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Rethinking Nahualac, Iztaccíhuatl, Mexico: Between Animism to Analogism in Mesoamerican Archaeoastronomy

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Abstract: The site of Nahualac (3890–3920 m asl) is situated on the western slopes of Iztaccíhuatl, a well-known volcano in Central Mexico. It consists of a rectangular stone sanctuary located within the seasonally active small lagoon, and the distinct area where multiple deposits of ritual pottery were found. The piles of stone situated on the borders of the lagoon produce alignments towards the nearby and distant landforms offering broad vistas towards the brilliant white peaks of Iztaccíhuatl in the East and restricting the visibility towards the West. The site belongs to the category of high-mountain cult places functioning during the Early and Late Post-classic periods (900–1521 CE) and is associated with the central Mexican cult of fertility, mountain, and rain.

The ritual and worldview meanings of this site are taken together to discuss the ways of how the Post-classic societies in Central Mexico conceptualised their relationship with their surroundings. Using the layout of Nahualac and its astronomical alignments, I conclude that it exhibited cultural configurations that can be classified as characterising analogism rather than animism.

When it comes to the interpretation of the material evidence of past human practices related to the celestial environment, two persistent tendencies are observed. On the one hand, there is the tendency to embrace interpretations in terms of ourselves at the expense of interpretations made by the anthropological Other.¹ As a result, a good amount of ancient worldviews is lost because archaeoastronomers use their own scientific worldview to explain the past as it really was.² On the other hand, there is the tendency

¹ Anthropologists usually describe ‘others’ as different and separate from ‘us’. I am using this concept to emphasize the notion of perceived cultural differences between modern and non-modern (indigenous, non-Western or pre-modern) societies.

² See, for example, Stanisław Iwaniszewski, ‘Looking Through the Eyes of Ancestors: Concepts of the Archaeoastronomical Record’, in Mauro Peppino

to retrieve knowledge of an existing worldview from the material record itself. This tendency proposes we can grasp deeper cultural meanings beyond the purely logical meanings of things. Since each society can understand and interpret its social and natural environments only within the context of its own cultural tradition,³ then our attempts to describe the ways people perceived and conceptualised their celestial environments in the past, should always be compatible with the inferred underlying principles established by their worldviews. A pragmatic view asserts that in some way, both of these tendencies supplement each other. While the former one describes the people's engagements with their celestial environments in terms that are intelligible to us, the latter one attempts to understand the past on its own terms.

Given the potential of archaeoastronomy to yield information about now extinct human perceptions and practices relating to the skies, the obvious question here is how we might archaeoastronomically provide the insights into the ways of conceiving and conceptualising of the celestial environment in the past. In trying to answer this question, I will start from the assumption that the fundamental categories of what people use to construct or describe their lifeworlds may differ significantly. Western philosophy, with its distinction between nature and society (or culture), is just one possibility among others. Consequently, if there are other possibilities of being in the world, and Western ontologies no longer can be taken for granted, we should be able to identify, in the archaeological record, other than Western modes of engagements between people and their celestial environments.

For the aims of this paper, I am defining a worldview as a set of the main proposals (prejudices, beliefs, categories, concepts, and so on) through which we view and generate the world. Its form or shape derives from the principles evolved from the practical (day-to-day) engagements of human communities with their surroundings (human lifeworlds).⁴ In many non-western societies, the recognition of celestial cycles forms part of their practical knowledge of the environment, so it is practically impossible to

Zedda and Juan Antonio Belmonte, eds., *Lights and Shadows in Cultural Astronomy* (Isili: Associazione Archeofila Sarda, 2007), pp. 11–19.

³ See Hans Georg Gadamer, *Truth and Method*, translated by G. Barden and W.G. Doepel, (London: Sheed and Ward, 1981).

⁴ See Tim Ingold, 'Hunting and Gathering as Ways of Perceiving the Environment', in Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill* (London: Routledge, 2000), pp. 40–60.

separate the modes of engagement with celestial bodies from all other relations taking place between human groups and their natural environments. It is not surprising, therefore, that their worldviews usually combine conceptions of social relations and conceptions of cosmos treating the human and nonhuman beings within a single conceptual field. Within such models, the patterns which organise the relationships between celestial bodies cannot be conceived as belonging to a different order than those which characterise the relations between humans and between humans and non-human others.⁵ In light of this, it becomes apparent that the knowledge about the celestial environment can no longer be viewed as being constructed exclusively by humans; rather it emerges as a result of human and human-nonhuman interactions. The artifacts which today represent the archaeological record once coexisted with other entities like humans, plants, animals, landscape features, meteorological and astronomical phenomena, immaterial beings, sharing the world inhabited by humans.⁶ Thus in a broader perspective, past human perceptions and practices related to celestial phenomena are the result of the dialectic between human communities and their material and immaterial contexts, of the web of diverse relationships between humans, components of their natural and celestial environments, other animal and plant species, human-made objects, and non-human others.

