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THE HAND OF GOD IN SOCAIRE

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RESUMEN

Se presentan los resultados preliminares del análisis espacio-temporal de las direcciones del culto a las montañas en la comunidad atacameña de Socaire, norte de Chile (23°35'28"S, 67°52'36"W, 3.274 msm). Éste permite relacionar información cultural, geográfica, climática, psicológica y astronómica proveniente del trabajo etno-arqueológico. Proponemos un "sistema de convido a los cerros" que incluye los conceptos de *ceque* (línea recta), *mayllku* o *mallku* (montaña tutelar o ancestro) y *pacha* (espacio y tiempo), representado por la proyección de una mano izquierda proyectada en el horizonte visible (cerros Tumisa, Lausa, Chiliques, Ipira y Miñiques) (Triada PAH). Este sistema habría regulado las actividades anuales como la siembra (agosto 1), cosecha (mayo 1), limpia de canales (octubre 24-26), y fiestas católicas como San Bartolomé (agosto 24), Santa Bárbara (diciembre 4), Navidad-solsticio de verano (diciembre 25), Carnaval (entre febrero y marzo), Santa Cruz (mayo 3) y San Juan-solsticio de invierno (junio 24). Además, este sistema comprende los fundamentos de la cosmovisión en Socaire, que incluye las categorías de arriba, acá y abajo; derecha e izquierda; hembra y macho; mediodía y medianoche; norte y sur; visible y no visible, dentro de los conceptos andinos de centro (*ushnu*); división en dos, tres, cuatro y cinco; y humanización del entorno.

ABSTRACT

We present preliminary results obtained from a spatio-temporal analysis of mountain worship directions at the Atacama Indian community of Socaire, northern Chile (23°35'28"S, 67°52'36"W, 3,274 masl). These results can be linked to cultural, geographical, climatic, psychological and astronomical information from ethno-archaeological data. We propose a "system of offering to mountains" that includes concepts such as *ceque* (straight line), *mayllku* or *mallku* (mountain lord or ancestor), and *pacha* (space and time), which is understood as the projection of a left human hand in the visible horizon (Tumisa, Lausa, Chiliques, Ipira and Miñiques Mountains) (PAH-Triad). This system regulates annual activities such as planting (August 1st), harvesting (May 1st), cleansing of irrigation channels (October 24-26th), and the Catholic rituals and festivities of Saint Bartholomew (August 24th), Saint Barbara (December 4th), Christmas-Summer solstice (December 25th), Carnival (between February and March), Holy Cross (May 3rd), and Saint John-Winter solstice (June 24th). More importantly: it gives a basis for Socaireños' worldview including categories of "above, here, and down"; "right and left"; "female and male"; "noon and midnight"; "north and south"; "visible and non-visible", along with the Andean concepts of center (ushnu); "two, three, four and five division"; and "humanized landscape".

Key Words: archaeoastronomy

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1. INTRODUCTION

"Santiago de Socaire" (Mostny 1954:22-23) is an Atacameña or Likan Antai Indian community located to the southeast of the Atacama Salar, 3,274 masl, northern Chile (23°35'28"S/ 67°52'36"W) (Figure 1). The geographical position of Socaire, approximately 16 kilometers south from the Tropic of Capricorn, allows the zenithal solar passage every December solstice (Moyano, 2011). The region is characterized by lack of rain, high mountains and volcanoes, reaching heights that go beyond 5,000 masl. During the Incan times (1470-1536 A.D.), Socaire was part of the agricultural and livestock system that supplied the *Qhapaq Ñan* and *Tambo Peine* (Núñez, 1991). Until 1980, it had a radial organization system composed of seven sectors, two halves and one center (Hidalgo, 1992:28, 69, 224). Today, Socaire has approximately 300 inhabitants, subsisting mainly from tourism and mining activities.

It was common for Andean people to identify human and animal forms in topographic and zenithal elements. Examples are found in the city of Cuzco with the shape of the puma and the motif of a llama in the Milky Way. Recent research, raises the possibility that the perception of the human environment in Andean cultures is related to the psychological phenomena of Pareidolia (implicit image), Apophenia (psychological tendency to perceive meaning in

