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Victoria Castro and Carlos Aldunate

Sacred Mountains in the Highlands of the South-Central Andes

Drawn by the rich pre-Columbian legacy of the region, we studied the prehistoric groups of peoples who have settled in the high canyons of Atacama (above 3000 m), on the western slopes of the South-Central Andes, for the past 30 years. The traditional culture of the present-day indigenous Andean population enabled us to interpret the material remains left by pre-Columbian peoples, especially their particular way of understanding and occupying the land, knowledge of its flora and fauna, beliefs related to the sacredness that permeates all aspects of their lives, and their way of inhabiting the landscape that surrounds them. Ethnographic research is a priority in the highlands of northern Chile because the harnessing of water for industrial and urban use has dramatically reduced extensive areas of pastureland, springs, and streams. This progressively restricts the possibility for flora, fauna, and humans to survive in traditional settlements and stimulates gradual, forced migration toward the urban enclaves of the desert. Our research aims to present some aspects of our archaeological and ethnographic work and, especially, to explore ideological aspects related to the mountains in this region, from pre-Hispanic to the present.

Keywords: *Sacred mountains; Atacama; ethnographic research;* chullpas.

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The sacredness of Andean Mountains

Hills played an important role in the lives of the Andean peoples, as established from documents from the 16th and 17th centuries (Cobo 1890; Arriaga 1968). The Incas established sacrificial practices on the peaks of certain mountains, especially in the southern part of the empire, the Kollasuyu region, which are currently being studied by Andean archaeologists (Mostny 1957; Reinhard 1983a; Beorchia 1987; Ceruti 1997).

Benson and Donnan have suggested that the significance of mountains in Andean ideology dates back at least to the beginning of the first millennium of our era. According to Benson (1972), there was a principal deity among the Moche people who dwelled in the mountains and is represented on their pottery. Donnan (1978) reaffirms the idea of the importance of hills in Moche culture on the basis of the number of times and the variety with which mountain scenes are depicted on their vessels. Several authors have suggested that the "Nasca lines" on the southern coast of Peru are related to hills and mountains (Morrison 1978; Reinhard 1983b), establishing sacred directions. In the highlands, Garcilaso de la Vega, referring to the Inca conquest of the Kollasuyu locality of Cac Yauiri, states that the villagers went to a hill considered sacred because of its solitude and beauty and offered sacrifices. They sought succor from it so that, as their God, it would protect them and deliver them from their enemies (Garcilaso de la Vega 1943 [1609], 133).

Today, worship of the mountains is a widespread practice in the Andean universe. Andean peoples believe that certain divinities dwell in the hills. Martínez (1983) noted that divinities in some parts of Peru are called *awkillu* (Huanuco), in others *wamani* (Ayacucho), *apu* farther south (Cuzco), and *machula*, *achachila*, or *mallku* in different regions of Bolivia. Despite the diversity in Quechua and Aymara names and the many local manifestations of divinities, they fulfill such similar purposes and share such similar features that it is feasible to consider them a single Pan-Andean entity.

The hill deities have some or all of the following characteristics: (1) in certain regions they are considered founders of communal lineages, related to people recently and more distantly deceased; (2) they are sometimes ranked according to the height of the hill; (3) their attributes have a local or regional character or both; (4) they may frequently fulfill a specialized function; and (5) they provide the products and values that sustain human life. They are thus objects of various seasonal and daily rites held on special occasions (Metraux 1967; Bueschler 1971; Martínez 1976; Aldunate et al 1982). These examples illustrate that mountains, as significant elements of the earth (*Pachamama*), are among the most sacred places in the Andes.

Mariscotti (1978) has carried out extensive research on *Pachamama* and concepts linked to the land, centered mainly on the Atacama *puna* of northwest Argentina, which also includes the inhabitants of the Salar de Atacama in Chile (villages of Socaire and Peine). In other communities of this Chilean area, hills and volcanoes are believed to have different origins: the former are considered as stars that descended to the earth and became hills, and volcanoes are considered to regulate the functioning of the earth because there are volcanoes of fire (eg, Licancabur), water (eg, San Pedro), and wind. The last two are held largely responsible for storms and rain (Castro and Martínez 1996).

