Unique Infant Mortuary Ritual at Salango, Ecuador, 100 BC

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The human head was a potent symbol for many South American cultures. Isolated heads were often included in mortuary contexts, representing captured enemies, revered persons, and symbolic "seeds." At Salango, a ritual complex on the central coast of Ecuador, excavations revealed two burial mounds dated to approximately 100 BC. Among the 11 identified burials, two infants were interred with "helmets" made from the cranial vaults of other juveniles. The additional crania were placed around the heads of the primary burials, likely at the time of burial. All crania exhibited lesions associated with bodily stress. In this report, we present the only known evidence of using juvenile crania as mortuary headgear, either in South America or globally.

Keywords: mortuary ritual, Salango, Ecuador, crania

La cabeza humana fue un símbolo importante para muchas de las antiguas culturas sudamericanas. A menudo, las cabezas aisladas se incluían en contextos funerarios, representando enemigos, personas importantes y "semillas" simbólicas. Las excavaciones realizadas en Salango, un sitio ritual ubicado en la costa central de Ecuador, durante 2014–2016, revelaron dos montículos funerarios en el perímetro norte del santuario, con una cronología de 100 aC. Entre los 11 entierros recuperados, dos infantes tenían cráneos adicionales, depositados alrededor de sus respectivas cabezas, probablemente durante el rito funerario. Todos los cráneos presentaron lesiones asociadas con malnutrición y enfermedades infecciosas. En este informe presentamos los únicos ejemplos de este rito funerario en el mundo. Sugerimos algunas explicaciones preliminares acerca de por qué la gente de Salango llevó a cabo esta práctica.

Palabras clave: ritos funerarios, Salango, Ecuador, cráneos

Heads are biologically vital and individually recognizable, making them potent symbols of identity both in South America and globally (Arnold and Hastorf 2008; Blom 2005; Bonogofsky 2011; Sofaer 2006; Tiesler and Lozada 2018). Once removed from a human body, a head can be easily manipulated as a cultural artifact. Consequently, heads have been used to convey messages of belonging, status, fertility, dominance, and control. In South American mortuary contexts, isolated crania are usually identified as captured war victims or idolized ancestors, and they are often labeled "trophy heads" (Conlee 2007; Tung and Knudson 2010; Verano 2016; Weismantel 2015). These heads played many roles, from demonstrating military and physical prowess to representing seeds and regeneration, and they were created from kin and enemies alike in regions of coastal and highland western South America (Conlee 2007; Di Capua 2002; Gutiérrez Usillos 2011:308–314; Tung and Knudson 2010).

The isolated heads of children are less common (Tung and Knudson 2010). Deceased children were often given special mortuary treatment to protect their presocial and wild souls (Baitzel 2018; Blom and Couture 2018; Toyne 2018). By treating deceased children in unusual or symbolic ways, people created and controlled their universes—given that children's souls, in particular, acted as benefactors to the living (van Kessel 2001) and affected

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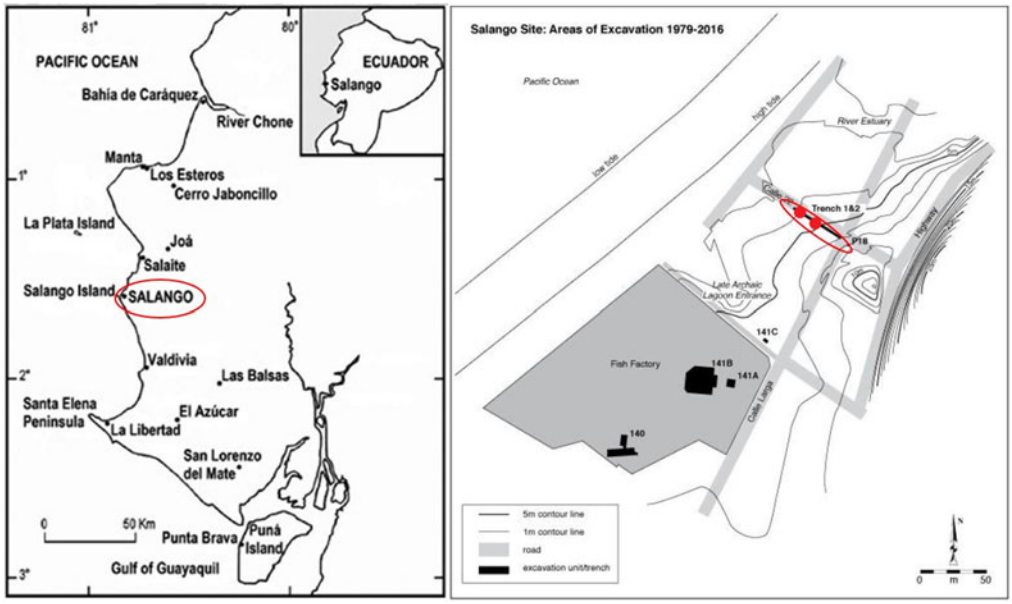