To sum up, though Western philosophy sees humans as distinct from their natural surroundings, we do not need to take this pattern as universally shared. On the contrary, our study of the past cultural practices related to the skies should demand a recognition of humans as part of the environment. Assuming that the Western concept of nature/culture dichotomy is just one form of being-in-the-world, we should consider other ways of interpreting the archaeological record. The recent shift observed in archaeological approaches to the past material record consists of the idea that peoples' relationships and engagements with the world they inhabit rely on the recognition that the non-human components of that world might be believed to be animate. In thinking how different peoples developed their relationships with their social and natural environments Philippe Descola developed an inspiring conceptual framework outlining the ways

⁵ More on this subject, see Stanisław Iwaniszewski, 'Por una astronomía cultural renovada', *Complutum* 20 (2009): pp. 23–37.

⁶ See, for example, Bjørnar Olsen, *In Defence of Things: Archaeology and the Ontology of Objects* (Lanham: Altamira Press, 2010).

in which such relationships or engagements might be conceptualized.⁷ Descola's proposal focuses on four common types of human interactions with the environment (animism, totemism, naturalism, and analogism). Obviously, peoples' worldviews may show two or three different types of modes of existence, (for example, both animic and analogical, or both analogical and naturalistic) because attributes and properties of nonhuman components of the world may not be regarded as fixed, bounded, autonomous or existing independently of the surrounding world, but remain determined by the relationships between all other components. While in Western societies physical objects and living organisms are just entities regardless of their particular context and the web of relationships within which they are embedded, in non-Western ontologies, their properties are developed by the relationships with all other entities. In other words, the treatment of archaeoastronomical evidence on entirely astronomical grounds may not adequately describe the social reality of past societies. To give an example: celestial alignments may be defined as attributes or properties of specific objects or structures, which are defined by the returning positions of the heavenly bodies, climatic, meteorological, ritual, and other relationships that those structures and objects develop with other entities over time.⁸

As a result of attributing certain human properties to the components of the surrounding world, people establish the rules which serve them to construct and maintain various relationships with them. The diverse forms of cultural conceptualisations of human-environmental relationships rely of course, on their capacity of defining who the human persons are and with whom they maintain interrelationships. As Philippe Descola observes:

each specific form of cultural conceptualisation also introduces sets of rules governing the use and appropriation of nature, evaluations of technical systems, and beliefs about the structure of the cosmos, the hierarchy of being, and the very principles by which living thing function.⁹

⁷ Philippe Descola, *Beyond Nature and Culture*, translated by Janet Lloyd, (Chicago: The University of Chicago Press, 2013).

⁸ See Ingold, 'Being Alive', pp. 67–75; Nurit Bird-David, "'Animism" Revisited: Personhood, Environment, and Relational Epistemology' (with comments), *Current Anthropology* 40 (supplement), pp. 67–91; Herva, 'Living (with) Things', pp. 389–401.

⁹ Philippe Descola, 'Societies of Nature and the Nature of Society', in Adam Kuper, ed., *Conceptualizing Society*, European Society of Social Anthropologists, (Routledge: London, 1992), pp. 107–26.

Mesoamerican ontologies

In pre-Hispanic Mesoamerican worldview, the human being is conceived as a temporary union of different components. Some are seen as material and extracorporeal, others as intangible and tied to the physical human body. Each human person can thus be divided into two building components: a heavy matter which is linked to the earth and a light component of divine origin which formerly is derived from the activities of the gods at the time of the creation of the universe and then repeated in each of the individual creatures. The hard part of each person is considered as a kind of a container or a coverage of intangible essences that give life, intelligence, personality and emotion to the human individual. The physical body supports, houses or wraps three intangible components. Mesoamerican pre-Hispanic societies believed that each newborn child absorbed those three essences, called animated entities. When combined, these enabled human beings to experience emotions, to perform intelligence, and to sustain life. Those three entities were known in Nahuatl as *tonalli* ('heat', 'day name', 'fate'), *teyollia/yolia* ('heart') and *ihiyotl* ('breath', 'blow/puff').¹⁰ The three entities endowed to the person of a specific existence and continuously transformed themselves according to the particular stages of an individual life. In pre-Hispanic Mesoamerican communities, calendar ritual specialists or priests were trained in uncovering the names, character, and other specificities of those entities.