The high canyons of Atacama: Landscape and inhabitants

Our research was carried out in the Atacama *puna*. The Andean term *puna*, which refers to highlands and their

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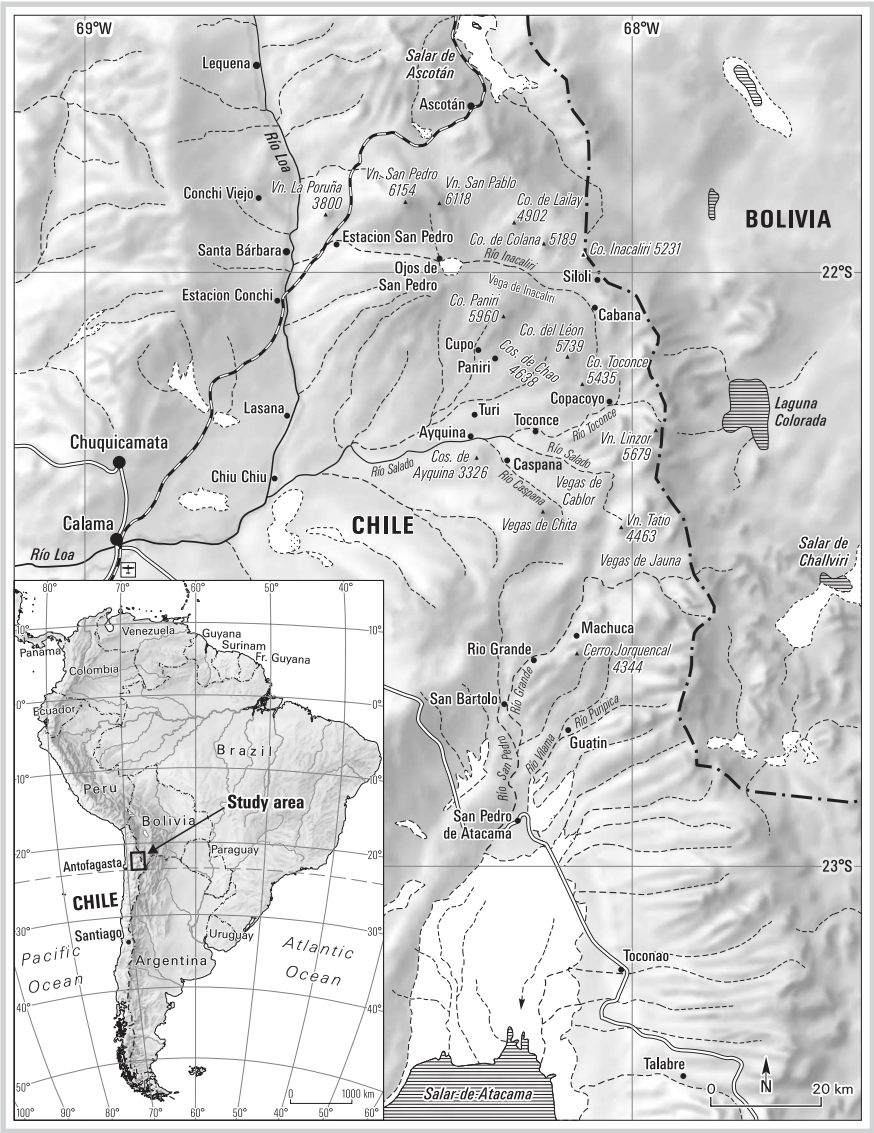

FIGURE 1 Location map of the study area. (Map by Fernando Maldonado and Andreas Brodbeck)

vegetation, has been adopted by geographers and botanists to describe the landscape of these Andean highlands (Custred 1977). In our area, the *puna* rises within one of the most arid deserts in the world, which, interrupting the valleys, prevents them from reaching the sea, except for the Loa River that flows 420 km to the Pacific Ocean. In general, the canyons of the *puna* are only habitable beginning at 3000 m. They are naturally related to the highlands of southern Bolivia and northwestern Argentina, which have similar conditions, forming a kind of island known as the Atacama *puna*.

The cultures of the inhabitants of these territories were closely linked from early times, although the population was widely dispersed over this vast area of the South-Central Andes (Lumbreras 1981). At present, these peoples maintain strong blood and trade ties, despite the political boundaries that separate them into 3 different countries (Chile, Bolivia, and Argentina).

We conducted archaeological and ethnographic research in the districts of Caspana, Toconce, Ayquina, and Cupo, which are still inhabited by indigenous peoples (Figure 1). Each of these communities inhabits a village and works on small farms located nearby. They also own scattered farms, dwellings, and corrals related to their pastoral way of life, which they manage in an extensive communal territory that they recognize as their own. From family ties and traditions, we were able to ascertain that these 4 communities are closely linked, with at least 3 of them having a common origin.