Figure 1. Map of the central Ecuadorian coast, showing the locations of Salango and 2014–2016 excavations (circled, mounds marked by dots). (Color online)

agricultural production, human fertility, and seasonal patterns of rain (Allen 1988). Ritual burials from the western coast of South America regularly included juveniles (Benson 2001; Klaus et al. 2016; Prieto et al. 2019; Toyne 2018; Turner et al. 2013; Verano 2001). Although most of these were complete skeletons, rather than isolated skulls, two juveniles at Huaca de la Luna were headless, suggesting their heads were retained elsewhere for continued use (Bourget 2001).

In all contexts, the regular use of head imagery and physical manipulation of real human crania shows that heads separated from bodies played important roles for past South American peoples (Arnold and Hastorf 2008). Here, we present a unique mortuary practice from Salango, Ecuador, where two infants were buried wearing the crania of other juveniles.

Archaeological Context

Beginning around 100 BC, Guangala was a chiefdom culture from the Santa Elena Peninsula in Ecuador that reached north just beyond the multicomponent coastal site of Salango (Figure 1; Bushnell 1951; Lunniss 2019; Masucci 1992; Norton et al. 1983; Stothert 1993). Following a volcanic ash fall (Lunniss 2001:86, 292), Early Guangala ritual practitioners at Salango buried people at a Late Engoroy (600–100 BC) funerary platform in Sector 141B (Lunniss 2001) and created two new small funerary mounds 150 m to the northeast in Calle 22 (Lunniss 2016).

Eleven individuals were recovered from these burial mounds during rescue excavations that took place from 2014 to 2016 (Lunniss 2016). All were buried in extended positions along intercardinal alignments: four infants from the west mound; two adults, one juvenile, and four infants from the east mound. Small artifacts and shells were set around, under, or over the infant and adult burials. Two infants had Late Engoroy stone ancestor figurines (Lunniss 2008) placed around their heads. Most notably, two infant burials (one from each mound) were found with their heads encased by the modified crania of other individuals (Supplemental Figure 1; Table 1).

Methods

The heads and encasing crania of Burials 370 and 339 were removed from the mound in the

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Table 1. Burials 370 and 339 and Associated Remains.

Burial	Bones Present	Age	Pathology	Trauma
370	Skull, thorax, arms	18 months	CO, PH	No
370a	Calotte	4–12 years	Circumscribed porosity	Cutmark, hinged fragment edges
339	Complete skeleton	6–9 months	CO, periostitis	No
339a	Calotte	2–12 years	PH	No

surrounding soil matrix to preserve all skeletal elements. In June 2018, Juengst and Bythell separated the cranial layers and assessed the burials for demography, pathology, and trauma. Age at death was determined by tooth eruption and root formation (Ubelaker 1989). Age for the extra crania was estimated based on cranial bone development (Cunningham et al. 2016:105). We did not estimate sex because of the juvenile nature of the remains.

We recorded cranial pathology by location, nature of the lesion (diffuse, circumscribed, etc.) and evidence for remodeling. Post-cranial pathology was recorded by skeletal element and evidence for remodeling. Differentiating between pathological bony deposition and normal juvenile bone development can be difficult. Pathology was assumed when lesions were irregularly distributed and/or appeared plaque-like (Lewis 2018:10–12).

Trauma was macroscopically observed and recorded by skeletal element. Cutmarks were observed microscopically using a Dino-Lite Pro AM413T Microscope Camera. Trauma timing was noted as antemortem (based on healing or bony remodeling), perimortem (with evidence of hinging of bone), or postmortem (no evidence of remodeling or hinging; Lewis 2018:92–98, 102).

