

Artificial Mummies from the Andes

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ABSTRACT

In 1997 agricultural workers, turned into looters, found an intact funerary site in the cloud forest in northeastern Peru. A prompt archaeological rescue project permitted the recovery of an important collection of mummies and artifacts that are providing important insights about the archaeology of the Chachapoya people that established in this area around 900 AD up to the Inca conquest of this territory around the year 1475. The mummies recovered showed evidence of cultural practices devised and used to assure the preservation of the human bodies. Such practices are also reported for among Chinchorro and Chiribaya mummies in the Andes. A cultural interpretation of these funerary activities is discussed connecting the practice of the cult to the ancestors to the access and management of resources and territory.

Key words: artificial mummies, embalming, Andes, Chachapoya, Chinchorro, Inca

Introduction

The two most ancient traditions for artificial mummification in the Old and New World occur in dry environmental settings. Here, however, similarities in ritual and significance end. The earliest Egyptian examples date to the 4th Dynasty (2613–2494 BC), including cases where the internal organs of the deceased were removed and preserved outside the body. Not until the New Kingdom (1550–1086 BC) was mummification standardized and broadly applied¹. As part of an extended sequence of funerary behavior, procedures for artificial mummification occupied the liminal space between the

time the soul left the body, immediately after death, and when the *sem* priest breathed life into the mummy's mouth and thus restored soul to body^{2,3}. The individual, once more complete, then traveled west to the afterworld. There was no worldly reincarnation, no cycle of regenerated human life. While the ancestors make had received ongoing attention from their immediate descendants and specialists, ancestral intervention among the living was not significant. Their preparation was an elaborate funerary ritual or cult of the dead. In contrast, artificial mummies prepared in the Andes were

part of ancestor cults, they carried a rich community life after death

The world's oldest artificial mummies are found, however, not in ancient Egypt, but rather in dry coastal environments of the south-central Andes in Perú and Chile. Small groups of Archaic fishers and hunters, termed today Chinchorro, began elaborate procedures during the 6th millennium BC that prepared bodies for long-term display. Though considerable variation occurred over the several thousands of years that the Chinchorro culture persisted, fundamental body treatments for a significant portion of the deceased involved defleshing, cleaning, and wrapping the bones with fiber, subsequently replacing the skin. The artificial body thus created was frequently covered with clay, painted with pigment, and there is evidence for display of some Chinchorro mummies for an extended period prior to final, casual disposal^{4–8}. It is argued here that prior to final deposition, the ancestors continued to play an active role in the economic and ritual lives of the living Chinchorro, conforming to our definitions of ancestor cult. The cases of Chiribaya and Chachapoya-Inca mummies are discussed within this context.

This paper, contextualizes artificial mummies in Andean cultures to discuss their significance for cults and ritual. It also develops a typology of mummification practices, based upon these cases, but useful beyond the Andean world. The discussion will focus on the meaning for this long-term Andean tradition.

Andean Mummies

Most pre-Hispanic Andean mummy remains have been recovered from coastal environments. Arid conditions are beneficial for soft tissue preservation and were enhanced by cultural practices, such as sealing tombs and wrapping bodies in textiles and thus creating a microenvi-

ronment conducive to preservation. Mummified remains from the highlands and jungle areas have been restricted to cases where the bodies were protected in bundles and deposited in dry contexts: caves, rock-shelters, or permanently snow-capped mountains. Elsewhere, drastic changes in temperature and humidity did not permit the preservation of soft tissue.

The earliest Andean mummy has been recovered from Acha 2, a Chinchorro site in northern Chile⁹. This naturally mummified body was dated at approximately 9000 BP. The most ancient artificial mummy was also associated with a Chinchorro context (7810 BP)⁵. Overall, the best combination of factors for preservation of fragile human tissues occurs on the Atacama desert, in the extreme south of Peru and north coast of Chile.

After preceramic times, the number of mummified bodies increases. Previous, intensive debates focused on the remains from Paracas (400 BC – AD 300). Tello¹⁰ discovered more than 50 boot-shaped tombs at the Cerro Grande site. Each tomb contained 30–60 bodies of different ages-at-death and both sexes were represented, filling the structure to the top of its circular entrance. Tello¹⁰ also reported funerary structures at the nearby Paracas site of Cabezas Largas. Tello inferred that artificial mummification had been practiced in these Paracas sites. He believed that the bundles showed carbonization, beginning at the lowest levels and extending upwards. He interpreted this as the result of incineration that did not affect soft tissues, bones, or hair, while producing carbonized masses inside body cavities. Tello argued that artificial preservation had been produced by smoke, heat, and chemicals. The rigidity of the external wrappings was the result of salty sea water sprinkled over the bundles while exposed to heat. He concluded¹⁰ that all body cavities had been evis-

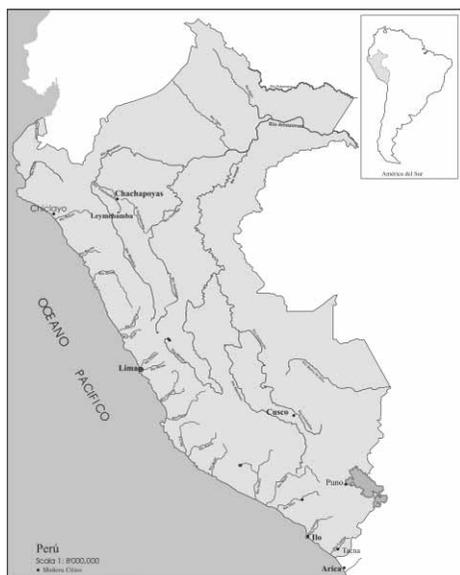


Fig. 1. Map of Peruvian mummy sites.

cerated and that, in certain cases, the extremities had also been defleshed.

