

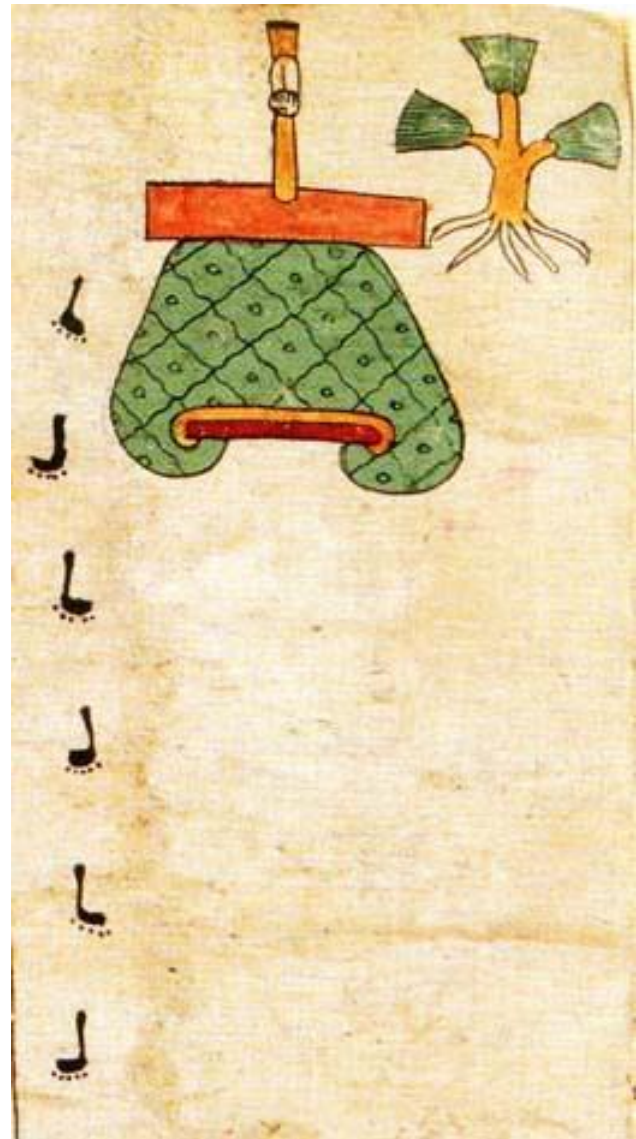
Processions and Aztec State Rituals in the Landscape of the Valley of Mexico

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This article explores the dimensions of geography, territory and ritual landscapes in the Valley of Mexico during Aztec times (15th and 16th centuries AD). It applies an interdisciplinary perspective combining anthropology, ethnohistory, archaeology, cultural geography and archaeoastronomy to reconstruct Aztec vision of place that transformed the Basin of Mexico into a sacred geography where lakes and mountains, volcanic landscapes, rocks and boulders, temples as well as towns and settlements of other ethnic groups were reinterpreted by the Aztecs according to their *cosmovisión*. This geography was the stage for the performance of ritual dramas enacted by the Aztec state (**Figure 1**). Processions and other ritualized acts in the natural as well as the built environment formed an important part of the Aztec calendar festivals; they usually were integrated into larger rituals.

By *cosmovision*, I mean the structured view by which ancient Mesoamericans combined their notions of cosmology into a coherent whole situating the life of man within this cosmic order. This view implied the observation of nature, but it also related the cosmos to society and to the state.

Figure 1. Pathway of the priests after kindling New Fire at Huixachteatl, Cerro de la Estrella (*Codex Borbonicus*, p. 34, detail).



Ideology, on the other hand, denotes a system of symbolic representation that serves to legitimize the existing order of society (Broda 1987a, 1991a, 2012). In this article I analyze several examples of how Aztec *cosmovisión* related to their political ideology. In particular, I will refer to the dynamic contrast between adopting Tlaloc rituals and landscape to help the Aztecs identify with their Toltec heritage versus the rituals and landscapes where they sought to

establish a connection with their Chichimec heritage, hunting and warfare. Here, we have one of the very rare examples in the case of Ancient American civilizations where the ethnohistorical information on the performance of ritual can be directly connected to geography and to the existence of archaeological sites that, however much reduced today in their remaining material testimony, may still transmit a concrete vision of place (**Figure 2**).

