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Llama offerings in an early village landscape: new data from northwestern Argentina (200 BC–AD 800).

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Llama offerings in an early village landscape: new data from northwestern Argentina (200 b.c.–a.d. 800)

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Archaeological research carried out in the village settlement of La Bolsa 1, Tafí Valley, Tucuman Province, Argentina, shows the relevance of outdoor spaces in the study of the ritual use of early constructed landscapes. A ritual llama offering was discovered in excavations of an agricultural terrace at this site. This feature dates to 1883 ± 46 B.P. (calibrated A.D. 70–180). The analysis of this context provides important insights for understanding the social reproduction strategies employed by domestic groups during the Formative Period ca. 200 B.C.–A.D. 800 in northern Argentina.

Las investigaciones arqueológicas llevadas a cabo en un asentamiento aldeano denominado La Bolsa 1, Provincia de Tucumán, Argentina, constatan la importancia de los espacios extramuros para el análisis del uso del ritual y la construcción de paisajes tempranos. Durante la excavación de un andén se registró una ofrenda constituida por una "llama" (Lama glama) datada en 1883 ± 46 B.P. (calibrated A.D. 70–180). El análisis de este contexto proporcionó información significativa para el estudio de las estrategias de reproducción social existentes entre los grupos domésticos que habitaron el área durante el Formativo (200 a.C–800 d.C.).

Ritual practices have been analyzed using a number of archaeological indicators, most notably pottery, iconography, and architecture. These analyses, however, often have been limited by unnecessarily restrictive concepts that artificially oppose the sacred with the profane. Such a view relegates religion to an abstract and intangible level, making this powerful human motivation difficult to observe from ordinary archaeological evidence. These kinds of approaches promote research on ritual and religion that is centered on monumental architecture and exotic objects. They therefore ignore possible evidence from other contexts such as residential areas and agricultural land—social domains that are relegated to the "profane." Such a view fosters the notion that societies with "simple" material culture, which lack monumental architecture, have relatively poor symbolic or religious lives.

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Recent work on Andean early village societies has countered this view. This research demonstrates that ritual practices can be found within quotidian life, in daily activity settings, and in household contexts (Abercrombie 1998; Haber 2011; Isbell 1974; Nash 2009; Nielsen 2006; Salazar et al. 2011; Vaughn 2004). This article adds to that process by addressing a ritual practice identified through material evidence located in apparently "profane" areas (in this case, agricultural areas). The use of different types of archaeological evidence allows for a more comprehensive understanding of ritual experience and religious symbolism, highlighting their role in promoting social order and the perpetuation of ideology.

The Site of La Bolsa 1, Province of Tucuman

The Tafí Valley is located in the northwest region of Tucuman Province in northwestern Argentina, between the mountain chains of the Sierras de Aconquija and Cumbres Calchaquíes. The valley is located at 2,500–3,000 m above sea level (m.a.s.l.) (Figure 1). It was inhabited throughout the first millennium A.D. by sedentary villagers who subsisted primarily on maize, potato, and bean agriculture plus camelid herding. Our archaeological field research focused on the village of La Bolsa 1 in the northern area of the Tafí Valley (Figure 2). This site was inhabited between 200 B.C. and A.D. 850. It includes 21 house compounds and a 25 ha system of agricultural fields and terraces. The overall goal of the project was to analyze the social reproduction strategies employed by agents who built and dwelt in the first villages in the southern cone of America. Based on village landscape, dwelling compounds, and agricultural spaces we proposed testing the hypothesis which states that the concentration of settlements or scattering of household compounds in the Tafí Valley could be explained from the practices carried out by persons constituted as members of large domestic groups with segmentary and highly competitive identities. The dispersion and concentration of settlements occurred at different times and as a result of a social logic that persisted for almost a millennium. The study of this logic could be a starting point for understanding the processes of village dispersion on larger spatial frames.

The village layout of La Bolsa 1 indicates a slow aggregation or spontaneous growth rather than any kind of communal planning. Habitation compounds were composed of spatially segregated architectural units of about 200 m^2 that included food storage features, craft production areas, and material features which seem to emphasize kinship relationships (i.e., monoliths, burials, and so forth). The dwellings typically included a circular open courtyard, about 10–20 m wide, surrounded by circular rooms about 2–8 m in diameter. Both the courtyards and rooms were built with large stone masonry.