Mesoamerican peoples interacted with a wide spectrum of animate entities. Deities, heavenly bodies, meteorological phenomena, landscape features, animals and plants, and peculiar artifacts were all endowed with some degree of animacy. However, the attribution of animacy to them was neither fixed nor static. The attribution of animacy to the whole cosmos, to objects, things, persons, processes, states, etc. was made through a kind of ever-flowing entity known as *teotl*.¹¹

¹⁰ For the sake of simplicity I am using standard Spanish orthography. In translating the Nahuatl terms I rely on interpretations made by Alfredo López Austin, *Cuerpo humano e ideología. Las concepciones de los antiguos nahuas* (México: Instituto de Investigaciones Antropológicas Universidad Nacional Autónoma de México, 1980) and Roberto Martínez González, *El nahualismo* (México: Instituto de Investigaciones Históricas, Universidad Nacional Autónoma de México, 2009).

¹¹ *Teotl* has been customarily translated as 'god' or 'deity'. These concepts are misleading since they seem to represent European concepts of god and divinity rather than those of Native Mesoamericans.

Nahualac – description of its basic features

The site of Nahualac (3890–3920 m asl) is located on the western slopes of Iztaccíhuatl, a famous volcano in Central Mexico. The name Nahualac means ‘in the river (or spring) of the sorcerers’,¹² although it remains unclear whether it was the pre-Hispanic name for this location. The site occupies two neighboring yet remaining divided places, located in the bottom of the oval valley which is shaped by the last glaciation and is connected through narrow passes with similar valleys above. The valley itself is bounded by minor elevations in the south and west that form a kind of ridge culminating with the peak of Mt. Nahualac (3930 m asl) from which it takes the name. To the north lies Nahualac Glen. The Valley, especially its western part, offers wide-ranging views over the summits of Iztaccíhuatl (Fig. 1). From the valley eastward, the slopes descending from Iztaccíhuatl can be seen. The highest elevations of this snow-capped mountain visible from the valley form an undulating skyline at a distance of about 2 km. The name of the mountain Iztaccíhuatl (‘White Woman’) affects the cultural perception of the peaks since people today commonly affirm that the whole ridge of mountains represents a lying down woman. Thus, the highest peaks receive their names from the parts of the human body. Looking from the north to the south there are: La Cabeza (‘the head’), El Cuello (‘the neck’), El Pecho (‘the breast’), La Panza (‘the belly’), Rodillas (‘the knees’), Pies (‘the feet’), etc. (Fig. 2 and see Fig. 1). In the pre-Hispanic past the mountain received the names of Iztactepetl (‘White Mountain’), or Tonacatepetl (‘Mountain of Our Sustenance’).

¹² From *nahualli*, ‘sorcerer’. I owe this translation to Leopoldo Valiñas.