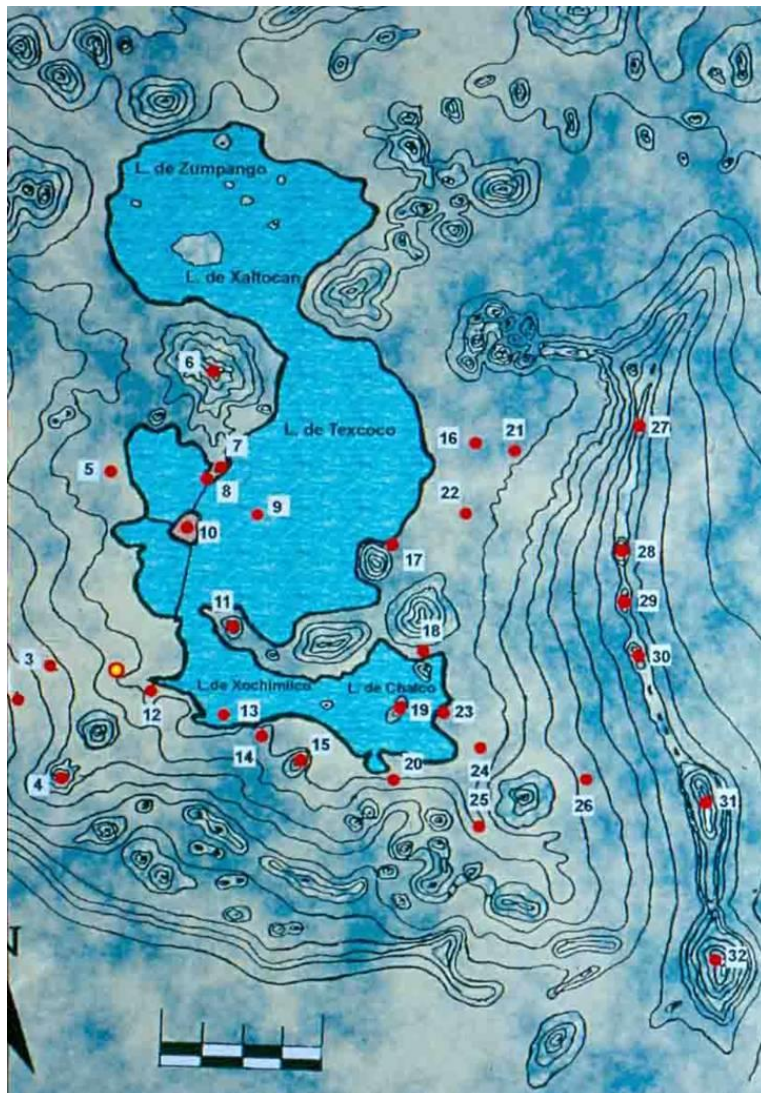


Figure 2. The Basin of Mexico with its lakes and mountains, on the eve of the Spanish Conquest. Sites nos. 1-32 were studied by Broda (2001a). (Map based on J. Parsons, adapted by A. Robles).

The point of departure for this project is the ethnohistorical study of 16th century sources (chroniclers and pictorial documents), in the case of my year-long research it was the starting point for this interdisciplinary work. We may ask ourselves, what do these historical sources tell us about the ritualized use of space and the *cosmovisión* it implied, and how are we going to interpret these data? My approach to the study of Aztec ritual and society has been to use the descriptions by the chroniclers as *emic* data and apply to them

an analysis and interpretation in terms of anthropological concepts, i.e. to reconstruct a material that can be further analyzed by an interdisciplinary approach.