In this article we focus on an offering deposited between A.D. 70–180 which was identified in a terraced field. This event was integrated into the founding of the agricultural structure and it was an important feature that recalled some practices about the history of the community.

Ritual Materiality

Terrace

An agricultural terrace was identified in an area between some house compounds. This "terrace" (Figure 3) was built on a slope of 12 percent and covered 1,480 m^2. The enclosure was created with a principal stone wall built perpendicular to the slope using the "cut" and "filler" technique (Treacy 1994). Additional, expediently-constructed walls were built parallel to the slope (these were most likely piled stones created by cleaning the agricultural plots). The terrace enclosure was 28 m long and contained a 1.80-m-wide double wall that cut the field slope in a north-south direction. The height of this wall fluctuated between 0.57 m and 1.15 m. The double wall of this feature most likely was designed to hold back soil carried down by summer rains. This prevented soil erosion and helped to retain humidity in the agricultural fields.

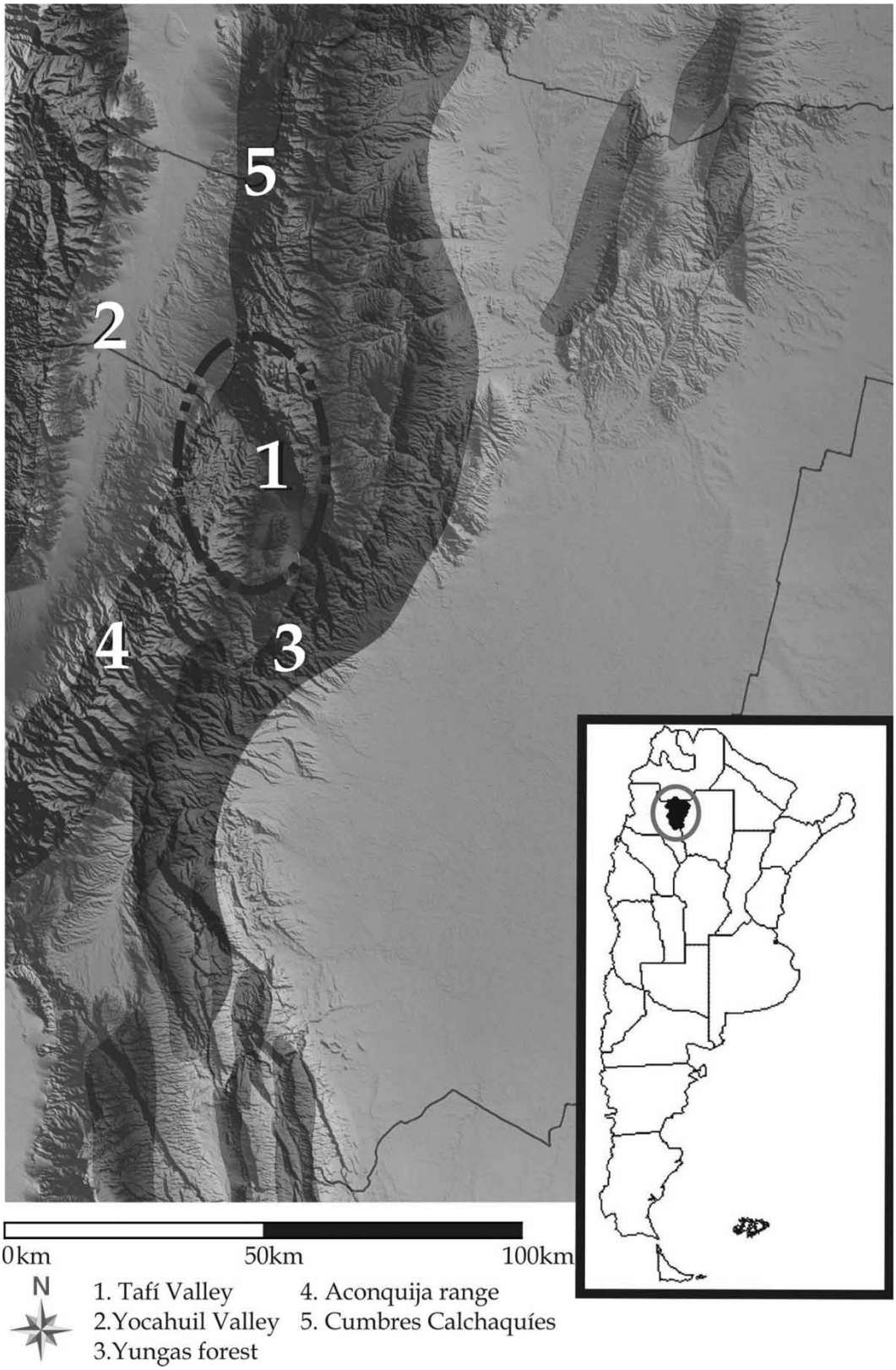

Figure 1. Tafí Valley location in the Province of Tucumán, Argentina.

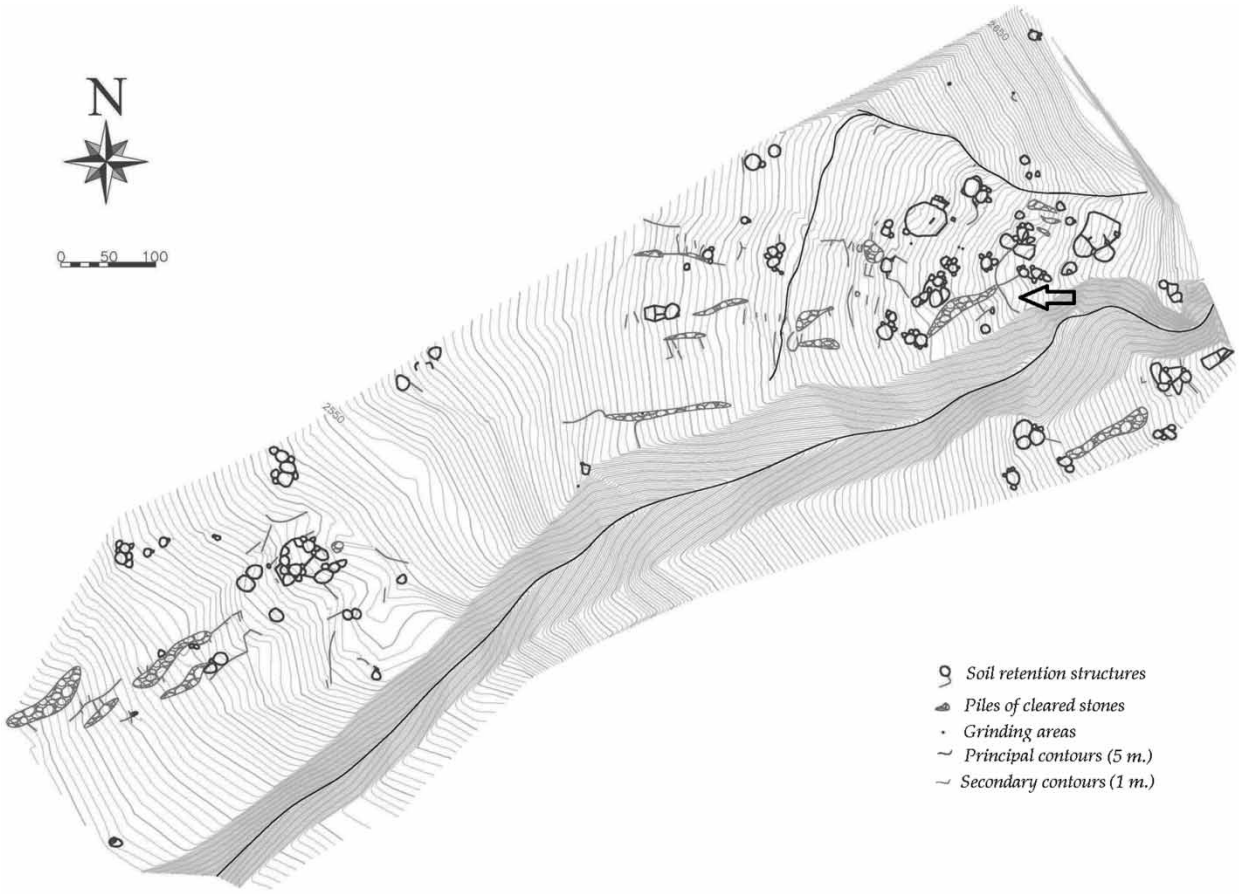

Figure 2. Archaeological site "La Bolsa 1." The arrow indicates the excavated "andén."