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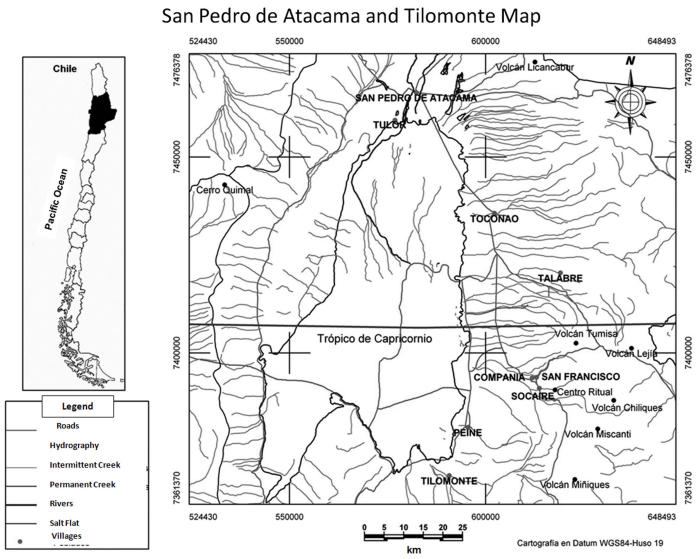

Fig. 1. Map of General Location.

random stimuli), and Hierophany (sacred manifestation), called PAH triad (Bustamante, 2008).

As other cultures do, the socaireños give cultural significance to their surroundings. For them the sky constitutes part of social experience reflecting spatio-temporal conceptions of the world. Cultural Astronomy studies mechanisms by which people come to understand astronomical phenomena. It analyzes their systems of conceptualization and representation and correlates social connections, social processes and sets of ideas about social life (Iwaniszewski, 2009, 2011).

From reviewing the history of Cuzco, Peru, we know about the existence of the Ceque System. It corresponds to a diagram based on 41 or 42 lines or *ceques*, that organized 328 *huacas* or sacred places (stones, springs, hills and palaces) in the landscape during the Tawantinsuyu (World of four Suyus on Incan times). These lines (directions) were centered in the Coricancha (Temple of the Sun) and established kinship relationships, political hierarchies and tribute as well as beings organizers for the principal festivities in a luni-solar calendar's structure (Zuidema, 2011).

The astronomical significance of the *ceques* system is primarily related to zenithal observations. Zuidema suggests solar observations from two *ushnus* (pillar, gnomon, and hole) that with the Sunturhuasi building in Cuzco, allowed astronomical observations on October 30 and February 13 (zenithal passages). Complementing with the 180° opposition of a shadow, one could know the position of the Sun on August 18 and April 26, the beginning and ending of the agricultural cycle (anti-zenithal passages) (1980:320-321, 2011:164).

From these points of view we might assume that: 1) a system of *ceques* is identifiable by the existence of lines projected from one or more centers to potentially sacred landscape elements (*huacas*) such as mountains, rocks and rivers; 2) a luni-solar horizon calendar is identifiable by the presence of natural or cultural markers, which coincide with certain calendrical dates; 3) an integrated *ceque* system and luni-solar calendar should be reflected in the social, political, and ritual organization of Socaire (Moyano, 2011).

This paper includes details of the ceremony of water pleading, (2008-2009) ethno-astronomical research and psychological phenomena explanations associated with perceptions of the landscape and sky.

2. THE WATER CEREMONY

The cleansing of irrigation channels happens either between October 24th and the 26th, or the nearest weekend (Figure 2). For this, the "socaireños" choose a "capitán" (captain) and a "capitana" (woman captain) both men. As a symbol of status they use the "clarin" (sort of clarion) and the "putu" (bull horn), to invoke the "sound of water that comes from the mountains" (Barthel, 1986:152). This is part of the "minga" or system of communal work. In which, each family becomes responsi-

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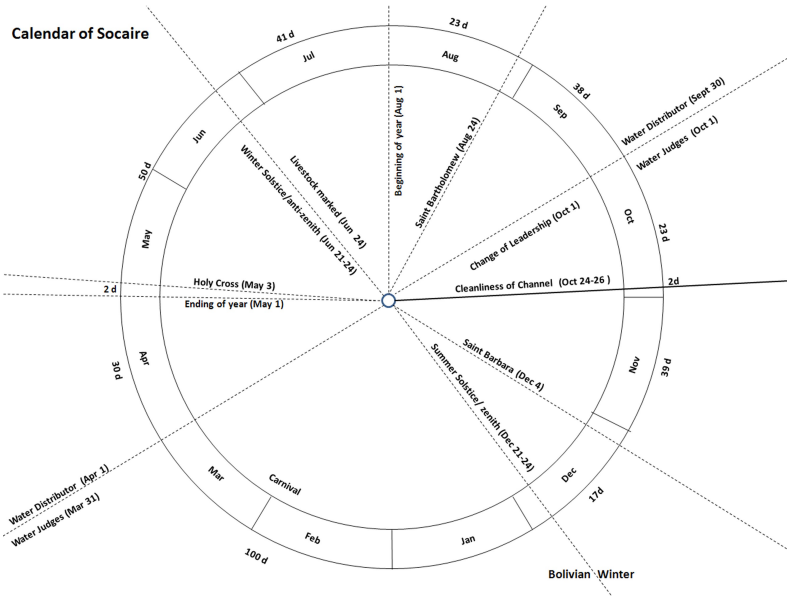

Fig. 2. Calendar of Socaire.

ble for a section of to the lands they own (Barthel, 1986:151).

