring but is connected by a cotton cord that is knotted through the sole. Point 4A has a similar function as a mooring, but the sandal maker left a hold in the sole that allowed the leather cord to pass through it. Points 5A and 5B are insteps, which is the portion worn on top of the toes to the ankle.

These sandals, described by Uhle as *usuta*, were made by Andean sandal makers. The leather soles (Component A) and camelid fiber straps (Component B and Object B) were most likely processed separately because each involves different techniques. For leather soles, sandal makers used animal hides such as llama or alpaca to process into leather fabric. The sandal makers cut the hide from the least flexible part of the animal, which are the lower legs where the

skin goes tightly against the bone since this makes the sturdiest sole (Dr. Katherine Moore, personal communication 2019). The sandal maker then scrapes the fur and fat off the skin using a stone or bone tool. The hide is then "tanned" to preserve the fibers, which permanently changes the protein structure of the skin and to be more resistant to decomposition through various chemicals and dyes (Motawi 2018). Next, the sandal maker would add various oils, preservatives, and colors to the sole (Motawi 2018). Finally, the sandal maker would drill holes using stone or bone tools into the sole of the shoe for attachment of the camelid fiber straps. The sole is then complete.

The camelid fiber strap is made up of a single brown cord each in Object A and B. The fiber was woven into a braiding pattern, which is more prominent on Object B. Compared to chroniclers'' illustrations of sandals, these sandals differ in their attachment of the sole and camelid fiber straps (Vitry 2014: Figure 6). Instead of using a mooring at Points 2A and 4A, the sandal maker utilized two alternative methods of attached the woven camelid fiber strap to the shoe. The sandal maker first knotted the camelid fiber cord to the mooring at Point 1A, similar to the chroniclers' illustrations. Next, the sandal maker led the camelid fiber cord through the small hole drilled in the sole at Point 4A. After, they tied the cord around the mooring at Point 3A. Next, the sandal maker placed the cord at Point 2A and then tied the cotton or wool string twice around the strap and through the hole drilled in the sole. To attach both sides of the sandal at Points 5A and 5B, the sandal maker looped or wrapped the camelid fiber cord on the left under the strap on the right and then looped the strap over the left cord. The sandal maker continued weaving in this manner, but due to wear or deterioration, where the wrapping stopped is unclear (Figures 7 and 8). In other depictions of the *usuta*, the end of the cord was wrapped once around

the rightmost section of the strap, between Points 4 and 1 on either sandal (Vitry, 2014: Figure 6). The cord may also have been wrapped around the rightmost section in these sandals, but due to the fragile condition, we may never know. The sandal show use wear, as the cords are pressed downward and the sole is thin at the heel and instep, since this is where most of the weight is placed on the shoe. Since the moorings are different compared to other sandals documented by chroniclers, this particular sandal could have used the cotton or wool string for repair after one of the moorings broke. The sandals must have been important to whoever wore them because they could to repair them rather than using an alternative pair of sandals.

Sandal makers needed unique talents to make useful and efficient sandals. According to the *visitas*, or the census record, sandal makers were assigned by community, which meant that one community in each region specialized in making sandals (Tiballi 2010). Since the sandals remain fairly consistent and standard across the Inca empire, only experts made sandals. Since the intricate weaving occurs in clockwise and counterclockwise directions, sandal makers needed to be ambidextrous and use both hands to weave (Tiballi 2010).

Besides sandal makers, many people within the community also contributed to making *usuta.* For example, the *Pauau Pallac*, who were girls ages nine to twelve, spent their time picking different types of flowers and plants that were used for the costumes and offerings to the sun. In the case of these sandals, the cotton for the small white cord could have been originally picked by these girls (Vitry 2014). Another group of women, the *Acllas*, were the chosen women of the Inca empire who were servants to the state. They were held in high honor and were recruited from a young age, torn away from their families, to serve the empire. These women processed the fibers and gave them to the sandal-making communities (D'Altroy 2002).