Llama Field Offering (Stratigraphic Units UE 705, 706, and 707)

In one of our test trenches we found a circular stone feature at a depth of 0.5 m. Below the surface rocks, we discovered a depositional event that included the skull and limbs of a llama (*Lama glama*), pottery fragments, lithics, and charcoal (Figure 4). Stratigraphic relationships between the structure and the camelid parts suggested that this event was an important part of the dedication of the terrace. This event was dated to 1883 ± 46 B.P. (bone $\delta\ ^{13}C = 19.4$, calibrated A.D. 70–180), suggesting this was one of the earliest structures built on this village site.

Zooarchaeological Analysis. The entire bone assemblage was analyzed using the criteria proposed by several previous studies (Klein and Cruz-Uribe 1984; Lyman 1994; Mengoni Goñalons 1999; Reitz and Wing 1999; Stiner 1994, 2005). As a first step, bones were taxonomically and anatomically identified. Taxonomical identification required the use of faunal comparative samples and published bone guides for camelids (Pacheco Torres et al. 1979) and cervids (Altamirano Enciso 1983). Camelid species identification was carried out through measurement of the width and height of first phalanx articular surfaces. We included the sex differentiating methodology proposed by Cristian Kaufmann (2009). On the basis of these data, we calculated the Number of Identified Specimens (NISP), the Minimal Number of Individuals (MNI), and the Minimal Number of Elements (MNE) (Lyman 1994; Mengoni Goñalons 1999; Velásquez 2004).

Skeletal parts recovered came from the axis as well as the extremities of one camelid (MNI = 1).

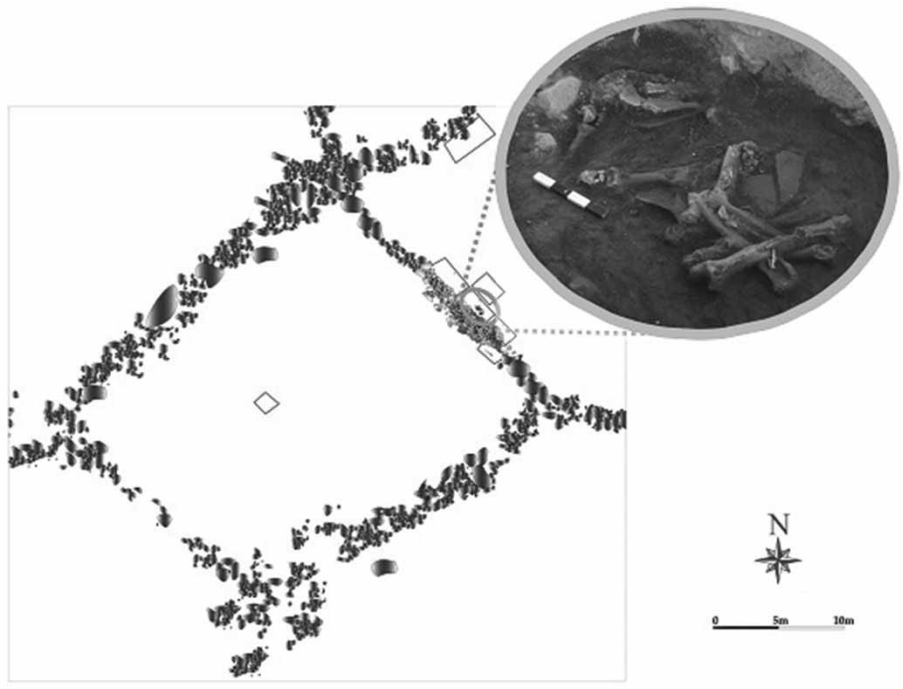

Figure 3. Floor plan of the andén. The oval picture details the offering.

Skeletal elements analyses showed that the skull, mandible, atlas, and two cervicals were deposited articulated, as well as all the extremities (Tables 1 and 2). The rest of the skeleton was absent, probably having been discarded elsewhere. The assemblage presented a low weathering degree—one and two levels according to Behrensmeyer's (1978) scale—denoting a rapidly buried and well-preserved sample.