As Vreeland and A. Cockburn¹¹ indicate, Tello confused the effects of natural body decomposition with those of heat. Studies of Paracas mummies and bones^{12,13} have not provided evidence of artificial preservation procedures in Paracas. On the other hand, Vreeland and A. Cockburn¹¹ suggest that the leathery consistency and dark brown skin color indicate intentional desiccation, based on microscopic studies of tissues from a small bundle that were burned in some parts and associated with charcoal. Manipulation of the eyes and nose suggested to these authors that although evisceration had not occurred, external methods might have been used to preserve the body. Further study is needed, however, to convincingly resolve the issue of artificial mummification in the Paracas example. The leathery, dark skin color could have resulted from natural degenerative proces-

ses following burial, or alterations in conditions after disinterment. Similar conditions have been observed in prehistoric mummies from northern Chile and Ica and even in modern autopsies of recently buried bodies (M. Allison, pers. comm., April, 1992). In several examples, all recognizable organs were transformed into leathery, soft, resinous masses. Chemical studies¹⁴ suggest that this soft tissue condition could be caused by putrefaction pigments such as *indican* or *bilrubinoid*, but the exact cause is not known. Exposure after excavation might initiate or accelerate incipient enzymatic decay as suggested by the considerable number of amino acids observed in chromatograms of mummified tissues from northern Chile.

Few mummies from the Peruvian north coast have been encountered, despite hot and dry environmental conditions¹⁵. Three mummies were recovered by Ubbelohde-Doering¹⁶ at Pacatnamú, and a mummy from the Lambayeque valley is displayed at the Brunning Museum in Lambayeque. All the bodies were in the extended position typical of the region prior to the Late Intermediate period. Mummy bundles from later periods are usually characterized by poorly preserved textiles and skeletonized human bodies¹⁷.

Mummies from the Middle Horizon (AD 600–1000) and the Late Intermediate period (AD 900–1476) have been reported from the central and southern coasts of Peru and from northern Chile. Some of the best illustrated cases are those found in Ancón¹⁸. All reported observations confirm that these were natural mummies, although undetectable external procedures may have been used to promote the desiccation of the body¹⁹.

There are several cases of human sacrifices on snow-capped mountains, where frozen bodies have been preserved. The examples reported for Cerro Aconcagua (Chile) and Cerro el Toro (Argentina)^{20,21},

Cerro El Plomo (Chile)²², Cerro Esmeralda (Chile)²³, Pichu Pichu (Peru)^{20,24,25}, and Ampato (Peru) and Llullaillaco (Argentina)^{26–28} involve the deposition of young individuals as offerings at Inca mountain sanctuaries, associated with other offerings. These sacrifices had been elaborately dressed and deposited in specially-prepared mountain peak shrines, with metal and shell statues. The child recovered from El Plomo died of hypothermia, the body became freeze-dried and the deeper soft tissue layers transformed into adipocere²⁴. In most other cases, the bodies became frozen without any indication that this was the effect expected. Furthermore, the high number of bodies destroyed by lightning could suggest that the chosen location for deposition of the bodies, and the use of metal artifacts on or around them were set to

attract destructive electrical impact (Miguel Zárate, pers. comm., 1996).

Ponce Sanginés and Linares Iturralde²⁹ studied ten Late Horizon mummies from the Bolivian province of Carangas. Three showed abdominal incisions, evidence for evisceration. These observations confirm ethnohistorical references about mummification procedures used by the altiplano Pacaques³⁰. These sources reported that Pacaques of the Titicaca basin eviscerated their dead, interring the viscera in jars adjacent to the bodies.

Ethnohistoric documents indicate that artificial mummification was an Andean practice during Late Horizon times (ca. 1470–1532 d. C.), apparently restricted to the upper class. No artificially prepared royal Inca mummies are known because all were destroyed by the extirpation of the idolatries with the arrival of the Spanish or otherwise lost^{31–37}.

Moreover, Garcilaso de la Vega³³ described the process of preservation for bodies of the royal Incas, who were worshipped as gods after death. He reported that he saw the body of Inca Viracocha in 1560 at the house of Licentiate Polo de Ondegardo, the corregidor of the city of Cusco. The Licentiate had transported five bodies of the royal Inca from Cuzco to Lima. The other male bodies were said to belong to Tupac Inca Yupanqui and Huayna Capac. Women included Mama Runtu, wife of Inca Viracocha, and Mama Ocllo, mother of Huayna Capac. He recalled that the bodies were perfectly preserved with all their hair in place (Garcilaso de la Vega³³. Garcilaso quoted chronicler Acosta who had also seen them and said, »The body was so complete and so well preserved with a certain bitumen that they appear to be alive. Its eyes were made of cloth of gold, and so well fitted that one did not notice the loss of the real ones.« He also indicated that Acosta mentioned that Viceroy Marqués de Cañete had ordered the mummies to be removed



Fig. 2. Face of Ice Maiden from Mount Ampato.

from the places where they were kept and destroyed as part of the efforts to extirpate idolatry. Garcilaso had been very impressed with the perfect and beautiful complexion of the bodies after so many years had transpired. The bodies had been in Lima for twenty years before Acosta saw them, and Garcilaso marveled at the fact that they were still preserved at his viewing, despite different climatic conditions on the coast. He suggested that the bodies had been preserved by taking them first up to the snow line of the mountains and thus freeze-drying the flesh. These observations were based on the common altiplano practice of dehydrating meat outdoors.

In order to make the presentation of artificial Andean mummies clear it is necessary to discuss some basic concepts concerning the classification of preserved soft tissue human remains.

Classification of Mummies

The definition of »mummy« is not straightforward. The issue is complicated by problems in differentiating between natural mummies and various artificial preservation methods. As a baseline, mummies may be defined as corpses that retain some soft tissue.

In most cases, a combination of factors promotes body preservation. For example, the central and northern coasts of South America are both hot and dry, yet bodies do not preserve as they do on the south coast. Each area must be considered individually to identify environmental factors and cultural practices that encourage tissue preservation.

Natural mummies

The category of natural mummies includes those corpses that are preserved as a result of favorable environmental conditions. Aside from burial in conditions that promote spontaneous mumi-

fication, bodies have been preserved after catastrophes and abandonment in appropriate environmental conditions. Examples include bog bodies from Europe³⁸, freeze-dried bodies from Qilakitsoq in Greenland³⁹, and the Alpine Tyrol mummy^{40–42}.