These districts are characterized by a steep, inclined plane of rhyolite surrounded by tall volcanoes to the north and east, with numerous canyons that carry water from the volcanic glaciers. The vegetation changes with the altitude. Vegetation is practically absent at 4500 m, and below this level there is a sparse growth of cushion-like plants to an altitude of about 4200 m, where they give way to a layer of vegetation dominated by high-altitude grasses of the *Stipa* and *Festuca* genera that grow down to an altitude of 3850 m. Between this altitude and 3000 m, there is a rich and varied covering of Cactaceae and bushes of the *Baccharis*, *Chuquiraga*, *Parastrephia*, *Adesmia*, *Fabiana*, and *Acan-*

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tholippia species among others (Aldunate et al 1981), which becomes progressively sparser to 2700 m, where absolute desert dominates the landscape all the way to the sea. After the summer rains, the high canyons are densely covered by seasonal short-lived plants.

These vegetation strata are known to local inhabitants by names that refer to the physiognomy of the landscape. The highest layer, which corresponds to the almost bare peaks of the mountains and volcanoes, goes by the name *panizo,* or "mineral deposit," because it "gives birth to minerals." The next strata is *pajonal,* or "place abounding in straw," referring to the tough grasses that dominate the landscape. This is followed by *tolar,* an indigenous collective name that refers to the varied species of shrubs that dominate this stratum. The lower limits of vegetation, where the *tolar* becomes sparser and less varied and the landscape becomes a plain, is called *pampa,* a Quechua word meaning "vast plain" (Aldunate et al 1981).

When local inhabitants refer to the way they use this landscape, they use the terms *cerro* (hill), *campo* (farmland), and *chacra* (small farm), which sometimes include several strata of vegetation. C*erro* includes *panizo* and *pajonal* and is associated with sacred and religious elements, as well as pastureland for llamas and alpacas. *Campo* includes the entire *tolar,* composed of shrubs that are the basic source of food for herds of llamas, alpacas, sheep, and goats. C*hacra* is another economic unit of vital importance associated with the village. It consists of artificial terraces with irrigation systems that have been built into the sides of canyons, where space has been made to cultivate corn, alfalfa, quinoa, and other products that grow at this altitude in the Andes (Aldunate et al 1981).

Knowledge of vegetation is noteworthy because local people recognize and have names for 89% of the 134 species of native flora registered in this area. Most plants are used for forage (61.9%), followed by those used for medicinal purposes (27.6%), food (14.9%), fuel (11.2%), and rituals (3%). Most forage plants belong to the *tolar* level, allotted for grazing, which has the largest variety of vegetable species. The medicinal species are found at all levels but especially at the *cerro.* The medicinal value of the plants increases in relation to altitude. Thus of the 9 species that grow in the *panizo,* 6 species (66%) are said to have the greatest healing powers. This is similar for plants used in rituals and ceremonies. Species used as food or fuel are quite evenly dispersed (Aldunate et al 1981).

We also studied ethnozoology at different ecological levels in this region (Castro 1986). In this context, vernacular taxonomies concerned with categories such as difference in color, distinction between wild and domestic, and certain kinds of symbolic features with a special sacred connotation are relevant (Castro 1986). In particular, in this study, we refer to the last category—animals considered "beasts of burden" that carry wealth from the masculine hills that provide them to the feminine mountains that deliver them to humans for their use (Castro and Varela 1992; see Table 1).

These "beasts of burden," associated with wealth, belong largely to and live on the *panizo* or *cerro.* They are the vicuña (*Vicugna vicuña*), guanaco (*Lama guanicoe*), taruka (*Hippocamelus antisiensis*), eagle (*Harpyhaliaetus solitarius*), condor (*Vultur gryphus*), and guaicho (*Agriornis* sp) (Fjeldsa and Krabbe 1990). The different species of felines associated with the *cerro* also have special symbolic significance. They have been present for thousands of years in Andean ideology because of their special abilities as predators. Significant in this regard are the *Hatun michi* or puma (*Felis concolor*), which preys on young vicuñas and guanacos, and the *Quispa michi* or wildcat (*F. jacobita* and *F. colocolo*), a smaller feline that preys on vizcachas and other rodents.