The vague year of 365 days (*xiuhmolpilli*) provided the basis for the ritual as well as civil and agricultural calendar of the Aztecs. It consisted of 18 monthly periods of 20 days each (thus their Spanish name, *veintena*), with a remainder of 5 days (**Figure 3**). Within each monthly period the Aztecs celebrated one of their major calendar festivals that were combined

with ceremonies that ran throughout the whole year.

The 16th century chroniclers grasped a glimpse of this elaborate ritual structure, fray Bernardino de Sahagún and fray Diego Durán still had access to eyewitnesses of these grand ceremonies; these informants described certain selective aspects to the friars in surprisingly precise details. It is much more difficult to interpret the evidence of the pictorial documents and, in fact, only very few of them specifically depict certain selective images that symbolize the 18 calendar festivals. They can only be interpreted after a thorough study of the detailed descriptions in Nahuatl and Spanish provided by Sahagún, Durán, Motolonia, the *Tovar Calendar* and a very few other early sources.¹ In this study, I comment on four of these monthly ceremonies belonging to: I *Atlcahualo* (the first month of the Aztec year); IV *Huey tozoztli*; VI *Etzalcualiztli*; and XIV *Quecholli*.

Figure 3. Correlation of the 18 months of the *xiuhpohualli* Aztec calendar, according to Sahagún, (CF Bk. II).

Meses prehispánicos y fiestas correspondientes	Correlación cristiana (fechas gregorianas)
<i>atlcahualo</i>	12 de febrero-3 de marzo
<i>tlacaxipehualiztli</i>	4 de marzo-23 de marzo
<i>tozoztontli</i>	24 de marzo-12 de abril
<i>huey tozoztli</i>	13 de abril-2 de mayo
<i>tóxcatl</i>	3 de mayo-22 de mayo
<i>etzalcualiztli</i>	23 de mayo-11 de junio
<i>tecuilhuitontli</i>	12 de junio-1° de julio
<i>huey tecuilhuitl</i>	2 de julio-21 de julio
<i>tlaxochimaco-miccailhuitontli</i>	22 de julio-10 de agosto
<i>xocotlhuetzi-huey miccailhuitl</i>	11 de agosto-30 de agosto
<i>ochpaniztli</i>	31 de agosto-19 de septiembre
<i>teotleco</i>	20 de septiembre-9 de octubre
<i>tepeilhuitl</i>	10 de octubre-29 de octubre
<i>quecholli</i>	30 de octubre-18 de noviembre
<i>panquetzaliztli</i>	19 de noviembre-8 de diciembre
<i>atemoztli</i>	9 de diciembre-28 de diciembre
<i>tíitl</i>	29 de diciembre-17 de enero
<i>izcalli</i>	18 de enero-6 de febrero
<i>nemontemi</i>	7 de febrero-11 de febrero

Basado en fray Bernardino de Sahagún, *Historia general de las cosas de Nueva España*, libro II.

Child sacrifices in petition for rain

I *Atlcahualo-Quauitl eua* (12 February – 3 March): first month

During this month, corresponding to February, child sacrifices were brought to the rain deities as a petition for rain. These children represented the rain gods and were imagined as small beings magically related to the growth of the maize plant. The child sacrifices were called *nextlahualli*, “the debt payment.” The rain cult was a mountain cult and may be understood in terms of Aztec

cosmovisión. Mountains –so abundant in the geography of Mesoamerica- were sacred places. They were imagined to be receptacles where the water was kept during the dry season to be let loose when the rains started. One of the main deities worshipped by the Aztecs was Tlaloc, god of rain, mountains and the earth.

According to Sahagún,

“In this month they slew many children; they sacrificed them in many places upon the mountain tops...in honor of the gods of water, so that they might give them water or rain. The children whom they slew they decked in rich finery to take them to be killed; and they carried them in litters upon their shoulders. And the litter went adorned with feathers and flowers. The priests proceeded playing [musical instruments], singing, and dancing before them. When they took the children to be slain, if they wept and shed many tears, those who carried them rejoiced, for they took [it] as an omen that they would have much rain that year” (CF II: ch. 1: 1,2.)