The pleading for water takes place in the ceremonial center of Socaire (CCS). It is located 6 km from Socaire and 200 m from the water source in the Nacimiento Ravine. The CCS consists of: 1) a flat surface surrounded by a circle of rocks (5.5 x 4.3 m) called "merendadero"; 2) a vertical rock known as "Cerro Grande", located to the east of "merendadero"; 3) a 1 x 1.5 m rock that symbolizes the Chiliques volcano, next to "Cerro Grande"; 4) an area called "covero", to the southwest of "merendadero", where burnt offerings such as wood, coca leaves, and flamingo feathers are made; 5) and a system of stone steps (Barthel, 1986; Hidalgo, 1992).

The ritual activities are performed by a master and his assistant, called "cantales" (those that sing). The ritual begins early in the morning when the sun rises in the horizon, in the direction of Chiliques volcano. Each family of Socaire offers a bottle of "aloja" (algarrobo alcohol) to a mountain of the local topography. Each bottle is decorated with flamingo feathers that symbolize each member of the group. The feathers are representative of age and gender categories, i.e. black feathers represent adult males, pink and red represent adult females, and the small and white ones, represent the children (Barthel, 1986:156-157).

In the "merendadero", the "cantales" offer food and alcohol to the mountains. According to Mariscotti de Görlitz (1978:79-80), the master begins with the southern mountains, always with Litinque (Figure 3). His assistant will do the same with the northern group, beginning always with Lausa. This hierarchical order starts always for the east in a counter-clockwise direction and contrary to it, with the southern mountain group. Both directions are part of the *talatur* (Kunza word for jump) and symbolize the sun's daily movement (east-north-west-south).

An important aspect of our proposal is the existence of ceremonial archaeological sites (1470-1536 A.D.) in many of the invoked mountains of Socaire, excepting Lascar, Overo, Potor and Hecar in the northern group, as well as Talus and Lastarria in the southern group (Beorchia, 2001; Reinhard, 1983; Moyano and Uribe, 2012). The reason for this difference could be volcanic activity or the minor importance of these shrines in Prehispanic times.

Tichy (1983) suggests the existence of natural landmarks and a possible radial organization system (*ceques*) related to solstices and equinoxes in Socaire. Later, Zuidema (1989:464-466), proposed analogies between ritual activities in Socaire and the ceremony of Citua (lunar month of September) in Cuzco, because of: 1) the importance of local mountains as water providers; 2) the existence of visual lines and a sacred rock that symbolizes the Chiliques volcano; (this volcano concentrates the rainfall of other shrines); 3) the relationship among land, social division and sections of irrigation channels; 4) the mythical relationship among mountains (as lo-

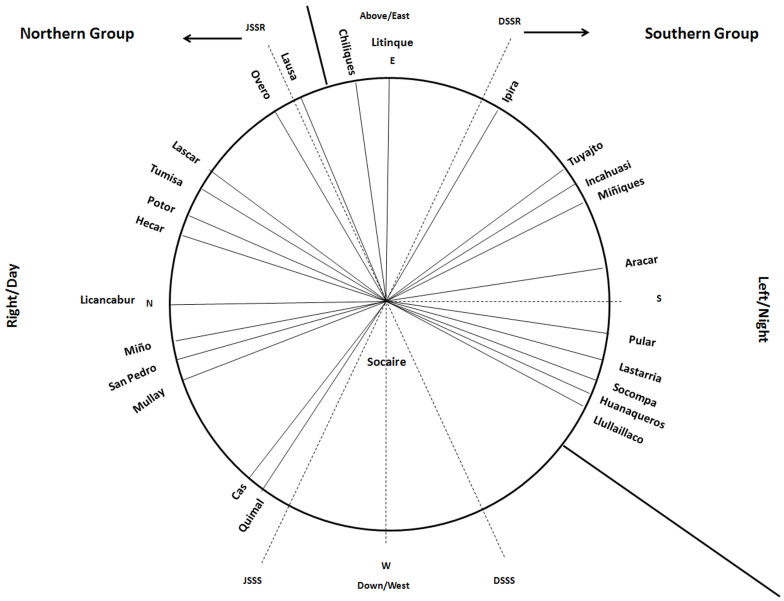

Fig. 3. Mountain System of Socaire.

cations of water sources), ancestors and social order (Moyano, 2011:99).