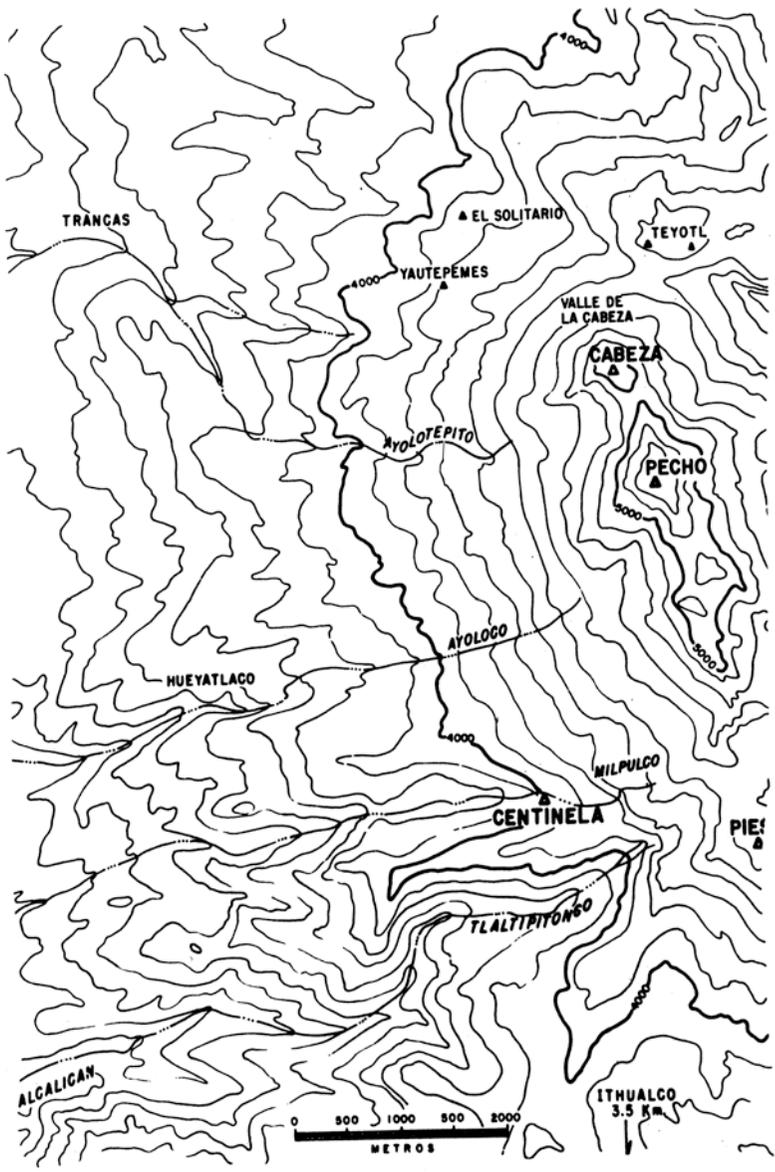


Fig. 1. Western slopes of Iztaccihuatl



Fig. 2. The view of Iztaccíhuatl

The site was first examined by Desiré Charnay who, in 1857 and 1880, excavated archaeological sites on the slopes of Popocatepetl and Iztaccíhuatl.¹³ He found about 800 items related to the cult of Tlaloc, the Aztec (Mexico) god of rains and mountains. The site was re-discovered in 1956 by José Luis Lorenzo who recollected the surface material in the area of ritual deposits.¹⁴ Between 1984 and 1986 the site was visited by the author who in the company of Arturo Montero did excavations in the area of ritual deposits.¹⁵ Site chronology is based on the pottery typology and indicates the site was visited on different occasions during the Early Post-

¹³ See, Desiré Charnay, *The Ancient Cities of the New World Being Voyages and Explorations in Mexico and Central America from 1858 till 1882*. Vol. 10 Antiquities of the New World, Early Explorations in Archaeology. AMS Press, Inc. New York for Peabody Museum of Archaeology and Ethnology (New York: Harvard University, 1973). Originally published in French in 1867.

¹⁴ José Luis Lorenzo, *Las zonas arqueológicas de los volcanes Iztaccíhuatl y Popocatepetl* (México: Instituto Nacional de Antropología e Historia, 1957).

¹⁵ Consult Ismael Arturo Montero García, *Iztaccíhuatl, Arqueología den Alta Montaña*. Tesis para optar por el título de licenciado en Arqueología, (México: Escuela Nacional de Antropología e Historia, 1988).

classic Period (ninth to eleventh centuries CE, and probably also in the Late Post-classic Period (thirteenth to sixteenth centuries CE). Finally, the site was also archaeoastronomically examined by the author and Arturo Ponce de León.¹⁶

As stated above, the archaeological site of Nahualac consists of two locations separated by a distance of about 120 metres. The first one is composed of a rectangular stone sanctuary placed within the seasonally active small lagoon or pond and occupies the isolated, lowest and northernmost extension of the valley at approximately 3890 m asl elevation. The pond is enclosed on three sides by slopes descending from higher elevations and slightly opens towards the north where the Nahualac Gorge precipitates. The site lies within a light pine forest. Nevertheless, the highest peaks of Iztaccihuatl ('the head', 'the neck', 'the breast', and 'the knees') are visible to the east behind the pine trees when one is standing in the front of the structure, near to its entrance. A small elevation restricts the view towards the west, but the forest here is not very dense enabling the sun to be seen behind the trees. This view looks uphill behind the trees, but it is possible to see the distant skyline in the background if one moves from the lagoon area. The view towards the south is restricted by the adjacent part of the valley while looking north, the view is of more immediate mountain ridge which descends from the Pulpito del Coyote ('Coyote's Pulpit') summit, just on the opposite side of the Nahualac Gorge. The peaks of Mt. Telapon and Mt. Tlaloc would be visible to the NNW, although they are presently blocked from view by pine trees.

The center of the lagoon is occupied by a small structure made of stone (Figure 3). The structure is roughly rectangular, measuring 7.4 m x 6 m, and today its walls rise to 30–40 cm. It contains two interior spaces and a doorway facing west. The small lagoon is made by water coming from the source at the Chalchoapan¹⁷ lagoon, located some 700 m above, which in turn receives water from the melting snows from the Ayollotepito¹⁸ glacier

¹⁶ Stanisław Iwaniszewski, 'De Nahualac al Cerro Ehecatl. Una tradición prehispánica más en Petlacala', in *Primer Coloquio de Arqueología y Etnohistoria del Estado de Guerrero*, (México: Instituto Nacional de Antropología e Historia and Gobierno del Estado de Guerrero, 1986), pp. 497–518; Arturo Ponce de León, 'Propiedades geométrico-astronómicas en la arquitectura prehispánica', in Johanna Broda, Stanisław Iwaniszewski and Lucrecia Maupomé, eds., *Arqueoastronomía y Etnoastronomía en Mesoamérica* (México: Universidad Nacional Autónoma de México, 1991), pp. 413–46.