The Atacama Desert, from the extreme southern coast of Peru to northern Chile, enjoys environmental conditions that have favored spontaneous natural mummification from Preceramic times (ca. 10,000 to 4,000 BP) until the present. It has special soil conditions, very rich in nitrates that when combined with other factors ensures organic preservation. Salts arrest bacterial growth; the hot, dry conditions facilitate rapid desiccation, hence soft tissues dry before they decay.

Preservation patterns are also affected by body position and gravity. If the body is seated in a flexed position, the body fluids drain downward so that enzyme action destroys the organs, especially those in the lower part of the body. Preservation of the extremities depends on their position relative to the autolytic decomposition of the organs.

The »natural mummification« category would also include instances when agents such as copper, arsenic, or similar agents have »accidentally« produced soft tissue preservation. Adipocere also stimulates soft tissue preservation inadvertently^{43,44}. Adipocere is a postmortem chemical alteration resulting from moisture promoting the transformation of normal adipose tissue into a grayish white and wax-like consistency. At the beginning of the process, changes are superficial, including the lower dermis and subcutaneous tissue; later, deeper adipose deposits may be involved. Once formed, adipocere is relatively resistant to chemical and temporal effects.

Artificial mummies

This category includes examples where some organic or inorganic substance has been used to enhance body preservation. Three sub-categories can be distinguished.

A. Externally prepared mummies: In these cases intentional artificial preservation is achieved through the use of substances applied directly to and through the skin, for example lime (*«cal viva»*), balsam, honey, juices, and sand. The body is not manipulated internally.

B. Internally prepared mummies: Corpses are manipulated to ensure that all remaining body parts are preserved (including skin). All or most of the body cavities are emptied and filled with materials designed to enhance preservation. Some embalming procedures introduce chemicals into the arteries, e.g., the preservation of Lenin and Eva Perón. More ancient examples include the references to the mummies of the Inca and of the Egyptian Pharaohs. In all cases, evisceration occurred and tissues were treated to prevent decay.

C. Reconstructed mummies: In addition to internal manipulation, bodies may be disassembled and then reconstructed. Elimination of viscera is followed by defleshing. A variety of materials may be used to reconstruct body shape, followed by re-fleshing of the body. A key example of this category is the Chinchorro tradition.

The Chinchorro Mummies

The cultural denomination Chinchorro has been associated with preceramic sites and collections that include artificially prepared human mummies. Temporal associations recognize an early phase between 11,000 and 8,000 BP, a middle phase 8,000 to 6,000 BP, and a late one between 6,000 and 4,000 BP⁴⁵. The ar-

chaeological contexts are related to economies dependent on marine resources complemented with terrestrial products.

As noted above, the Chinchorro are the most ancient examples of artificial mummification in the world. Some, though not all, corpses were de-fleshed, the bones cleansed and wrapped in fibers, and reconstructed. The application of artificial substances, including pigment and animal fur, completed the artificially reconstructed body. In beginning an analysis of Chinchorro artificial mummification forms, the development of a typology is useful.

The first typology for Chinchorro mummies was developed by Uhle^{46–48}. He defined three types, including naturally preserved bodies as Type 1, artificially prepared bodies with evisceration and reconstruction as Type 2, and bodies preserved through the application of mud as Type 3. Allison et al.⁵ revised this typology, their categories combine features related to body treatment with disposal activities and personal attributes. This categorization is difficult to apply, it combines important and minor technical features without defining their level of importance in the preparation. The result is an extended number of types that are cumbersome for practical use.

On the other hand, the typology offered by Arriaza⁶ defines three subtypes for the prepared mummies: black, red, and bandage mummies. He proposes stylistic and temporal differences for these categories. Considering the extended distribution of the mummies, and the usual poor provenience for the finds, the use of external appearance and finishing details as the main criteria for differentiation becomes a stylistic system rather than a technical tool to use in the study of mummies. The following categories presented here are based upon the typologies proposed by Uhle⁴⁶ and Allison et al.⁵. This classification is based on the study of the mummies from the site Morro 1–5⁸. The

site Morro 1–5 in Arica, Chile was excavated in 1985 by Guillermo Focacci. It included 16 artificial mummies and only one naturally desiccated body. There were three adults and 14 children ranging from a full-term fetus up to a child 10–12 years old; all the children and the two adult females were artificially mummified. The mummies are associated to the mid-late Chinchorro with a calibrated radiocarbon date of 4120 ± 75 BP (2170 BC). The materials are part of the collection of the Azapa Museum of the University of Tarapacá in Arica, Chile. Almost all the following categories to prepare Chinchorro mummies were present.

Type 1: Naturally desiccated mummies.

This category includes partially or completely painted bodies.

Type 2: Mummies that show both internal and external processing. Filling material varied (mud, straw), as did the manner in which body cavities and the extremities were altered.

Type 3: External application of mud. Mummification was attained by the exclusive use of a layer of sand or mud.

Type 4: Desiccation through application of heat. In addition to heat, evisceration might also be involved but no internal and/or external reconstruction.

Type 5: Partial de-fleshing, with partial or complete evisceration. Bodies partially or completely de-fleshed, usually through posterior cuts, with efforts focused on rough external reconstruction. Dense layers of unfired red clay were used to reconstruct body volume, mainly in the chest and abdominal regions.

Type 6: Chinchorro figurines. Often mistaken for artifacts, this category includes human or animal bones encased with unfired clay, with the final product resembling clay figurines.

As in most Chinchorro contexts offerings were scarce, most of them related to the extraction and processing of marine resources. There were no food offerings. The bodies were dressed and wrapped or covered with leather cloaks, either of camelid, sea lion, or sea birds such as pelican. The exterior wrappings consisted of either one or two reed mats.