3. THE HAND OF GOD

Ethnographical and archaeo-astronomical results suggest a close relationship between agricultural activities, particularly the cleansing of irrigation channels ceremony, with specific elements in the local landscape. This is described as a system of offering to mountains. It can be understood as a group of imaginary lines projected from one or more centers to specific places. It generated basic divisions such as up and down, left and right, day and night, visible and invisible; all of them hierarchically ordered by the eastern direction and visible volcanoes: Tumisa, Lausa, Chiliques, Ipira, and Miñiques. Together they represent, according to local tradition, a left human hand in the horizon (Celina Varas, personal communication 2008).

The Socaire's division into halves, with three neighbors each and one center, could be determined by left and right directions oriented to the Litinque volcano location, close to the east. This division determines the hierarchy of the southern mountain group to a clockwise direction and is related to the concepts of midnight and male. In contrast, the northern mountain group relates to counterclockwise direction, and is associated to noon and female. This duality is also present in the agricultural calendar formed by six months each of them (October-March/April-September) with different people responsible for the water. In case of visible mountains, the shrine of Miñiques (5,927 masl), should be considered the point of reference for the Socaire's church; which was built in the early XVI century on an old Indian cemetery. Today the modern cemetery faces the Pular volcano (196◦) (6,239 masl). This changed the ancestor's orientation.

Naked eye solar observations made in December 2008 (+/- 90 m north to SCC) (Figure 4), revealed the existence of a possible landmark for the summer solstice, between the near horizon and the Ipira volcano. More significant, is the calculated sunrise of August 24th (Saint Bartholomew), when the solar event coincides with the northern summit of Chiliques volcano (5,770 masl). Although the Saint Bartholomew feast was introduced in the 1950's from Bolivia, we propose a possible Prehispanic substrate, because of the existence of archaeological evidence in the Chiliques volcano (Moyano and Uribe, 2012).

We propose that the ceremonial center is a scaled representation of hills, referred to the channel cleansing ceremony in October. This includes the basic division between left and right, male and female, as well as the zenith (anti-zenith) represented by the shadow of a gnomon (large hill) at noon on the December solstice. Another analogy is that the singing and dancing of *talatur* constitutes itself a representation of the daily movement of the Sun and the four-fold division of the horizon.

In Socaire the idea of center could be understood as "place" (Tilley, 1994), an *axis mundi* of vision

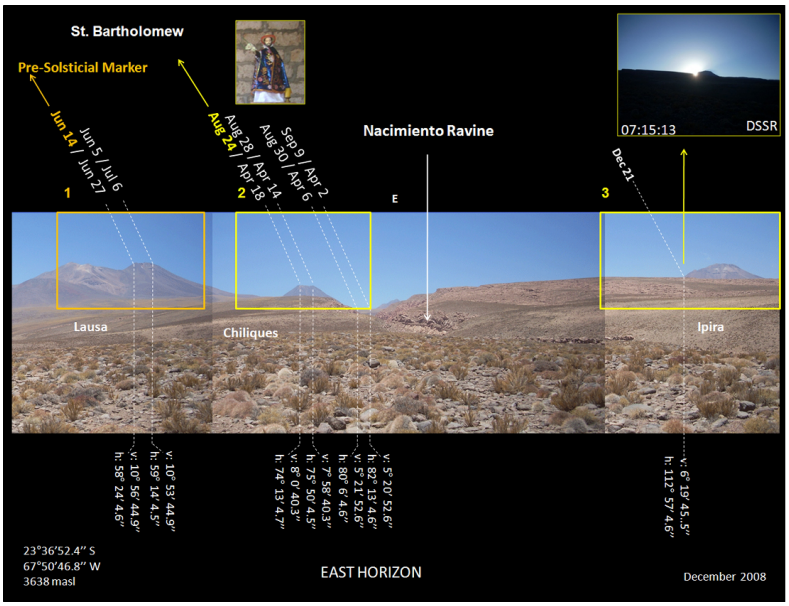

Fig. 4. The eastern horizon of Socaire.

lines called *ceques* in the Andean world (Zuidema, 2011).