¹⁷ From Chalchiuhapan, 'upon green stones water'.

¹⁸ From Ayollotepiton, 'in the small heart of water'.

(today almost entirely vanished) located between the lagoon and the summit of Iztaccíhuatl (known as El Pecho, or ‘the breast’) and slopes of La Cabeza (‘the head’).



Fig. 3. The pond of Nahualac.

The placement of the entrance implies that the visitors were approaching the precinct from the west facing the main and highest peak of Iztaccíhuatl known as El Pecho (‘the breast’). The axis of the structure is aligned with the southern edge of the breast, between Ordóñez and Aguilera crags. The orientation of this structure yields the mean azimuth of $107^{\circ} 03' - 107^{\circ} 15'$ (the structure’s walls are only roughly linear), belonging to one of the most widespread alignments’ groups in Mesoamerica.¹⁹ For the latitude of 19° N, azimuths around $105^{\circ} - 107^{\circ} / 285^{\circ} - 287^{\circ}$ usually record the sunrise/sunset dates around February 12 and October 30, and April 30 and August 13. These four dates establish intervals of 260 days (from February 12 to October 30 and from August 13 to April 30) being pivoted either on the winter or the summer solstice. It has been argued that these

¹⁹ Anthony F. Aveni, *Skywatchers: A Revised and Updated Version of Skywatchers of Ancient Mexico* (Austin: University of Texas Press, 2001), p. 234.

dates marked four critical moments in maize agriculture.²⁰ However, due to the significant horizon altitude, instead of February 12 and October 30 at Nahualac we can observe sunrises on February 20/21 and October 21. These appear to divide the solar year into two-thirds and one-third (243 and 122 days). With adjustments for horizon elevations the sunset dates corresponding to the same orientation refer to the days of May 3 and August 9, dividing the solar year into the periods of 100 and 265 (approximately nine lunations) days. Interestingly, as viewed from the precincts' entrance, the sun rises over La Cabeza ('the head') on May 3 and August 9.

In the center of the pond a ritual precinct was built and around its edge, were raised small bases or piles of stones which today are almost totally destroyed. They are described by Charnay as 'smaller monuments, pedestals, altars, or chapels, bearing the statue of Tlaloc'.²¹ Lorenzo calls them 'small bases quite regularly grouped on the central construction'.²² I described them as 'piles of stones'.²³ These descriptions only witness the advanced deterioration of the monument. The number of them varies between nine²⁴ and ten.²⁵ While the picture of the Nahualac pond depicts them as regularly shaped rectangular stone basements, it is impossible to conclude how many of them were initially erected.²⁶ The alignments carried out from the precinct entrance displayed a radial pattern. Those alignments laid out over the surrounding prominent landforms, allowed me to attempt to identify the basements with some specific places. In my opinion, this represented the local representation of the Mexica cosmological system, in its spatial, temporal and hierarchical aspects.

²⁰ Iwaniszewski, 'De Nahualac al Cerro Ehécatl', p. 515; Stanisław Iwaniszewski, 'La arqueología y la astronomía en Teotihuacán', in Johanna Broda, Stanisław Iwaniszewski and Lucrecia Maupomé, eds., *Arqueoastronomía y Etnoastronomía en Mesoamérica*, (México: Universidad Nacional Autónoma de México, 1991), pp. 269–90; Ivan Šprajc, 'Astronomical Alignments at Teotihuacán', *Latin American Antiquity* 11, no. 4 (2000), pp. 403–15; Ivan Šprajc, *Orientaciones astronómicas en la arquitectura prehispánica del centro de México*, Colección Científica, 427, (México: Instituto Nacional de Antropología e Historia, 2001), pp. 79–88, 107–20.

²¹ Charnay, 'The Ancient Cities', p. 180.

²² Lorenzo, 'Las zonas arqueológicas', p. 20.

²³ Iwaniszewski, 'De Nahualac al Cerro Ehécatl', p. 502.

²⁴ Iwaniszewski, 'De Nahualac al Cerro Ehécatl', p. 502.

²⁵ Lorenzo, 'Las zonas arqueológicas', p. 20.

²⁶ Charnay, 'The Ancient Cities', p. 182.