It appears that all the mummies were deposited at the same time, or very close in time, in a typical pattern of disarray, with no clear distribution pattern. The bodies intruded one into the other. Most probably some mummies were destroyed because of the pressure from other overlying mummies and the changes in preservation conditions following their recovery.

The artificial mummies had been prepared in order to be kept for a period of time. Some studies have reported that they were re-painted and fixed^{49,50}. However, the following questions remain: Why were they kept? For how long? Where were they kept? And why were they buried or disposed of? There were greater efforts to mummify the bodies of children rather than for adults. So far no patterns of age and sex distribution are clear from this assemblage.

There were no indications of social distinction and the complicated post-mortem body treatment was mostly devoted to children. When children, sometimes as young as a fetus, were preserved, there must have been a purpose related to the importance of this age group. In some modern societies, children appear expendable after death and their funerary treatment is less complicated and less costly. It might be expected that an egalitarian society might not have expended such efforts on fetuses. Assuming that the availability of maritime and terrestrial resources was not the main concern for the Chinchorro, development of spe-



Fig. 3. Artificial Chinchorro Mummy from site Morro 1-5, Arica, Chile.

cial social mechanisms might have become necessary to protect access to resources.

The Chinchorro used formal or segregated cemetery areas away from the houses once they became sedentary. Burial grounds, like those on the northern slopes of the Morro de Arica, show evidence for very long use. The emergence of formal disposal areas for the dead and the preparation of mummies can be related to the interest to control access to key resources such as fresh water, fog-lands, and highly productive marine areas..

The mummies of the children appear to have been used for display, or kept in places where they could be curated. Maintaining mummies of children and some adults was important. They were kept for a time, when a special event happened, like the death of an adult, they were then wrapped up and buried collectively without special concern for their preservation after burial. During interment the bodies did not receive more offerings than those garments and artifacts already placed with the body when the mummy was prepared. The lack of food offerings is especially interesting. There is nothing to suggest that there was an interest in the well-being of the mummy, or any interest in the «soul» of the person as reflected by its mummy.

Maintaining the mummies for display, or near domestic areas, could reflect a cult to kin members, not necessarily to ancestors, since the mummies were mostly young individuals with no descendants. These mummies could have reflected the kin group as a whole, and from that perspective the larger the group of mummies the more guarantee there was to maintaining access to economic resources such as beach areas, large shellfish banks, or areas where fresh water was plentiful. The kin group as a whole was then available for direct observation, including its deceased members, to maintain rights to productive zones to meet needs of the living members of the group.

There are various possible explanations for their subsequent burial. At some point, either the mummies became too numerous, the group reached its maximum size, protection of access benefits was not important anymore, or a different mechanism for such protection was devised, or some important individual died, or changes were defined by removing a group of mummies from display. Whatever the reason, a group of mummies was disposed of together with at

least one or few natural mummies. In the case of Morro 1–5 there were 15 artificial mummies along with one natural one. The interment was collective, in a designated burial zone, but not too far from the domestic area. This behavior points to a collective concern.

The most important issue appears not to be the formal disposal areas, but the need to prepare and keep the mummies; the disposal of natural and/or artificially mummified bodies was secondary to mummification and not the main feature of the funerary behavior. The lack of offerings and organization of the disposed bodies indicates that this deposition was final.

The Chinchorro burial practices developed into a pattern named Quiani. There was a shift from a group perspective to a greater focus on the individual. As such it also involved a change from protecting rights to resources to focusing on property rights. No mummies were prepared and individual differentiation among burials became more evident; the bodies were buried in individual tombs (well marked outside) and received a greater variety of offerings, including food items.

In summary, the Chinchorro developed a very complicated and sophisticated funerary behavior that must have been integrated into the way the groups functioned, probably by protecting access to some crucial subsistence element such as water or other form of primary production.

Chiribaya

In the coast of the extreme south of Peru, in the lower part of the Osmore valley, the Chiribaya culture flourished between AD 900 to 1350⁵¹. The cultural history of this area around the modern port of Ilo, can be traced back some 10,000 years. In Preceramic times groups of the Chinchorro tradition settled in this area. There was an intense population dyna-

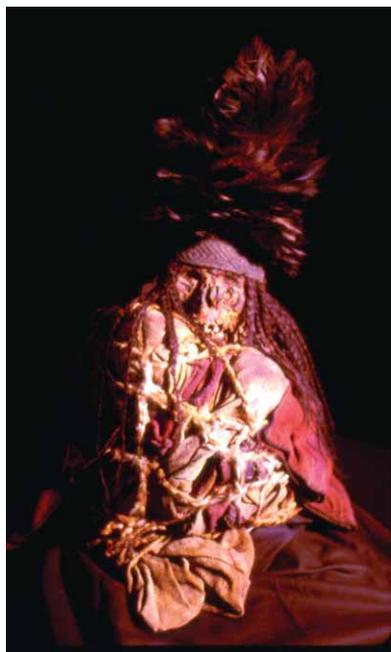


Fig. 4. Natural Chiribaya mummy. Male.



Fig. 5. Detail showing calcined exposed cranial bones of artificially prepared Chiribaya mummy. Female.

mic in a corridor that included the Titicaca lake basin in the east down to the coastal areas of the Osmore river valley.

The Tiwanaku culture that developed in the Titicaca area had a strong expansive move in the Andes. This process that intensified between AD 725 to 950 had a strong influence on the Chiribaya. This coastal group did not develop into a very complex society. As a chiefdom their economy was based on the exploitation of maritime and agricultural resources.

The archaeology in the area has not been intensely studied. This is probably connected to the lack of remains of monumental architecture and artifacts made from precious metals. Nevertheless, the area presents extraordinary preservation conditions for organic materials. Mummy remains, as well as textiles and wood artifacts are commonly seen as debris left by tomb robbers that have plagued this area since antiquity.