Upper and lower canines have a wide base, presenting a light aboral curvature (Koford 1957), corresponding with male camelid characteristics (Kaufmann 2009). Teeth showed an advanced degree of growth, with dentine occupying an important section of the occlusal surface and indeed some of the infundibula were highly reduced or completely absent. Consistent with the upper and lower molar wear studies conducted by Kaufmann (2009), the first molar of the maxillae series showed great wear with reduced infundibula (M1, stage 13). The second molar showed wear in both cusps (M2, stage 9–10) and the anterior infundibulum of the third molar was reduced (M3, stage 9). In the mandible series the first molar presented plane cusps and the infundibula had disappeared (M1, stage 11). The second molar presented wear in both cusps (M2, stage 9) and the third presented both infundibula reduced (M3, stage 11). These points support the conclusion that the skeletal assemblage corresponded to one adult camelid of reproductive age between 9–10 years old (Figures 5 and 6). Measurements for the width and height of the proximal articular surfaces of the four first phalanxes match with the size range identified for *Lama glama* (width: 22 mm and height: 20 mm) (Izeta et al. 2009).

Pottery Analysis. In the first place, pottery fragments were sorted by techno-typological classes, applying as main criteria clay and surface finishing features (Berberián and Argüello 1988). The five techno-typological classes could be included in two general groups already recognized in contemporaneous archaeological sites of this area (Bugliani 2008; Duglosz et al. 2009; Scattolin 2006, 2007; Spano 2011): coarse and fine. After this initial sorting, the sherds were assigned to a family of fragments, considering clay, surface, color, decoration, curvature, and wall thickness (Orton et al. 1993). Each family was sorted by morphological classes

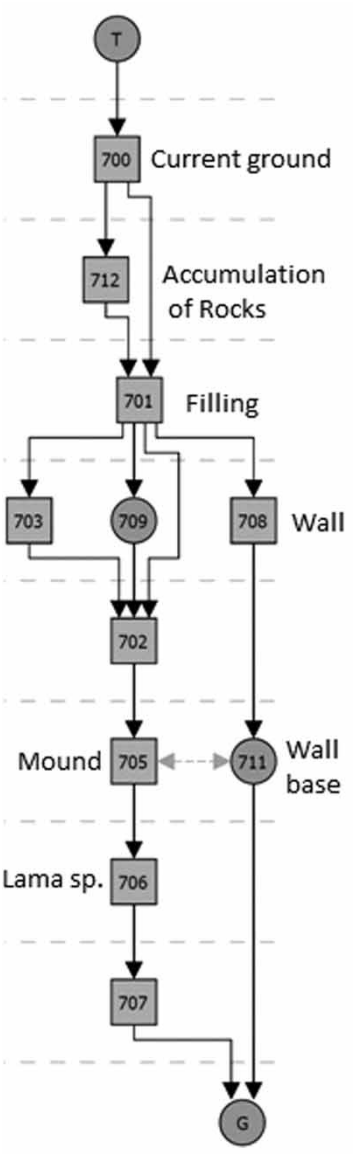

Figure 4. Harris matrix of trench 1 in the andén at La Bolsa 1 archaeological site.

(following Berberián and Argüello 1988) and one sherd per family was analyzed for its technological features. The paste descriptive study was conducted through the observation of fresh fractures with a binocular magnifying glass (12–60×).

An assemblage of 38 well-preserved ceramic fragments was recovered between the animal remains and the rocks that covered them. These sherds could be refitted into a few vessels. The forms recognized were one unrestricted simple contour vessel of 21 cm diameter in its mouth, one restricted everted-rim pot of 16 cm diameter in its mouth, and three little restricted bowls. Technological groups were mainly coarse, with uniform quartz and mica

Table 1. Relative abundance of skeletal parts of *Lama* sp.

Axial Skeleton	*NISP*[a]	*MNE*[b]
Undetermined vertebrae	13	—
Cervical	2	2
Thoracic	4	—
Lumbar	2	2
Ribs: fragments	12	1
Axis	1	1
Pelvis	7	1
Atlas	1	1
Skull	29	1
Mandible	25	1
Incisors	6	1
Canines	4	1
Premolars	6	1
1st molar	4	1
2nd molar	4	1
3rd molar	4	1

[a]NISP = number of identified specimens.
[b]MNE = minimal number of elements.

