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Animating the Inanimate: Camay and Astronomical Huacas of Peru

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Abstract. Running water was understood in the Andean world as a vitalizing life force, known by the Quechua verb, camay, which could empower inanimate matter. Stones and places could become living shrines or huacas with superhuman powers through this process. All of the cases of astronomy in the archaeological record of the Inca are associated with huaca sanctuaries and most are associated with flowing liquids. A set of distinguishing characteristics is developed for ceremonial centers with solar alignments.

1. Introduction

The most detailed descriptions of Inca astronomy by the Spanish chroniclers involve the solar pillars of Cusco, where as many as 16 horizon pillars on the horizon once marked the annual changes in the location of the rising or setting sun (Bauer and Dearborn 1995). At those times when the sun appeared between the pillars, large public celebrations and rituals were scheduled. The chronicler Cobo described a pair of pillars that marked June solstice sunset and another pair marking December solstice sunset Bauer and Dearborn 1995). Other pillars may have marked planting dates as well as the days of the zenith and anti-zenith suns. None of the pillars that were on the Cusco horizon have survived the Spanish occupation. Two sets of sun pillars outside of Cusco remain. On the Tikani Ridge above the Sanctuary of the Isla del Sol two pillars mark June solstice sunset, and another pair above the palace of Huayna Capac in Urubamba marks June solstice sunrise.

This paper describes all the examples of Inca astronomy that have been identified in the archaeological record. All are contained in seven ceremonial centers. With the exception of one site that marks the zenith sun all are associated with June solstice sunrise or sunset and with water. Many may have functioned as state-supported pilgrimage centers.

2. Water and Camay

Running water was understood in the Inca world as a vitalizing life force, known by the Quechua verb, camay. In the cosmology described in the Huarochiri manuscript, life is born from the embrace of feminine earth by masculine water, which is homologous to the growth of plants from soil when moistened by water (Salomon 1991). The circulation of running water and the pouring of offertory liquids could animate inanimate objects to become huacas, which were under-

stood to be sentient beings with superhuman powers (D'Altroy 2002; Salmon 1991). Huacas were involved in ancestor worship, which was a driving force of the Inca Empire (Glowacki and Malpass 2003), and with water control, which was a vital necessity in the water-challenged Andean world (Gose 1993). Water figures in the legendary meeting of Pachacuti Inca with his father the Sun, who rose from the spring of Susurpuquio (Zuidema 1982). The Inca and his family asserted their semi-divine status by claiming descent from the Sun. They worshiped many huacas but paid special attention to those huaca sanctuaries that featured the Sun and Moon. The nearly ubiquitous association between flowing liquids and ceremonial centers solar alignments suggests the vital role of camay in empowering these sites and their rituals.

3. Ceremonial Centers with Solar Alignments

In the most general terms a ceremonial center is a place where related, but geographically separate, people gather periodically to conduct ceremonies and to reaffirm their social and political identity. Astronomy not only establishes a date for ceremony, but also provides a dramatic natural event for ritual theatre. In the archaeological record, the ceremonial center can be identified as a collection of non-domestic structures with apparent religious function (Silverman 1944). In the Andes, ceremonial centers may be further specified as "clusters of huacas usually with some minor construction in the immediate vicinity which may have served as living quarters for a limited population" (Schaedel 1967:232). Many if not all of the Inca ceremonial centers showing astronomy appear to have functioned as pilgrimage centers, in which ritual performances were staged. The government invested heavily in developing the large pilgrimage centers (Bauer and Stanish 2001). Because public ritual must function flawlessly, these sites could not have been used to correct the calendar. Distinguishing characteristics of astronomical ceremonial centers of the Inca are suggested below.

3.1. Cusco (see table 1: A1,A3, B1, C4, D, E2, F1)

With its large plaza, the sun temple of the Coricancha, horizon pillars, and ceque system, Cusco was the paradigmatic huaca sanctuary and ceremonial center of the Inca Empire (Bauer and Dearborn 1995, Bauer and Stanish 2001). On sunrise of the feast day of June solstice, Inti Raymi, the Inca and his relatives watched the rising sun from the plaza of Haucaypata (Plaza de Armas), while others watched the event from the Plaza Cusipata, to the west across the Huatanay River. After drinking to the Sun, chicha and or water from Lake Titicaca was poured into a basin from which it flowed in a channel to the House of the Sun (Zuidema1981). The festival of Inti Raymi observed by Christobal de Molina in 1535 involved elaborate chanting rituals from sunrise to sunset (Hemming 1970: 173). Pillars on Cerro Picchu may have marked the position of the setting sun on that day (Bauer and Dearborn 1995).