About 20–30 m above the lagoon, on a wide hillock (about 3910–3915 m asl) adjacent to the peak of Mt. Nahualac, at a distance of 120 m, there is an extensive area where multiple deposits of ritual pottery and offerings were found. The structural remains at this site are so ambiguous that it can only be described as the offering place. The site was the subject of intense illicit digging. The landscape setting around this site is quite spectacular. This area affords excellent views of all the major snow-capped peaks of Iztaccihuatl. Also Popocatepetl is clearly visible on the SSE horizon. The view towards the Valley of Mexico is obscured by the slopes of Mt. Nahualac. This site seems to have been located specifically so that Popocatepetl and other mountains in the south can be observed. On the other hand, this site is located so as to be visible from the area adjacent to another rectangular precinct, called El Caracol which and situated about 500 m above.²⁷

Of particular importance for my interpretation seems to be the position of El Cuello ('the neck'). Today, this feature is part of the anthropomorphised sierra, but it is not known whether the same visual perception of the lying female was known in Pre-Hispanic times. Avoiding possibly anthropomorphic connotations, I will start with a simple observation that today is called the neck and creates a form known as a saddle among mountaineers. Now, moving from this less anthropomorphic feature, we can notice that the saddle may also be transformed into a cleft between two higher elevations, those of La Cabeza ('the head') and El Pecho ('the breast'). Drawing on these preliminary observations, I can now propose that the undulating profile displayed by Iztaccihuatl may in fact represent a mountain with a deep cleft. As observed from the Nahualac pond, the sun rises over the saddle during the last days of April, coinciding with the onset of the rainy season and the ripening of maize plants. Keeping in mind that one of Iztaccihuatl sixteenth-century names was Tonacatepetl, we can further propose that the cleft-like profile exhibited by the mountain (see Fig. 2) may refer to the well-known pan-Mesoamerican myth in which Tlalocque breaking the huge Tonacatepetl mountain opened a way to a cave containing the life-giving plants (including maize). This symbolism may be reinforced by the fact that the Chalchoapan lagoon is located just below the saddle, and gathers waters that flow towards

²⁷ The exact location of the Nahualac pond cannot be established from the distance due to the forest cover.

Nahualac and fill the empty and dry space around the precinct at the onset of the rainy season just bringing the lagoon back to life. Similar landscape properties have been studied recently by García Zambrano who found many more examples of alignments linking monumental architecture with mountain saddles or passes.²⁸

From Nahualac to Tlalocan to Analogism

Agricultural affinities of the site are reassessed by the pots representing Tlaloc's face. Tlaloc is the Mexica (Aztec) god of rain, lightning, and earth. During the Post-classic period, he was believed to dwell in mountains and caves. Tlaloc represented the male aspect of falling waters while his consort Chalchiuhtlicue, or Matlalcueye, was considered as patroness of flowing or static waters (rivers, lakes).²⁹ In fact, Tlaloc, Chalchiuhtlicue, Matlalcueye and the innumerable assistants called *tlaloque* were treated as mountain and water embodiments.

Tlaloc embodies the Mesoamerican concept of earth and the natural environment. According to Sullivan, his name translates as 'he who has the quality of earth', 'he who is made of earth', 'he who is the embodiment of the earth'.³⁰ Tlaloc appeared in the Late Pre-classic and was popular at Teotihuacan (Classic Period 1–650 CE). As mentioned, he was one of the most popular gods at Tenochtitlan, the Aztec capital. Therefore, ritual structures and activities at Nahualac may reveal the process through which the relationship between the humans and their surrounding environment was brought into being.

Tlaloc was believed to dwell in a place called Tlalocan, or 'The Place of Tlaloc'. Several mountains around the Valley of Mexico housed shrines where rain-bringing ceremonies, propitiatory, and thanksgiving rituals took

²⁸ Consult Ángel Julián García Zambrabo, 'Transference of Primordial Threshold Crossings onto the Geomorphology of Mesoamerican Foundational Landscapes', in Amos Megged and Stephanie Wood, eds., *Mesoamerican Memory. Enduring Systems of Remembrance* (Norman: University of Oklahoma Press, 2012), pp. 215–28.

²⁹ Stanisław Iwaniszewski, 'Y las montañas tienen género. Apuntes para el análisis de los sitios rituales de la Iztaccihuatl y el Popocatepetl', in Johanna Broda, Stanisław Iwaniszewski and Arturo Montero, eds., *La Montaña en el Paisaje Ritual*, (México: IIH UNAM-CONACULTA-INAH-BUAP, 2001), pp.113–47.