The division is in two, three, four and five. It is represented by noon and midnight (two); *Hanan* (above), *Kay* (here), and *Hurin* (down) *pacha* (three); long and short days along with solstice line projection (four); and zenith (anti-zenith) complete the diagram (five). Consequently, the representation of a left human hand formed by Tumisa, Lausa, Chiliques, Ipira and Miñiques mountains (division in five) constitutes the clearest evidence of humanized perception of the landscape in Socaire (PAH triad) (Figure 5). This could be understood as a time measurement from short days in June (Lausa horizon) and long days in December (Ipira horizon) (Moyano, 2011).

4. CONCLUSIONS

Results suggest a strong relationship between agricultural activities, particularly the cleansing of irrigation channels, and elements of the landscape (the mountains). This association attributed to a Mountain Orientation System, possibly *ceques* or lines of "convidos", is represented as projected lines from one or more centers outward to the landscape. This creates basic divisions between above and down, left and right, day and night, visible and non-visible. Specifically, the left and right would be determined by the Litinque volcano direction, in a hierarchy that follows a clockwise direction to the southern mountain group (midnight), and back to the northern mountain group (noon).

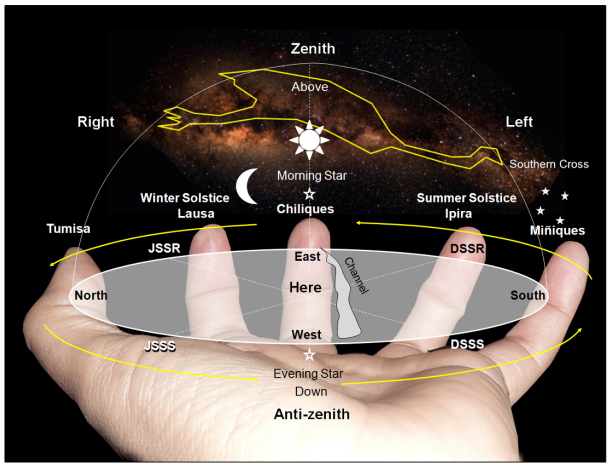

Fig. 5. Left Hand Horizon Representation.

In the case of Miñiques volcano, it would have been the point of orientation of the Socaire's Church. Also it is associated with the projection of a left hand extended in the horizon (PAH triad). Pular constitutes the reference point for the cemetery and for ideas connected to ancestors and the dead. Solar observations suggest the existence of a potential landmarker for December solstices, between the near horizon and the Ipira volcano. Most interesting, the sunrise on August 24th (Saint Bartholomew day) aligns with the direction of the northern summit of Chiliques volcano. Also, it marks the start of longer days after the winter solstice.

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We propose a lunisolar calendar system that includes Prehispanic and catholic festivities, which regulates the management and adjustment of dates as follows: August 1st (sowing), August 24th (Saint Bartholomew), September 30th-October 1st (change of leadership), cleansing of irrigation channels (October 24-26th), Saint Barbara (December 4th), Carnival (movable date according to Moon phase, February-March), Harvest (May 1st), Holy Cross (May 3rd), and Saint John-Marking of the Livestock (Jun 21st-24th). The year was divided into two halves, April-September (water distributor) and October-March (water judges), in a system that incorporated sub-periods of 23, 38, 23(+2), 39, 17, 100, 30(+2), 50 and 41 days.

Even though Barthel (1986) registered 27 directions (15 for the southern group and 12 for the northern group) related to the number of *ceques*, we believe that there were close to 30 or 40 directions (lines of vision), based on information delivered by Laureano Tejerina (ritual specialist of Socaire) who included 15 mountains in each direction (Grebe, 1996). The missing *ceques* in Barthel's list could be completed by a dual system integrating both Peine and Socaire directions. According to Del Río (2005), this was the case of Soras de Paria in the highlands of Bolivia with 41 or 42 ceques.

We believe that Socaire was built using a system of physical and symbolic appropriations of the local landscape under the ethno-categories of *ceque* (lines of "convido" or offering), *huaca* (sacred place), and *mayku* (mountain ancestor). In other words, this system is a collective representation of space and time (*pacha*) that promotes agricultural resource regeneration as well as social reproduction, thanks to synchronization with rhythms of the environment, such as a calendar system.

Thus, we suggest the existence of the following categories of landscape (Moyano, 2011:96-97), as expressions of "dwelling-in-the-world" (Tilley, 1994):

- The place: represented by the ceremonial center and the *huaca* of Chiliques (observation points).
- Paths: understood as *ceques* or vision lines of "convido" projected through landscape from one or more places.
- The horizon: represented by a left human hand in the visible mountains (Tumisa, Lausa, Chiliques, Ipira, and Miñiques) (PAH-Triad).
- The zenith (anti-zenith): materialized by a gnomon (vertical rock), which represented the Chiliques volcano and other mountains as providers of water and rain in the annual calendar.

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