Table 2. Relative abundance of skeletal parts.

Appendicular Skeleton	*NISP*[a]	*MNE*[b]
Scapula	4	2
Metacarpal	2	2
Metatarsal	1	1
Humerus	14	1
Radius/ulna	11	1
Femur	6	2
Tibia	7	2
1st phalanges	4	4
2nd phalanges	3	2
Carpals	3	2
Astragalus	1	1

[a]NISP = number of identified specimens.
[b]MNE = minimal number of elements.

Figure 5. Skull fragments with diagnostic age and sex traits.

inclusions, fired in an incomplete oxidizing atmosphere, with red slips on the exterior surfaces. Possibly, this assemblage was formed by the fragmentation and deposition of a few vessels (approximately eight) without significant post-depositional disturbances, as indicated by surfaces, slips, and

Figure 6. Upper view of the context: *Lama glama* bones (Stratigraphic Unit 706) with vessel fragments.

edges. The average weight of fragments was high compared with other similar finds at the site (35 g per fragment). The vessel forms indicate that the assemblage would have been used for food and liquid consumption. In all of the bowl fragments, dark polished slips were recognized on the interior surfaces which could have made the container walls less permeable and smoother.

Archaeobotanic Studies. Since no macrobotanical remains were recovered during the excavation, an in-depth analysis of silicon-phytoliths and starch grains was carried out on soil samples. We selected 10 grains per sample and took seven samples from different strata of the feature. Initial treatment involved sediment disaggregation to identify isolated particles and preparation with immersion oil. Samples were observed under an optical microscope: Kyowa Model LSCB-VC-2B-L (LVV) at 400×. Finally, taxonomic identification of silicon bodies required comparison with reference collection and photographic and bibliographic sources. The analyses revealed the presence of cross-shaped silica phytoliths that match with maize (*Zea mays*) leaf morphology. Perhaps these plant parts were intentionally deposited in the offering context. The other possibility is that they were eaten by the camelid before its death. The first possibility seems more likely because the axial parts of the animal, associated with the stomach, were absent.

Conclusions

The stratigraphic relationship between the offering and the wall, along with the early date of the skeleton, allow us to propose that this ritual act was performed as an inauguration of the terrace, probably during the planting season. Only skeletal parts with low meat yield (skulls and limbs) were identified in the offering. It is possible that people considered these parts sufficient to symbolically represent the whole animal (Goepfert 2008). It is likely that the llama was eaten before and then deposited in the ritual space. The ceramic materials in the offering are not significantly different from the ceramics from the rest of the site, although they were slightly heavier than other assemblages. It thus seems that everyday objects were used to conduct rituals, thereby blurring the distinction between vernacular and ritual artifacts. The ceremony apparently included the consumption of beverages, as deduced from the nature of the pottery vessels included with the offering. Maize husks may have been deposited as well. Finally, the offering event was capped with a pile of rocks.

Because these offerings were carried out in the area where people produced food for their subsistence, it can be argued that ritual practices were not only a way of externalizing beliefs or part of a separate "sacred domain," but were integral to agriculture itself and to the reproduction of life in general (Chacaltana Cortez and Nash 2009). The ritual offering would have been an important part of the activities scheduled for the agricultural annual cycle, as much as any other utilitarian practice such as plowing or fertilizing. This conception is held by many groups across the Andes as ethnographic research has shown (Treacy 1994). The characteristics of village life, especially the agricultural economies that closely depended on weather and other environmental conditions, would have promoted practices associated with fertility and the exchange of "favors" with natural forces. Llamas were the main ceremonial animals among pre-Inca populations, as indicated by their inclusion in burial rituals, ceremonies, and sacrifices (Gutiérrez Usillos 1998). It is likely that their presence in those contexts was related to the intermediary role they played between humans and gods (especially in petitioning for rains) and, following ethnographic analogies, its blood may have been an esteemed offering for the divinities (Benson 2001; Gavilán Vega and Carrasco 2009; Villagrán and Castro 2004).

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