3.2. The Sanctuary of Isla del Sol (A1, A3, B1, C1, C3, C4, D, E1, E2, F3, G1, G2)

The Sanctuary on the northern end of Isla del Sol in Lake Titicaca and its pilgrimage traditions have been documented by Bauer and Stanish (2001) and

Table 1. Features Common to Ceremonial Centers with Astronomical Alignments

A	Empowerment by camay	1. Stone-lined channels 2. Fountains or aqueducts 3. Pouring of water or chicha
B	Sightlines to horizon sun	1. Markers on horizon 2. Alignments toward horizon
C	Huacas	1. Natural rocks 2. Carved rocks 3. Platforms 4. Horizon pillars 5. Caves
D	Plazas, courtyards, terraces	
E	Physical separation of social class	1. Walls 2. Separate platforms
F	Gateways and doors	1. Double-jamb doors 2. Triple-jamb doors 3. Ceremonial gateways
G	Structures	1. Storehouses for pilgrims 2. Quarters for attendants

Dearborn et al. (1998). The most important feature of the Sanctuary was the Sacred Rock, known as Titicala, out of which the Sun had first emerged. On the northwestern ridge of Tikani two pillars marked the setting of the June solstice sun. With its sacred rock, gateways, stone-lined channels, horizon pillars, and quarters for attendants, the Sanctuary is another example of a multi-component pilgrimage center with astronomical features (Bauer and Stanish 2001; Silverman 1994; Dearborn et al. 1998). The first Europeans visitors to the area reported numerous women attendants who made large quantities of corn beer, chicha, which was poured into a stone basin of the sacred rock. The basin had a hold in its center and stone-lined channels carried the chicha away from the rock. Only Inca nobility and priesthood were allowed to pass through several gates to reach the plaza in front of Sacred Rock. Lower status pilgrims were limited to a platform just before one of the gates, from which they could watch the ritual in front of the sacred stone from a distance of some 400 meters.

3.3. Tipon (Quespichancha) (A1, A2, B1, C1, C3, D, E2, F1, G1, G2)

With its aqueducts, elaborate water channels, and multiple fountains, Tipon is an excellent candidate for the action of camay. During the Inti Raymi festival pilgrims visited Quespichancha (Zuidema 1981). There are two areas of modern Tipon that might have been the destination of the pilgrimage, the peak of Cruz Moqo or the vicinity of one of the thirteen terraces. The summit of Cruz Moqo is remote and lacks the features expected at a pilgrimage center such as a plaza, solar markers, storehouses, or residences for attendants. On the other hand, the buildings of Iglesia Raqui are adjacent to the largest of the terraces. From those buildings the sightline to June solstice sunset passes over the terrace and over the sacred rock and rooms of the Intiwatana some 350 meters away. The trail upward to the Intiwatana contains a double-jamb gateway. The major

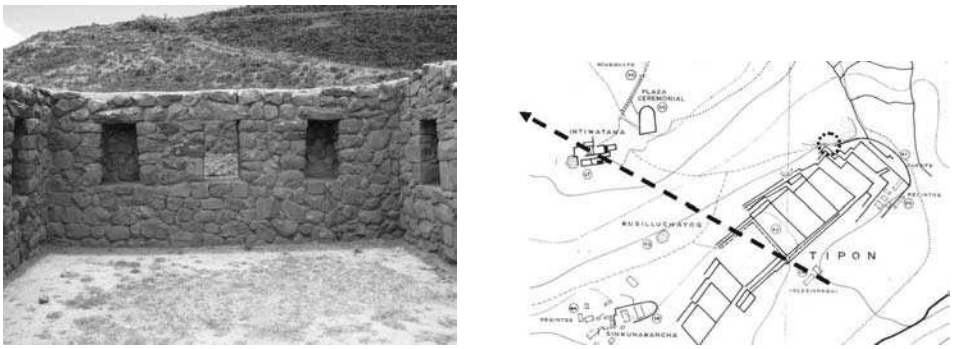

Figure 1. Left: Northwest horizon viewed from the Iglesia Raqui. The Intiwatana is visible as a small prominence on the horizon to t he left of center, where the canal and the lower trail converge. (S. Gullberg). Right: Map of Tipon showing the sightline from Iglesia Raqui to the June solstice sunset and the location of a double-jamb gateway (circle).

canal carrying water from Cruz Moqo was diverted in order to pass beneath the Intiwatana (Wright 2006). Pilgrims could gather in the vicinity of Iglesia Raqui to observe rituals taking place in the large terrace below them and at the Intiwatana some 350 meters distant.