In chapter 20 (CF II: 43,44), Sahagún describes these ceremonies in even greater detail. Because of the extraordinary interest

of this information, I quote this passage in its full text.

In the chronicler’s own words,

“And they took [the children] to many [different] places. [First was] Quauhtepec. And the one who died here bore the same name –Quauhtepetl. His paper vestments were brown. The second place where one died was the top of Mount Yoaltecatl. The human banner [the child to be sacrificed] had the same name –Yoaltecatl. His paper vestment was black striped with red. The third place was Tepetzinco, where died a girl called Quetzalxoch, a name which they took from Tepetzintli, [also] named Quetzalxoch. Her array was blue. The fourth place was Poyauhtlan, just at the foot and in front of Mount Tepetzinco. The name of him who died was Poyauhtecatl. Thus he went adorned: he was bedight in rubber, stripes of liquid rubber. The fifth place, there in the midst of the lake, was a place named Pantitlan. He who died there had the name Epcoatl. The vestment in which he went, having put them on, were set with mussel shells. The sixth place to which they carried [a victim] was the top of [the hill of] Cocotl, and also he went bearing the name of Cocotl. His array was varicolored –part red, part brown. The seventh place was on the

summit of Yiauhqueme, and also the human banner bore the name of Yiauhqueme. The clothing which he bore was completely brown.

These were the places where [the children] died, as blood-offerings, as human banners.² And all went with head-bands, with sprays and sprigs of quetzal feathers; they had green stone necklaces, and they went provided with green stone bracelets; they provided them with bracelets of green stone (*chalchiuhuitl*). Their faces were painted with liquid rubber, and spotted with a paste of amaranth seeds. And their liquid rubber sandals: they had sandals of liquid rubber. All went in glorious array; they were adorned and ornamented; all had valuable things on them. They gave them paper wings; wings of paper they had. They were carried in litters covered with quetzal feathers, and in these [the children] were kept. And they went sounding flutes for them.” (CF II: 43,44)

This uniquely detailed description provided by Sahagún can be complemented by the references of Diego Durán and a few other chroniclers, and also by the pictorial records of the *Primeros Memoriales* of Sahagún and the *Codex Borbonicus*; all of them refer to the Basin of México and adjacent areas (**Figure 4** and **Figure 5**). The codices clearly depict the processions of priests carrying the children to the mountaintops

where they were sacrificed. The above-mentioned attire of the children, with their insignia, was significant and related to the symbolism of water and the sprouting of plants. The latter is also represented by the so-called “poles of greenness and sprouting”, poles that were carried by the priests in the processions (**Figure 6**). These poles (*cuenmantli*) as well as the paper banners dotted with liquid rubber

(*amatetehuitl*) that were tied to the poles, were magical instruments to conjure the coming of the rains. The children themselves were called *tlacatetehuitl*, “human banners” (Sahagún CF II: 42).

This information of the 16th century sources can be interpreted in terms of Aztec *cosmovisión*.



Figure 4. Aztec child sacrifices during I *Atlcahualo*: procession of priests with the child proceeds towards the mountain shrine (Sahagún, *Primeros Memoriales*, fol. 250r.).