³⁰ Sullivan Thelma Sullivan, 'Tlaloc: A New Etymological Interpretation of the God's Name and What It Reveals of His Essence and Nature', in *Proceedings of the 40th International Congress of Americanists* (Genoa: Tilgher, 1974), Vol. 2, pp. 213–19.

place. They represented *ayaucalli* (Houses of Mist) where Tlaloc with tlaloque (the Tlalocs, rain gods) was believed to reside.³¹ Tlalocan was a mythical and watery dwelling of abundance. In the *Historia de los mexicanos por sus pinturas* Tlaloc's abode is described as being four-sided occupied by four tlaloque (the Tlalocs, rain gods) who sent four kinds of rain.³² In the *Leyenda de los Soles* four tlaloque (blue, white, yellow, and red) steal the staple foods from the Mountain of Sustenance.³³ Classic and Post-classic artifacts (Tizapan Box, Mixtec panel with four Cosijos from Amparo Museum, Zapotec Four-vessel with Cosijo appliqué, Codex Borgia 27–28) represent four Tlaloc associated with four basic directions, kinds of rain and colors. In thinking how rain can be construed as a person, I propose to view Tlaloc as a dividual being, composed of different kinds of rain. In turn, the four Tlaloc beings, or the dwarfish Tlaloc's assistants, can be interpreted as entities embodying a singular aspect of this rain deity. The same may be said of Tlaloc in his aspect embodying a mountain. Tlaloc could be seen as a type of a partible person whose parts are identified with the countless and dwarfish tlaloque beings associated with a singular mountain or a cliff. (see below).

The four-sided world, with the pivotal world axis, is the most common and widespread cosmovisional model in ancient Mesoamerica. It appeared in the Middle Pre-classic period (900–500 BCE) when maize agriculture became a basic staple of Mesoamerican subsistence. The four-sided world probably represented a maize field.³⁴ In later times, the maize field, house, village, and the created worlds were represented as four-sided. The orderly world was often contrasted with the wild forest. The world was divided

³¹ Elena Mazzetto, 'Las ayauhcalli en el ciclo de las veintenas del año solar. Funciones y ubicación de las casas de niebla y sus relaciones con la liturgia del maíz', *Estudios de Cultura Nahuatl* 48 (2014): pp. 135–75.

³² 'Historia de los mexicanos por sus pinturas', in A. Ma. Garibay K., ed., *Teogonía e Historia de los mexicanos*, Sepan cuantos... 37, (México: Porrúa, 2005), pp. 23–87.

³³ 'Leyenda de los Soles', in *Códice Chimalpopoca*, (México: Universidad nacional Autónoma de México, 1975), pp. 119–42.

³⁴ Karl Taube, '2000 Lightning Celts and Corn Fetishes: The Formative Olmec and the Development of Maize Symbolism in Mesoamerica and the American Southwest', in J.E. Clark and M. Pye, eds., *Olmec Art and Archaeology: Social Complexity in the Formative Period*, Studies in the History of Art 58 (Washington, DC: National Gallery of Art, 2000), p. 303.

into four directions and at each corner were sacred trees which held up the sky.

I think these examples clearly show that in many aspects the Aztec and Mesoamerican model of the world was based on analogism. All components of the world: *tlaloque*, world directions, kinds of rain, and distinct colors are ontologically different, so it is necessary to find stable correspondences between them. Tlaloc (vertical waters, falling waters) represents the male principle, while his divine consorts, Chalchiuhtlicue and Matlalcueye, represent static or horizontal waters. The principle of analogism is, therefore, achieved through the model of the four-sided world and hot and cold (male and female) classification.³⁵

Now as Strathern already demonstrated, the notion of a person as a whole and independent being, enclosed within a skin and possessing one soul or mind is a modern Western conception.³⁶ As is known, the Aztec understanding of human beings was quite distinct. The human beings consisted of a heavy substance – the physical body – and three different kinds of vital entities (see above). These animate entities depended on exterior components (deities, other animate entities, particular human agents, etc.) so individual destinies might have been affected by exterior influences. Moreover, there were many other animated entities embodied in objects, ritual tools, offices, gesture, vestments, etc. that could confirm the individuality of an individual. Therefore, a human person was derived from the network of all external objects and relationships. In other words, humans had similar physicalities but different interiorities.

Following Strathern typology, in Mesoamerica, human persons may be defined as ‘dividuals’ in contrast to the ‘individuals’ of the West.³⁷ However, taking into account that many Mesoamerican persons are composed of relations that apparently extend beyond the skin boundary, to include objects, other persons, and relationships, they can be defined as partible persons. They absorb parts of other persons and objects and are absorbed by others. On the other hand, Gillespie took another point of view, relying on the concept of networking and corporation.³⁸ The former

³⁵ Alfredo López Austin, *Tamoanchan y Tlalocan* (México: Fondo de Cultura Económica, 1994).