The rescue and research archaeology projects conducted by Programa Contisuyo, and later by Centro Mallqui have recovered hundreds of mummies and their funerary context. Most of the bodies of humans, camelids and dogs buried in the area desiccated naturally. This condition was produced by the extreme aridity of the area, the high salt content of the soil, and the characteristics of the funerary practice. It appears that the bodies were dressed and buried very shortly after death. The exterior wrappings of the funerary bundle varied in size and number of pieces used. Nevertheless, it was an important element conducive to preservation.

The bodies were disposed of in typical rectangular cut tombs, with the long side walls lined with stone. The body was placed at one end and surrounded with offerings for the afterlife. The grave goods included food and beverage presented in the characteristic tricolor Chiribaya pot-



Fig. 6. X-ray showing Chiribaya pot inside the chest cavity of Chiribaya man.

tery which was decorated with geometric designs. Other associated artifacts reflected the activity of the individual, including weaving or farming tools, or miniatures of rafts and boats.

Important ritual elements in burials were bags with coca leaves. The bags and the textiles are all made of wool. The weavings are part of a very well developed and artistic tradition. Children also received important funerary attention. The offerings include miniatures of pottery and toys. The amount of coca leaves, and offerings reflect the importance of the individual within their society. The cemeteries are highly specialized areas away from agricultural land and nearby the settlement areas. The burials were marked with posts, and the contents have been very instrumental in the reconstruction of this society.

Almost all the Chiribaya mummies were preserved naturally. Aufderheide⁵² dissected 135 bodies and did not report

any embalmed bodies. Nevertheless, out of 500 natural mummies housed at the Algarrobal Museum in the Ilo valley, there is a very small group of artificially prepared mummies. In 1996 bodies that showed evisceration cuts were accidentally spotted among the looted mummies at the site of Chiribaya Baja. We conducted a rescue excavation in the area and were able to recover complete contexts that include this type of mummy. Further work has allowed us to recover prepared bodies from other Chiribaya sites such as Loreto Viejo and Algodonal.

The Chiribaya contexts that include artificially mummified bodies do not differ highly from typical burials of the culture. Nevertheless, the analysis indicates that the mummies were either kept above ground for a long period after death, or they were visited and the textile wrappings were changed and more offerings were presented.

The prepared bodies show long abdominal cuts used to empty the body cavities that were then thoroughly cleaned. The spaces were filled with raw wool, food such as corn, tubers of manioc and sweet potato, and coca leaves. One very old male showed via radiography, a small ceramic jar containing coca leaves which had been placed inside the chest. The preparation process must have been very fast and thorough as there is no important evidence of fly and/or beetle activity associated to the decomposition process of the body. The opening was closed with wool yarn. The skin was not cured, although some cleaning must have been applied and used to prevent insect activity.

Most of the prepared bodies showed that over time the outer wrappings had been replaced or covered with new cloaks. At this point it is difficult to ascertain when this happened. In the case of a 30-year-old woman the top part of the cranium had become whitened and calcined from exposure to the sun, while the

covered parts were still dark. Moreover, the relatives and friends of the diseased had used black yarn to complement the dark hair that the head of the woman had lost whilst on display and participating in community and family rituals.

The characteristics of these mummies and the evidence of ritual activity follow closely the descriptions of early Spanish chroniclers about royal Inca mummies. Considering that the Chiribaya predate the Inca we have here the precursor of a tradition that continued through time. It is still elusive to address why only some bodies were prepared. There are no clear indicators why few individuals among the Chiribaya were treated after death. It is clear that some of the bodies participated in a prolonged ritual life among the living, while others were buried promptly and were on occasions brought out of their tombs or visited.

The Chiribaya were not a highly stratified society, although some individuals were clearly distinguished and had a larger number of offerings. Age or sex were not the key for differences. At some point both the prepared mummies and the bodies of those that desiccated naturally were interred in the prepared tombs, clearly marked, and including elements that assured food, tools, souvenirs and sacred elements such as coca leaves were included for the afterlife.

Keeping the mummies among the living is a pattern described for the Incas, and which is already present among this coastal group. It is reasonable to assume that similar concepts of ancestor cults and beliefs of the afterlife were shared among other Andean societies who share common ancestors through history.

Chachapoya-Inca

More recently, in 1997 discoveries at La Laguna de los Condores in the cloud forest in northeastern Peru have facili-

tated our understanding of the Inca mummification process. An emergency project allowed the recovery of 219 mummies at a site originally built by the Chachapoya people in a remote cliff overlooking a lake^{53,54}.

The site was found by looters but prompt archaeological work recovered unique evidence of these peoples. This humid area was the one with the least expectations for the preservation of organic material. In fact, the archaeology of the Chachapoya culture has had to rely on its impressive monumental architecture and pottery for cultural reconstruction. In this case, the careful selection of the location for funerary remains along with the cultural practices to prepare the bodies were responsible for this exceptional preservation.



Fig. 7. Artificial Chachapoya mummy. Male.

Site LC1 at Laguna de los Condores includes six funerary houses built by the Chachapoya people. This society is dated to the Late Intermediate period of Andean prehistory between AD 800 to 1470. Although the archaeology of the area can still be considered underdeveloped, ethnohistorical documents present the Chachapoya as a series of ethnic groups of warriors and farmers. These people settled in a large area encompassed by the Marañon river to the west and the Huallaga in the east.

Their fierce character is praised in the accounts of their resistance to Inca domination⁵⁵. Eventually the size and greater resources of the aggressive army won and there was a long period of Inca domination. This is clearly perceived at Laguna de los Condores, the new administrators emptied most of the funerary rooms, added a new one, and replaced the contents with the members of this new Chachapoya-Inca society.

The old Chachapoya contents of the funerary rooms remained, but their human bones appear to have been put to one side in Mausoleum 1. Examination of the bones shows that the old funerary tradition involved secondary interment of the dead. The bones of the de-fleshed bodies were put together in bundles that also included hair, some remnants of soft tissue and personal objects. These bundles were tied up with rope, wrapped with cotton cloth and placed either in baskets or as funerary bundles. Red pigment had been applied to some of the bones whilst several showed evidence of having been gnawed by animals, and others had been worked with sharp instruments.