3.4. Urubamba (Quespiwanka): (A1, B1, C1, C3, C4, D,E2, F2, G2)

The courtyard of the palace of Huayna Capac, Quespiwanka, in the town of Urubamba, contains a large granite boulder in its center, after which the palace had been named (Farrington 1995; Niles 1999). From its vicinity the June solstice sun can be seen to rise between two horizon pillars (Zawaski 2007, Malville et al. 2009). Niles (1999) suggests that channels carried water to the boulder and shrine in the center of the courtyard. The massive triple-jamb entrance to the courtyard indicates that only those of high status could participate in ceremonies held within it. The area outside the south wall of the palace with an artificial lake and granite boulders may have been the location where ordinary people could observe the rising sun.

3.5. Llactapata/Machu Picchu (A1, A2, B2, C2, C5, D, E1, E2, F1, G1, G2)

In the vicinity Machu Picchu, pilgrims would have had to pass through two gates on the Inca trail, first at Intipunku and then at the so-called security station (Wright 2004). Having reached the upper terraces of Machu Picchu they could have rested above the Guardhouse at the upper kallanka, which could have served as a storehouse and shelter. Entry to Machu Picchu itself would have been limited by the main gate and may have been closed to non-elite pilgrims. Machu Picchu is distinguished from the other royal estates in the Sacred Valley by its large plaza and by its cluster of huacas (Reinhard 2007; Salazar 2004). A number of its huacas may have established astronomical sight-lines such as the Torreon (June solstice), Temple of the Condor (anti-zenith sunrise), and Intimachay (December solstice sunrise) (Dearborn and Schreiber 1986; Dearborn et al. 1987; Dearborn and White 1983). Ceremonies in the Sacred Plaza could

have been easily viewed from the Terrace of the Ceremonial Rock, 240 meters away.

Llactapata and Machu Picchu may have served as a unified pilgrimage center. Llactapata is reached by the narrow trail that starts at the Draw Bridge and leads across Machu Picchu Peak (Malville et al. 2004, 2006). Upon reaching Llactapata, ordinary pilgrims may have proceed to the walled platform of Sector III, from which they could have viewed the sacred mountain of Salcantay, the June solstice sun rising close to Machu Picchu, and ceremonies in the sun temple some 90 meters below them. The 33 meter long ceremonial corridor adjacent to the sun temple provides a guide for the eye to the location of June solstice sunrise and the rising of the Pleiades (Malville et al. 2006). In front the double-jamb doorway of the sun temple, a stone-lined channel aligns with the sacred plaza of Machu Picchu. The axis of June solstice sunrise and December solstice sunset passes from Llactapata across the Urubamba Intiwatana to the Sacred Plaza of Machu Picchu, paralleling the orientation of the Torreon. Since there is no spring in Sector I, the channel must have been intended for poured libations. Sector II beneath the sun temple is a cluster structures that appears to be a water shrine, with a stone lined channel leading from the major spring in the area.

3.6. Saihuite (A1, A2, B2, C2, C3, D, E2, F1)

Known primarily for its Principal Stone, Saihuite is an elaborate and complex huaca sanctuary, which contains three carved stones, fountains, a double-jamb doorway, and a cardinally-oriented platform. A large niche faces June solstice sunrise. On the elaborately carved Principal Stone a network of grooves carries liquids past a myriad of figures (humans, pumas, llamas, frogs, monkeys, lizards). The stone may have been a representation of the Inca cosmos, which could be empowered by such flowing liquids. (Paternosto1989; Zawaski 2007)

3.7. Sondor (B1, C1, D, E2, F1, G1)

Located some 300 km west of Cusco, Sondor is the major Inca site in the Andahuaylas region. The main feature of the area is the conical hill of Apu Muyumuyu, which contains six terraces, a stairway with 500 steps, and stone huacas on the summit. In order to reach the summit one must pass through two double-jab gateways. There are three clusters of buildings to the west of the hill, which are the location for modern sun rituals, at the solstices, equinox, and the day of the zenith sun (Mendoza Bellido 2004). The zenith sun rises over the summit of Apu Muyumuyu as viewed from the cluster of buildings closest to the hill. The sight-line to the rising zenith sun parallels the stairway.

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Figure 2. Apu Muyumuyu. (M. Zawaski).

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