Digging up beliefs

In the final years of the 10th century AD, a number of settlements with similar characteristics appeared in the high canyons of Atacama. Villages were built in a well-established farming and pastoral economy, and the landscape was occupied in a way similar to the traditional pattern described for present-day settlements. Villages located above 3000 m displayed features that reveal a close relationship with neighboring lands in the eastern *altiplano.* Particularly noteworthy here was the presence of *chullpas,* small stone towers with a circular or rectangular base, with a "window" or opening in the wall, frequently found in constructions in the highlands at that time (Aldunate and Castro 1981; see Figure 2). *Chullpas* have often been described in the Bolivian highlands in relation to funeral ceremonies, specifically as burial places. In some areas, they were used until the Inca period. The famous Sillustani *chullpas* in the Titicaca highlands were used as graves for the elite of the Kollasuyu kingdom in Inca times. They display a characteristically excellent masonry.

In studying this society, which shows features similar to those of its Atacamenean neighbors as well as particular links to the peoples of the neighboring southern highlands of Bolivia, especially to those in Sud Lípez, we focused our archaeological research on trying to unearth the mechanisms that influenced relationships in Toconce (Castro et al 1984). One of the elements we had to include was analysis of the pre-Hispanic settlement of Likan, a complex unit that had a particular way of understanding space.

The village of Likan is located on top of a small promontory that drops abruptly into the Toconce River canyon and is surrounded by a wall similar to the ones

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TABLE 1 Flora and fauna in the Caspana, Toconce, Ayquina, and Cupo districts of Chile, classified by altitude. (Percentages listed in column 5 do not add up to 100% because of minor uses for some species [food, fuel, crafts, etc] and the fact that species may have more than one use.)

Altitudinal level	Vegetation	Landscape categories	Landscape utilization categories	Use of vegetation	Fauna
Nival (over 4500 m)	No vegetation	*Panizo*			
Subnival (4500–4200 m)	Poor vegetation: perennial herbs and cushion-like plants	*Panizo*	*Cerro*	66.7% medicinal, 1.2% forage, 0% ritual	*Cargueros* and predators
High Andean (4200–3850 m)	Tall tussock grasses and cushion-like plants	*Pajonal*	*Cerro*	50% ritual, 21.6% medicinal, 13.3% forage	*Cargueros* and predators
Puna (3850–3000 m)	Evergreen shrubs and Cactaceae	*Tolar*	*Campo*	39.8% forage, 37.8% medicinal, 25% medicinal	Domestic (livestock) and wild
Pre-*puna* (3000–2700 m)	Semiarid plain sparsely covered with small thorny shrubs	*Pampa*	*Campo*	18.9 medicinal, 18.1% forage, 0% ritual	Domestic (livestock) and wild
Desert (below 2700 m)	No vegetation				

described in the Bolivian highlands by Hyslop (1976). Its residential area includes more than 200 dwellings established on the northern side of the hill. Higher up on the same side, just above the village and surrounding the summit, are some 70 cavities in the rock that were used as graves. Above this level, separated by a stone wall, is the summit with 74 *chullpas*. A sizeable stone road crosses the village and reaches the summit. Between the cemetery and the *chullpas* sector there are examples of rock art, especially petroglyphs.

When excavating the *chullpas* located at the top of the promontory, we found that none of them contained human remains that would prove that they had been used as funeral deposits. By interpreting the remains found inside and outside these unique structures, we concluded that they had probably been used for ceremonies linked to a cult of the dead and of the mountains.

One interesting element was analysis of the direction in which the "windows" or openings in the walls of the *chullpas* pointed. When describing these remains, Andean archaeologists had traditionally recorded their orientation in relation to cardinal points. We decided to explore the possibility that these structures faced the summits of certain mountains. Subsequent calculations appeared to validate this hypothesis. In fact, the structures faced the big mountains and volcanoes to the northwest, north, and northeast of the localities examined. Important confirmation of these data was provided by another group of *chullpas* in Quebrada Seca, an archaeological settlement near Likan.

Around AD 1450, this region became part of the Tawantinsuyu of the Inca, who controlled it through previously established highland centers. Several manifestations of this Andean empire can be found in the high canyons of Atacama, which reveal the hegemonic nature of Cuzco. For a brief period (no more than 100 years), the Inca redefined the sacred nature of the mountains, establishing spectacular sanctuaries on their summits, sometimes with human sacrifices, thereby imposing their religion over the local ancient mountain cults. Inca domination in the region was so strong that it can still be found in the present-day toponymy, traditions, myths, and cults of the hills inhabited by the Inca (Figure 3).