The rooms were divided in two levels, the roofs and specially made balconies were used for funerary bundles that contained the body of the new administrators. The quantity and type of offerings presented to these bodies indicate that this funerary site was used for an elite

group. This statement is reinforced by the find of a large number of quips, the memory device of cords with knots used by the Inca to store data⁵⁶.

All the mummies recovered at the site were artificially prepared. This was hinted by the simple fact that none of the bodies had the usual smell of a natural mummy. Some had an antiseptic smell. The corpses had been dried and forced into a very tightly bound position, such treatment produced a very light and compact package easy to transport in the highly rough terrain in the area.

The preparation of the bodies must have involved a lengthy process suggested by the large accumulation of pupae of blue flies that had the time to set over the untreated parts of the body and lay their eggs. Nevertheless, insects usually did not cause extensive damage. Furthermore, there is no single presence of dermestid beetles, which would suggest advanced decomposition. The artificial procedure was able to control the natural course of events.

There was no space or conditions for the bodies to have been prepared at the site. Therefore, the mummies needed transport over some distance or even from the site of Llaqtacocha⁵⁷ at the other side of the lake. The most drastic step was to enlarge the anus in order to remove the contents of the intestinal cavity. This area was cleaned and allowed to dry, although it was not filled up, a cloth plug was placed to close the enlarged opening. In most cases the plug was replaced until the last one was a clean package of cloth. The thoracic cavity was left intact above the diaphragm, allowing important observations on health conditions among these people in the future.

The process of artificial mummification would have taken a long time in order to prepare the skin. Most hair on the body and the head was lost with this pro-

cedure. The materials used to cure the skin have not been fully identified. There is a strong possibility that native plants such as *poleo* and *muña* were used. Small packages containing odorous leaves of these plants were placed near the mummies.

Facial features were conserved using raw cotton to fill in the nostrils, underneath the cheeks and inside the mouth. The prepared dry and light body was dressed up, a cloth was usually placed around the neck to keep the head vertical. The exterior wrappings include a series of cotton cloaks. A large number of the exterior wrappings were embroidered with typical Chachapoya designs used in Chachapoya friezes⁵³ and some exhibit embroidered faces, a very unique feature.

Women and men, adults and children in this group were all artificially prepared. Repented looters described that when the site was found intact, several of the bundles were connected one to the other, and they were facing the lake. Clearly the Inca following their political program had assimilated local members into the new administrative group. Otherwise they had incorporated local cultural traits in their clothing and the practices used to prepare and present their dead. Although some natural mummies have been reported for other Chachapoya sites, these are most probably variations of the Chachapoya burial pattern, the artificial procedure must have been imported from the Cuzco area.

The use of the funerary rooms is a clear statement on domination as the conquering group replaced the old ancestors who were pushed to a less important place and the new group took over the sacred funerary site. The Laguna de los Condores, as other water sources in the Andes, had a sacred significance as a place of origin. The long and bloody conquering process was confirmed by clear statements

of control over the space and the landscape. The spiritual war was also won.

As in other Andean areas and cultures the funerary behavior exhibited by both the Chachapoya and the Chachapoya-Inca at Laguna de los Condores, reflects the strong importance of a cult to the ancestors. It is clear that the mummies were visited, new offerings were brought, and in several cases the presentation of the wrappings was modified and improved. The visits must have involved the presentation of food and beverages, liquids that have left stains over the bundles.

The introduction of Christianity in the new world, with the extirpation of idolatries involved the destruction of most mummies and ritual places. The use of the sites at Laguna de los Condores continued well into colonial times, maybe as a hide away place or a place too remote to be affected by the evangelization programs. One way or the other, Christian elements such as a cross, and post contact artifacts were incorporated in the offerings presented to the ancestors, The continuity of the cult prevailed. These mummies are a significant find since they are the only remaining Inca period artificial mummies that reflect some of the descriptions of the early chroniclers, and are also the first mummies found in the cloud forest in Peru.

Conclusions

Artificial mummification developed and reached its greatest sophistication in both Egypt and in the Andes. Artificial procedures assured the preservation of bodies even in areas as the cloud forest where intense humidity does not favor preservation.

It is clear that the techniques of artificial mummification developed in places where natural conditions favor corpse desiccation. This phenomenon was apparently observed by ancient settlers and in

each example, they attempted to replicate and enhance natural corpse preservation.

In Egypt, efforts were placed upon preserving a body that when united with the spirit or soul following mummification would persist as a whole individual in the afterlife. Intact ascent to the afterlife became an increasing preoccupation of both elite and commoners alike.

The Chinchorro example is more enigmatic. We have no written record, only a long-standing coastal tradition for funerary ostentation⁵⁸. In addition, such complex disposal forms may be unexpected in pre-state societies. Ethnographically, however, we know that artificial mummification is not restricted to complex societies, as in the ancient Egyptian example. One compelling explanatory argument follows upon theories of interment behavior^{59–61} that link funerary ritual and disposal facilities to ancestrally-validated rights to the control of significant and scarce resources. Rights to fresh water or especially productive fishing loci could be among those considered significant, though as cultural beings we must realize that importance need not be judged on a strictly economic basis. Clearly, at one level, the Chinchorro mummification procedure represents a unique and complex disposal form, while at another this is yet another way to engage the ancestors in the lives of their descendants, thus comprising an ancestor cult, a common feature of sedentary Archaic groups⁸.

Artificial mummification is not restricted to complex societies like the ancient Egyptians. Mummification was used among aboriginal Australians, Arctic people, and others⁶². Nevertheless, as a cultural practice it is considered a trait of complex groups and presumably should not be present among prehistoric Archaic groups. The Chinchorro culture presents a clear association of a sophisticated feature (artificial mummification) and an

egalitarian society. The great variability among the mummies is another impressive feature of the Chinchorro artificial mummies.

In the cases of artificial mummies of the Chiribaya and the Chachapoya-Inca⁶³ these are clearly part of a long tradition. Although no derivation can be proposed from the very ancient Chinchorro practice, there are ideas that might have passed through and influenced the Chiribaya 3,000 years later.