Sandals, in general, play an important role in Andean religion and culture. Since the sandals are worn with the toes sticking out at the top, the people wearing them can easily climb mountains and diverse terrains. The dirt and rocks can be gripped deftly by the toes, instead of relying on a flat shoe. Andean regions during the time of the Incas were often organized by zone, where each section specialized in a certain craft or vegetation. As such, to travel between zones (which would take eight to ten days), that person needed to wear footwear that could function well in all environmental zones – from dry deserts to wet rainforests. The main function of the sandal is still the same as the present – to protect against the rough ground, stones, or insects. Even today certain shoes represent different statuses and roles. For example, today, high heels are worn by a woman in power and sneakers are worn by athletes. In the case of the Incas, certain shoes were worn by those in power. For example, the chief sheriff, or the *uatay camayoc* and their relatives wore the *usuta*. In this particular case, these sandals established the sacredness and power of the chief, because, in the eyes of the Incas, the chief was a god (Vitry 2014). Another practice that made people "closer" to god was sacrifice. People who were sacrificed were dedicated to the Sun, the death of an emperor, or to stop disastrous events such as earthquakes. Boys and girls around the Incan empire were chosen for their beauty. These children would then be taken to the same place (likely Cuzco) and were fed and treated well. After a few months, the victims made their way up to the top of the mountain with a procession of around one-thousand people, llamas, and other precious metals such as gold or silver, where they are then ultimately sacrificed (D'Altroy 2002). Since the children had to go across various terrains and climb up mountains, wearing *usuta* helped them to get to their final destination.

Clothing and garments play an important role in determining status during festivals and rituals. In sacrificial rituals specifically, those who are about to be sacrificed often wear special clothing that exemplifies their significance. In general, sacrifices played an important role in religious practices since they were done for a particular god or deity. Participating in sacrificial rituals and other rituals may have been a way to establish social control by the elite. However, today, human sacrifices have been replaced by animal sacrifices, a practice which has also began to disappear. Most religions actually have denounced the practice, and many religious laws declare it to be murder. Instead, more emphasis has been placed on giving plants and hand-crafted items to the gods. Religious practices continue to change, but the significance is never lost.

References Cited

D'Altroy, Terence
2002 *The Incas*. Wiley-Blackwell, New Jersey.

Eeckhout, Peter
2013 Change and permanency on the coast of ancient Peru: the religious site of Pachacamac. *World Archaeology* 45:1, 137-160.

Motawi, Wade
2018 What is the Best Shoe Leather? *The Sneaker Factory,* December 18, 2018. https://sneakerfactory.net/sneakers/2018/12/shoe_leather/, accessed November 23, 2019.

Tiballi, Anne
2010 *Imperial Subjectivities: The Archaeological Materials From the Cemetery of the Sacrificed Women, Pachacamac, Peru*. Doctoral Dissertation, Department of Anthropology, Binghamton University State University of New York.

Uhle, Max
1991 [1903] *Pachacamac.* University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, PA.

Vitry, Christian
2014 What Footwear the Incas Wore on the Mountain. *Argentine Cultural Center of Montana.* http://culturademontania.org.ar/Arqueologia/los-calzados-de-los-incas.html, accessed November 22, 2019.

Figures:

Figure 1: [Folder Patel31273, Img 0216] Top view of Object A
Figure 2: [Folder Patel31273, Img 0236] Top view of Object B
Figure 3: [Folder Patel31273, Img 0224] Side view of Object A
Figure 4: [Drawing 1] Points of Object A
Figure 5: [Drawing 2] Points of Object B
Figure 6: [Diagram 1] Diagram of object from the chronicles originally published by Cobo
Figure 7: [Folder Patel31273, Img 0231] Detail of weaving on Object A, Point 5A
Figure 8: [Folder Patel31273, Img 0239] Detail of weaving on Object B, Point 5A