The orientation of the prehistoric *chullpas* is very similar to the orientation of present-day ceremonial constructions, especially churches and chapels (Berenguer et al 1984), which also face the hills that dominate the locality (Figure 4). The rites of present-day communities in the annual ceremonial calendar, such as the cleaning of irrigation canals or the *floreo* (livestock fertility rites), also constantly invoke the presence of the high peaks. Thus, we can confirm serious indications that lead us to conclude that belief in the sacredness of mountains in the high canyons of Atacama is well over a thousand years old.

Present-day sacred landscapes and hills

In the Andes, the landscape comes alive when it is explained by its indigenous inhabitants. When reviewing its natural features, indigenous memory transforms the static natural territory into a vital stage full of events and meanings where humans along with other living creatures are one more element in the cosmological system. Supernatural forces are always responsible

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for shaping the landscape, giving it meaning, taking possession of certain elements, and then governing and deciding the destiny of nature, humans, and their circumstances (Castro 2001). To control or influence these designs, humans must recognize the presence of these forces and request their intervention or aid through sacrifices or offerings.

The concept of *Pachamama* encompasses this broad Andean feeling for a natural world animated by divine forces of which humans are only a part. The statement of a local inhabitant "Everything I see is *Pachamama*" (Nuñez 1986) is equivalent to saying "everything is sacred."

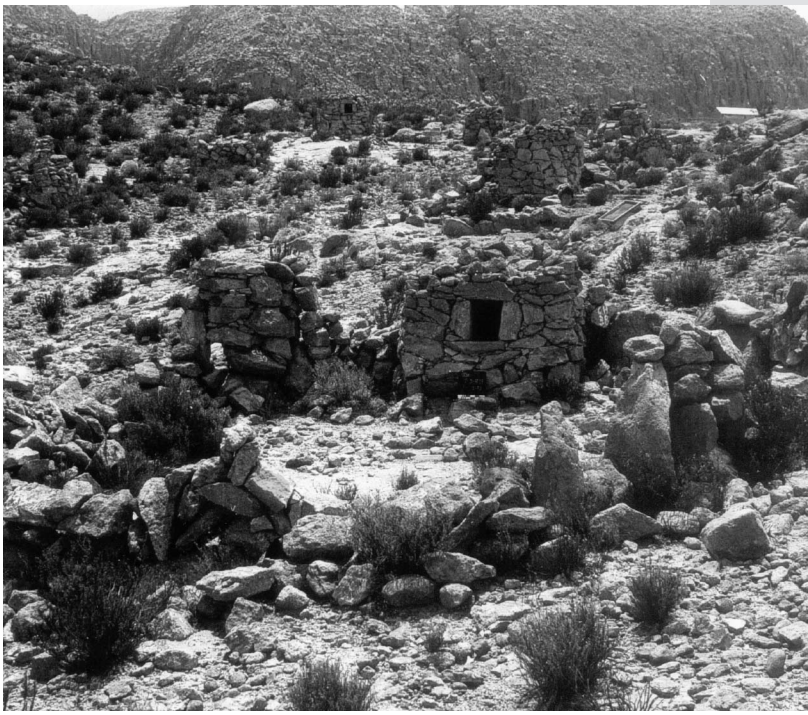
The present article emphasizes the sacredness of the hills today among the indigenous inhabitants of the high canyons in the South-Central Andean area and, more specifically, in the area of the Upper Loa River where the hills are known as *Mallku*, an Aymara term that recognizes hierarchical superiority and the reverence of the sacred. Mountains are considered sacred by the indigenous peoples and have different levels of meaning: (1) mythical places of origin (*achachilas* or "spirits of the hills") inhabited by the ancestors to which each village believes it is linked; (2) providers of fertility and wealth; (3) altars ("tables"); and (4) dwelling places of the divinities.

Each village recognizes one promontory as the most sacred and believes that a strong connection exists with it. The inhabitants of Toconce revere the Cerro León (5771 m) to which they give many names: Mallku Kulliri, Cerro León, Mallku Agua de León, and Puma Urko. This hill has many beneficial properties that have always linked it to the community, and it frequently receives "payments" and sacrifices to gain its favor. It is considered a masculine mountain, the "wealthiest" of all because it holds the riches of the ancients and is a very good provider of abundance and water. The hills of Cupo are considered female. We were repeatedly told that this whole mountain chain "is a provider for Chuquicamata," in other words, it is the source of the wealth of this gigantic copper mine, located on the former female hill of Chukutukut'a Mallku (Berenguer et al 1984).

The sacred mountain of the village of Ayquina is the Paniri volcano (5960 m) revered at ceremonies and considered to be the village's place of origin. Tomás Paniri, the chieftain of Ayquina in the 18th century, spread the Tupac Amaru discourse of rebellion against the Spanish crown in Atacama (Hidalgo 1986). His surname is still preserved by important families in this district.