³⁶ Marilyn Strathern, *The Gender of the Gift: Problems with Women and Problems with Society in Melanesia* (Berkeley: University of California Press, 1988).

³⁷ Strathern, *The Gender of the Gift*, p. 185.

³⁸ Susan D. Gillespie, ‘Aspectos corporativos de la persona (personhood) y la encarnación (embodiment) entre los mayas del periodo clásico’, *Estudios de Cultura Maya* 31 (2008): pp. 65–89.

view conceptualises a human person as being composed of diverse relationships; the latter one defines a person as being part of a corporate institution.

Now, following the relationship that Tlaloc maintains with the tloaque, who assist him in his duties (thunder- or rain-making, gathering water and humidity inside mountains), it is possible to define the god either as being partible, because tloaque might be ‘distributed Tlalocs’, or as being corporative, because he shared his office with the tloaque. This structure is represented by an architectural pattern of Nahualac: the rectangular structure surrounded by separated piles of stones (see Figures 4 and 5).

The piles of stones, the ritual precinct and the water in a seasonal pond thus embody the animate entities and divine forces symbolized by Tlaloc and his assistants. They all constitute a miniaturized surface on which rituals were performed to produce effects in the human lifeworld. In performing the rain-bringing ceremony, the ritual specialists pursued to synchronize the entities embodying particular topographical features both located in the Itaccíhuatl range and in the piles of stone with the activities of Tlaloc who was supposed to send rain in a proper time.

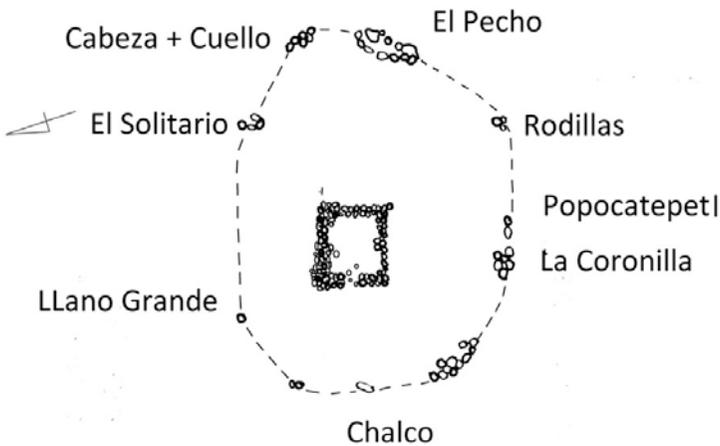


Fig. 4 The piles of stones aligned.

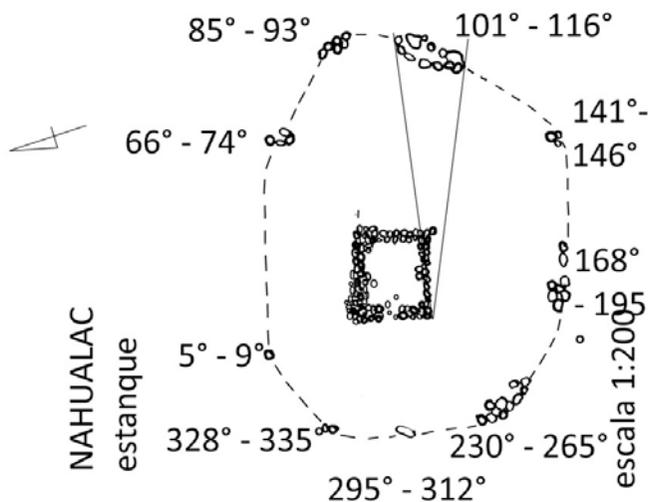


Fig. 5 Tentative identifications of the piles of stone with landscape prominences.

Conclusions

It may be concluded that the ritual precinct is representing the indigenous ontology. This ritual site is a way of world-making not just world-mirroring.³⁹ In this way, archaeoastronomers may reaffirm a symbolic relationship between monumental ceremonial structures, the offerings and rituals taking place in those structures, and the universe.

The Mesoamerican ontology described in this paper as the combination of animism and analogism is creating a more complex picture than the model of four ontologies proposed by Descola. My example also shows that animic ontology cannot be taken for granted.

In this paper, I explored the utility of archaeoastronomy for producing insights into the worldviews of non-Western peoples. Apart from the 'pure' archaeoastronomical investigation, I widely utilized both archaeological and ethnohistorical evidence. The case described here enables me to suggest that careful archaeoastronomical research may offer a window onto past and non-Western ontologies.

³⁹ I am following W.J.T. Mitchell, *What Do Pictures Want? The Lives and Loves of Images* (Chicago: The University of Chicago Press), pp. xiv–xv.

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