Results

Burial 370 included the thorax, arms, and head of an infant, found in anatomical position and undisturbed prior to excavation. Age at death was estimated at 18 months. Pathology included active cribra orbitalia and partially healed circumscribed porous lesions on the parietals (Supplemental Figure 2a). No trauma was recorded. The modified cranium of the second juvenile was placed in a helmet-like fashion around the head of the first, such that the primary individual's face looked through and out of the cranial vault of the second. Very little space was between the two crania, suggesting that the additional cranium was in place at the time of burial. Between the two cranial layers, we recovered a small shell and a juvenile hand phalanx.

The modified cranial elements included fragments of both left and right parietals, the right greater wing of the sphenoid, and the occipital, in anatomical articulation with each other. No postcranial remains were identified. Age for the second cranium was estimated between 4 and 12 years of age. Pathology included severe and active circumscribed porous lesions on both parietals (Supplemental Figure 2b). Many of the cranial fragments had hinged straight edges, indicating perimortem cutting of the bones to create the "helmet"; nevertheless, cutmarks were only noted on two fragments (Supplemental Figure 2c). It seems likely that the modified cranium was still fleshed when it was processed, due to the fact that the extra fragments were positioned in anatomical position, and juvenile crania often do not hold together, depending on the timing of cranial sutural fusion.

Burial 339 was a primary infant burial with additional cranial bone surrounding the skull. The infant skeleton was complete and in anatomical position, estimated to be six to nine months old at the time of death. Pathology included woven periosteal reactions on both tibial shafts, active pitting on the right parietal, and endocranial pitting on both temporals (Supplemental Figure 2d). No trauma was recorded. The two layers of cranial bone had very little substrate between them, suggesting the simultaneous burial of the primary individual and the additional cranium.

Extra cranial bones included 22 fragments of parietal, temporal squama, and occipital,

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oriented in anatomical position. No postcranial remains were identified. Age was estimated between 2 and 12 years. Pathology included circumscribed porous lesions on four parietal fragments. No cutmarks or trauma were recorded on these fragments, but it seems likely this cranium was processed while the skull retained flesh to hold these cranial bones intact.

Discussion

These two infants from Salango were primary burials with no evidence of either secondary opening of the tombs or later manipulation of elements. The anatomical positioning and articulation of the additional crania and close association with the primary skulls suggest they were included at the time of initial burial. Although we cannot yet say to whom these additional crania belonged, nor do we yet fully understand the extended funerary program at Salango (including the deposition of other infants without extra crania, stone figurines, and mortuary goods reflecting influence from multiple regions), it is clear that people manipulated heads and juvenile burials in important ways during this time. Isolated heads in South America were and are symbolically important (Arnold and Hastorf 2008; Weismantel 2015), and deceased children were often given special mortuary treatment (Baitzel 2018; Blom and Couture 2018). The extra crania included with infant burials at Salango may represent an attempt to ensure the protection of these "presocial and wild" souls. The surrounding of infant heads by stone ancestor figurines underscores this, indicating a concern with protecting and further empowering the heads.

These burials also presented significant pathological lesions for the region and period (Bythell 2019; Jastremski 2006; van Voorhis 2015; cf. Ubelaker 1983). A tantalizing hypothesis is that this bodily stress is related to the volcanic ash fall that preceded these burials (Isaacson and Zeidler 1998), and that the treatment of the two infants was part of a larger, complex ritual response to environmental consequences of the eruption. More evidence is needed to confirm this.

In this report, we present a mortuary tradition without known parallels. Heads in South America have long been linked with ritual, symbolic, and real power (Arnold and Hastorf 2008), but these data from Salango present a highly specific mortuary practice in which the infant dead were interred wearing a "helmet" made from crania of other children. Ongoing analyses of DNA and strontium isotopes will help us understand the relationships between the primary individuals and the children whose heads they wore, and radiocarbon dates will secure our chronological understanding of the practice. We hope that by reporting these burials, similar patterns may be identified in other contexts.

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Data Availability Statement. Please contact the authors for original data.

Supplemental Material. For supplementary material accompanying this article, visit https://doi.org/10.1017/laq.2019.79.

Supplemental Figure 1. Burials 370 and 339 in situ.

Supplemental Figure 2. (a) Pathology of burial 370; (b) extra cranium; (c) straight hinged edges of the extra cranium; (d) pathology of burial 339.

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