The village of Caspana believes that its origins lie in a pair of hills, with gently rounded shapes, smaller than the others in the region, and rarely covered by snow. They appear on the horizon, marking the location of

FIGURE 2 Ancient *chullpa* in Toconce, with a window opening out onto a sacred mountain. (Photo by author)



this village. One is *Q'aulor*, a female hill that also bears the name of *Sipitare Mama* or *Mama Sipaqa*. Her twin hill is *Chita*, a masculine hill, also called *Sipitare Tata*. They are considered partners or spouses.

In the neighboring Salar de Atacama southern area, the most important hill and provider of water to the Socaire community is the Chiliques. A gray rock near the village that resembles this hill is the focus of prayers and sacrifices during ceremonies held to celebrate the cleaning of the irrigation canals (Barthel 1986). There is similar information regarding the nearby villages of Río Grande and Peine.

In our region, hills are associated with springs and streams, which is quite logical because the high canyons and snow cover give rise to the watercourses that are essential to the agricultural and livestock activities in the region. One of the rites we detected, which also represents a deep indigenous knowledge of ecology, consisted of depositing seawater on the tops of mountains or hills to pray for rainfall.

Conclusions

The Andean landscape is full of significance. Together with present-day local inhabitants' profound knowledge of the orography, flora, and fauna, which enables them to inhabit and domesticate this difficult area, the sacred concept of the natural elements occupies a predominant place in cosmology.

Despite the isolation caused by the desert and the altitude, these beliefs are still preserved in the high

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FIGURE 3 An Inca ceremonial *ushnu* in Cerro Verde, Caspana, oriented toward the mountains. (Photo by author)

FIGURE 4 A 20th century chapel in the study area. Even modern religious structures such as this one are oriented toward the mountains. (Photo by author)

canyons of Atacama, where they are extremely relevant to the life of local inhabitants. A *yatiri,* or local sage of Toconce, pointed out to us that the earth is like a human being. The *peña* (rocks, hills) are the bones, the rivers are the veins the blood flows through, and the earth is the flesh. The deep places (caverns, caves, rocky shelters) and the ones that rise out of the earth (mountains, mounds, large rocks) are the *achachilas*, places of ancestral origin, inhabited by deities. The canyons, near the rivers and springs, are dangerous places. The *juturi* or *sereno* lives there, and when his sound or music is heard it attracts the unwary.

This cosmology perceives the world as inhabited by living and dead creatures: plants, animals, and humans that can survive as long as they remain in harmony with nature. The rituals of forgiveness, payment, and petition serve this purpose. Thus, a universe is created that is entirely sacred where everything is mutually dependent through the order established by rites, which profoundly compromise the emotional life of the inhabitants. Vernacular knowledge becomes a form of religious participation and a way of existing in the world because all the models for understanding nature are definitely taken from reality, and especially from the landscape. The toponymy acquires special importance because it is the expression of the meanings attributed to the landscape.

The sacredness of mountains and highlands permeates other aspects of the natural world such as the flora and fauna, whose degree of importance coincides with the altitude at which they grow. Most vegetable species considered medicinal and ritual, as well as most of the animals that have a relevant symbolic significance, are native to or come from the *cerro* unit.

This cosmology is also manifested in local architecture. Present-day churches and chapels, an expression of the Andean syncretic cult, always face one of the hills that is revered in the region. The dead, as well as the cemetery structures for worshipping dead relatives, are laid out in the same way.

It has also been shown that these beliefs have existed since prehistoric times. The architectural layout of the prehistoric village on Likan hill follows a strict symbolic order, with sacred structures increasing in number as the altitude increases. The openings in the ceremonial structures at this archaeological site face the hills in the area.

Local inhabitants believe that they have a special relationship with their ancestors' archaeological remains: they actively affect and influence our individual and community life. They are a link to an honorable and autonomous past (Mamani 1996). Oral tradition confirms this bond between the present-day inhabitants and the past. Some of these beliefs are directly related to the landscape and the hills. They include the myths about the *Reinka* (Inca King), who lives on the mountaintops and has the ability to transform the landscape as he passes by. When the litter that transports him is set down on the ground, it leaves a hollow in the earth; he gets angry at a hill and shoots the crest off with his slingshot, leaving it drooping; he lives on the heights laughing, singing, dancing, drinking alcohol, and chewing coca leaves.

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