In both the Chiribaya and the Chachapoya-Inca mummies are important elements in the life of their communities concerned with ancestral cult. The ancestors are kept alive and active, providing and reinforcing the sense of identity and power over the territory.

REFERENCES

1. QUIRKE, S., J. SPENCER (Eds.): The British Museum book of ancient Egypt. (British Museum Press, London, 1992). — 2. SMITH, G. E., W. R. DAWSON: Egyptian mummies. (Kegan Paul International Ltd., London, 1991 [1924]). — 3. STROUHAL, E.: Life of the ancient Egyptians. (The American University in Cairo Press, Cairo, 1992). — 4. ALLISON, M. J., National Geographic Reports, 21 (1983) 1. — 5. ALLISON, M., G. FOCACCI, B. ARRIAZA, V. STANDEN, M. RIVERA, J. LOWENSTEIN, Chungará, 13 (1984) 155. — 6. ARRIAZA, B. T.: Beyond death: The Chinchorro mummies of ancient Chile. (Smithsonian Press, Washington, 1995). — 7. ARRIAZA, B. T., V. STANDEN: Muerte, momias y ritos ancestrales: La cultura Chinchorro. (Ediciones Universidad de Tarapacá, Arica, 2002). — 8. GUILLEN, S. E.: The Chinchorro culture: Mummies and crania in the reconstruction of preceramic coastal adaptation in the South Central Andes. Ph.D. Thesis. (University of Michigan, Ann Arbor, 1992). — 9. AUFDERHEIDE, A., I. MUÑOZ, B. ARRIAZA, Am. J. Phys. Anthropol., 91 (1993) 189. — 10. TELLO, J. C., In: Proceedings. (XXII Congreso Internazionale degli Americanisti, 1926). — 11. VREELAND, J. M., A. COCKBURN, Mummies of Peru. In: COCKBURN, A., E. COCKBURN (Eds.): Mummies, disease and ancient cultures. (Cambridge University Press, Cambridge, 1980). — 12. ALLISON, M. J., A. PEZZIA, Paleopathology Newsletter, 4 (1973). — 13. RIVERO DE LA CALLE, M., Ciencias 9. (Antropología e Historia 3). — 14. SULLIVAN, M. B., K. SCHRAM, Investigation of

Acknowledgement

Horst Seidler has been the drive, the heart and the brain of the Austrian involvement in Peruvian bioarchaeological projects. Some of them such as Museum Leymebamba have flourished as an important resource for tourism and community development in the region. His warmth and his character are part of the local history of the town. He has brought resources, scientists and long lasting friends such as Minister Elisabeth Gehrler. Other friends such as Peter Mahringer and Fritz Astl, who are not with us anymore, are examples of those good friends of Horst that have contributed to his dreams and projects.

exudate formation of prehistoric human mummified remains from the American Southwest. In: BLACK, J. (Ed.): Recent advances in the conservation and analysis of artifacts. (Summer Schools Press, University of London, London, 1989). — 15. VERANO, J. W., Mummies of the north coast of Peru. (2nd World Congress on Mummy Studies, Cartagena, Colombia, 1996). — 16. UBBELOHDE-DOERING, H.: On the royal highway of the Inca. (Praeger, New York, 1966). — 17. HEYERDAHL, T., D. SANDWEISS, A. NARVÁEZ, L. MILLONES: Túcume. (Banco de Crédito del Perú, Lima, 1996). — 18. REISS, J. W., M. A. STUBEL: The necropolis of Ancón in Perú: A contribution to our knowledge of the cultures and industries of the empire of the Incas, being the results of excavations made on the spot. (Ascher, Berlin, 1880–87). — 19. ALLISON, M. J., A. PEZZIA, E. GERSZTEN, D. MENDOZA, Am. J. Phys. Anthropol., 41 (1974) 295. — 20. SCHOBINGER, J.: La «Momia» del Cerro el Toro. (Taller Gráfico, Mendoza, 1966). — 21. SCHOBINGER, J., Natural History, 4 (1991) 63. — 22. MOSTNY, G., Boletín del Museo de Historia Natural, 27 (1957) 1. — 23. CHECURA, J., Estudios Atacameños, 5 (1977) 125. — 24. BESOM, T., Natural History, 4 (1991) 66. — 25. REINHARD, J., National Geographic, 181 (1992) 83. — 26. REINHARD, J., National Geographic, 191 (1997) 36. — 27. REINHARD, J., National Geographic, 196 (1999) 36. — 28. CERUTI, M. C., World Archaeology, 36 (2004) 103. — 29. PONCE SANGINÉS, C., E. LINARES ITURRALDE: Comentario antropológico acerca de la determinación