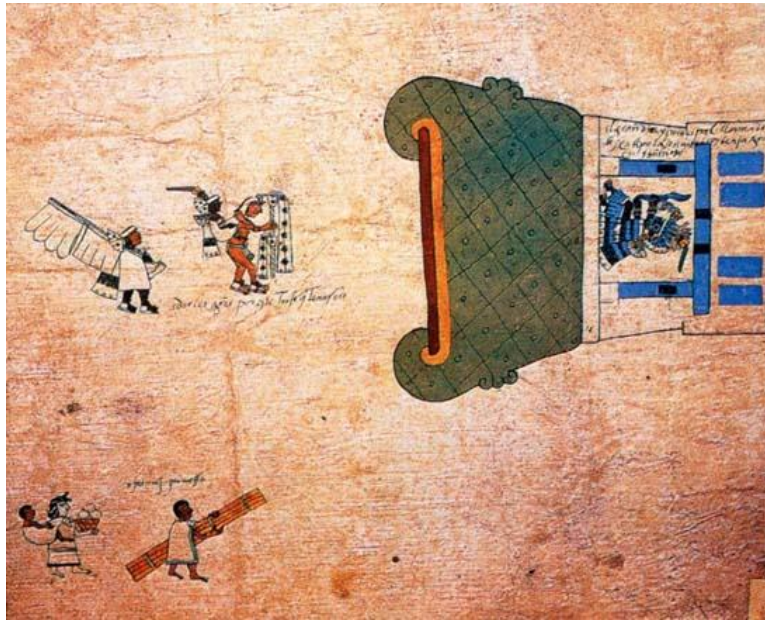
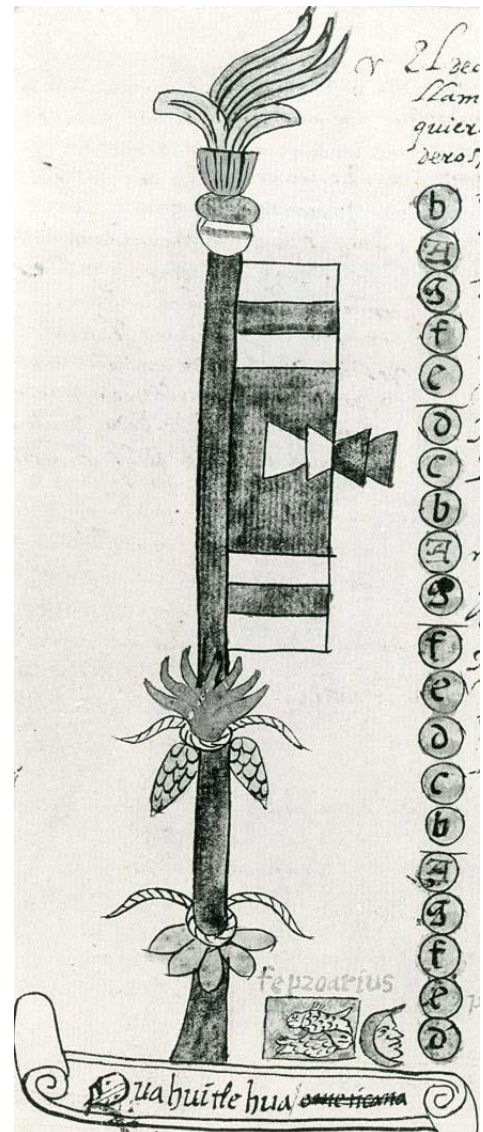


Figure 5. Aztec child sacrifices during IV *Huey tozoztli*: procession of priests with the child proceeds towards the interior of the mountain (*Codex Borbonicus*, p. 24).

Figure 6. The sacred banner (*cuenmantli*) as the symbol of the month of I *Atlcahualo-Quahuitlehua* (*Tovar Calendar*, pl. XIV) (Archive J. Broda).



I have explored the multiple dimensions of the Aztec cult of rain, water, mountains, earth and sacred stones and published the results extensively.³ In this paper, however, I focus on the way these ceremonies relate to the territory and ritual landscape of the Basin of México. By “*ritual landscape*” we understand the *culturally, i.e., historically transformed natural landscape in which there existed sanctuaries and local shrines where certain ceremonies were performed periodically*. It was the ritual process that created this sacred landscape.⁴

As we have seen, Sahagún (CF II, ch.20) indicates the name of seven places where the children were sacrificed, the majority of them being mountain tops (**Figure 7**). The localization of these places through fieldwork in the geography of the Basin and the interpretation of maps proved highly significant (Aveni 1991; Broda 1991b, 2001b). The seven places of sacrifice were situated, following the cardinal directions, along the shore of the lake, with Tenochtitlan at the center (**Figure 8**).