- paleo-serológica de grupos sanguíneos en momias prehispánicas del altiplano boliviano. (La Paz, 1966). — 30. JIMÉNEZ DE LA ESPADA, M.: Relaciones geográficas de Indias. (Madrid, 1965). — 31. ACOSTA, J. D.: Historia natural y moral de las Indias. (Biblioteca de autores españoles, Madrid, 1954 [1590]). — 32. COBO, B.: Historia del Nuevo Mundo. (Biblioteca de autores españoles, Madrid, 1964 [1653]). — 33. GARCILASO DE LA VEGA, E. I.: Royal commentaries of the Incas and general history of Peru. Part 1. Translated by Harold V. Livermore. (University of Texas Press, Austin, 1987). — 34. GUAMÁN POMA DE AYALA, F.: Nueva corónica y buen gobierno. (Siglo Veintiuno Editores, México, 1980 [1615]). — 35. POLO DE ONDEGARDO, J.: Instrucción contra las ceremonias y ritos que usan los indios conforme al tiempo de su gentilidad. (Colección de libros y documentos referentes a la historia del Perú, Lima, 1916 [1567]). — 36. SANCHO DE LA HOZ, P.: Relación para S. M. de lo sucedido en la conquista y pacificación de estas provincias de la Nueva Castilla y de la calidad de la tierra, después que el Capitán Hernando Pizarro se partió y llevó a S. M. la relación de la victoria de Caxamalca y de la prisión del cacique Atabalipa. (Colección de Libros referentes a la historia del Perú, Lima, 1938 [1525]). — 37. VALERA, B.: Las costumbres antiguas del Perú y la historia de los Incas. (Los pequeños libros de historia americana. Miranda, Lima, 1945 [ca. 1590]). — 38. STEAD, I. M., J. B. BOURKE, D. BROTHWELL (Eds.): Lindow man: The body in the bogs. (British Museum Publications, London, 1986). — 39. HART HANSEN, J. P., J. MELDGAARD, J. NORDQVIST, National Geographic, 167 (1985) 190. — 40. SEIDLER, H., W. BERNHARD, M. TESCHLER-NICOLA, W. PLATZER, D. ZUR NEDDEN, R. HENN, A. OBERHAUSER, T. SJØVELD, Science, 258 (1992) 369. — 41. SPINDLER, K.: El hombre de los hielos. (Galaxia Gutenberg, Barcelona, 1999). — 42. FLECKINGER, A., H. STEINER: The Iceman. (South Tyrol Museum of Archaeology, Bolzano, 2000). — 43. COTTON, G. E., A. C. AUFDERHEIDE, V. G. GOLDSCHMIDT, J. Forensic Sci., 32 (1987) 1125. — 44. MICOZZI, M.: Postmortem change in human and animal remains: a systematic approach. (Charles C. Thomas Publisher, Springfield, 1991). — 45. SANTORO, C., Antiguos Cazadores de la Puna (9,000 a 6,000 a. C.). In: HIDALGO, J., V. SCHIAPPACASSE, H. NIEMEYER, C. ALDUNATE, I. SOLIMANO (Eds.): Culturas de Chile: Prehistoria. (Editorial Andrés Bello, Santiago, 1989). — 46. UHLE, M., Boletín de la Sociedad Ecuatoriana de Estudios Históricos Americanistas, 3 (1919) 1. — 47. UHLE, M.: Fundamentos étnicos y arqueología de Arica y Tacna. (Sociedad Ecuatoriana de Estudios Históricos Americanos, Quito, 1922). — 48. UHLE, M., Chungará, 3 (1974) 13. — 49. BIRD, J. B., Anthropological Papers, American Museum of Natural History, 38 (1943) 173. — 50. MOSTNY, G., Boletín del Museo Nacional de Historia Natural, 22 (1944) 135. — 51. LOZADA, M. C., J. E. BUIKSTRA: El señorío de Chiribaya en la costa sur del Perú. (Instituto de Estudios Peruanos, Lima, 2002). — 52. AUFDERHEIDE, A. I.: The scientific study of mummies. (Cambridge University Press, Cambridge, 2003). — 53. GUILLEN, S. E.: Arqueología de emergencia: Inventario, catalogación y conservación de los materiales arqueológicos de los mausoleos de la Laguna de los Cóndores. Final Report. (Instituto Nacional de Cultura, Lima, 1998). — 54. VON HAGEN, A., S. GUILLEN, Archaeology, 51 (1998) 48. — 55. VON HAGEN, A., People of the clouds. In: GONZÁLEZ, E., R. LEÓN. (Eds.): Chachapoyas el Reino Perdido. (Integra AFP, Lima, 2002). — 56. URTON, G.: Quipu: Contar Anudando en el Imperio Inka. (Museo Chileno de Arte Precolombino and Universidad de Harvard, Santiago, Chile, 2003). — 57. GUILLEN, S. E.: Evaluación y delimitación del sitio arqueológico Llaqtacocha. Final Report. (Instituto Nacional de Cultura, Lima, 1999). — 58. BUIKSTRA, J. E., Tombs for the living...or...for the dead: The Osmore ancestors. In: DILLEHAY, T. D. (Ed.): Tombs for the living: Andean mortuary practices. (Dumbarton Oaks, Washington, 1995). — 59. CHARLES, D. K., J. E. BUIKSTRA, Archaic mortuary sites in the central Mississippi drainage: Distribution, structure, and behavioral implications. In: PHILIPS, J. L., J. A. BROWN (Eds.): Archaic hunters and gatherers in the American Midwest. (New York, 1983). — 60. GOLDSTEIN, L. G., One-dimensional archaeology and multi-dimensional people: Spatial organisation and mortuary analysis. In: CHAPMAN, R., I. KINNES, K. RANDSBORG (Eds.): The archaeology of death. (Cambridge University Press, Cambridge, 1981). — 61. SAXE, A. A.: Social dimensions of mortuary practices. Ph.D. Thesis. (University of Michigan, Ann Arbor, 1977). — 62. COCKBURN, A., E. COCKBURN (Eds.): Mummies, disease and ancient cultures. (Cambridge University Press, Cambridge, 1980). — 63. GUILLEN, S. E.: Las Momias de la Laguna de los Cóndores. In: GONZÁLEZ, E., R. LEÓN (Eds.): Chachapoyas el Reino Perdido. (Integra AFP, Lima, 2002).

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MUMIJE S ANDA

SAŽETAK

Godine 1997., skupina poljoprivrednika pronašla je netaknuto groblje u šumama sjeveroistočnog Perua. Ubrzo je uslijedio arheološki projekt spašavanja koji je omogućio otkriće važne kolekcije mumija i arheoloških nalaza. Nalazi su dali uvid u kulturu naroda Chachapoja koji je nastavao ovaj prostor u vremenu od 900. godine pa sve do godine 1475 kada su Inke zauzele ovaj teritorij. Otkrivene mumije pružaju dokaze o načinima očuvanja ljudskih tijela koje je ovaj narod otkrio i koristio. Na sličan način su načinjene i mumije naroda Chinchorro i Chiribaya. Kulturološka interpretacija aktivnosti povezanih s pokopom raspravljena je u svjetlu prakticiranja kulta predaka te korištenja dostupnih prirodnih materijala i prostora.