I Atlcahualo: Child Sacrifices and the Mountain Cult		
Cardinal Direction	Place-Name	Child Sacrifice
N	Quauhtepetl	Dressed in red color; name of the child: Quauhtepetl
N	Yoaltecatl	Dressed in black/red; name: Yoaltecatl
C (E)	Tepetzintli	Dressed in blue; name: Quetzalxoch (female)
C (E)	Poyauhtlan, to the E of Tepetzintli (there was an ayauhcalli)	Dressed in paper garments with stripes of rubber; name: Poyauhtecatl
C (E)	Pantitlan	Garments adorned with shells; name: Epcoatl
SE	Cocotl	Dressed in red/yellow; name: Cocotl
W	Yiauhqueme	Dressed in yellow; name: Yiauhqueme

Figure 7. I Atlcahualo: Child sacrifices and the Mountain Cult, according to Sahagún, CF II (Broda 1991b).

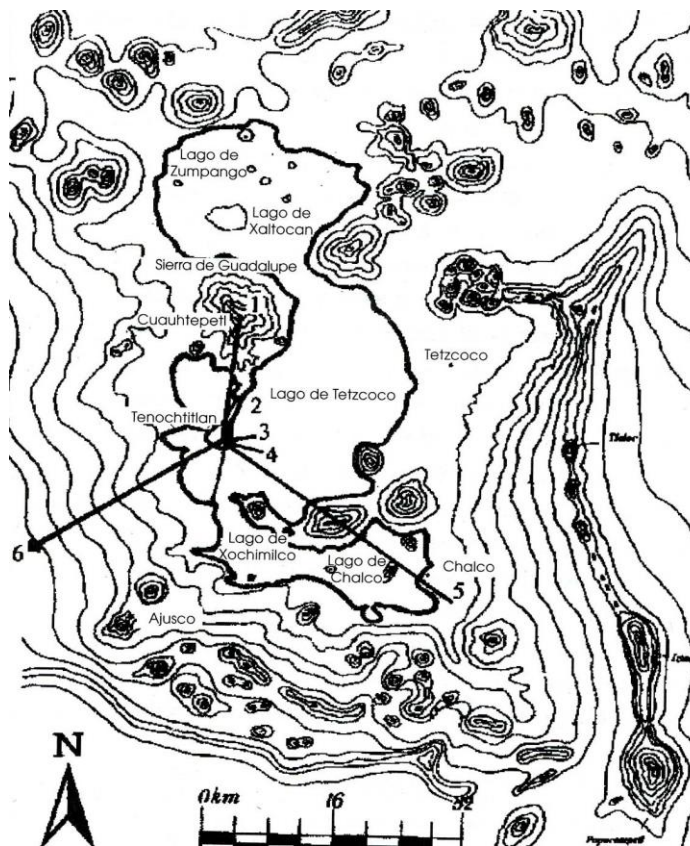


Figure 8. I *Atlcahualo*: Directional symbolism of child sacrifices, a cosmogram. 1.- Quauhtepetl to the north of Tenochtitlan. 2.- Yohualtecatl, north. 3.- Tepetzintli, center-east. 4.- Pantitlan, center-east. 5.- Cocotitlan, south. 6.- Yauhqueme, west. (map based on J. Parsons, adapted by J. Broda)

Two of these places formed part of the big northern sierra, the Quauhtepetl (today Sierra de Guadalupe); one (Yauhqueme) was an important peak within the western range of mountains – the Sierra de las Cruces. At the southeastern fringe of the southern lake region, Cocotl was a conspicuous small mountain in the territory of Chalco Atenco. To the east, at the very heart of the central lakes, were three places: Tepetzinco, Poyauhtlan, and Pantitlan. They delimited an eastern demarcation separating, perhaps, the domains of Tenochtitlan from those of Tetzaco. The plotting of these places on a map showed that they roughly formed a cosmogram denoting the northern, western, southern and eastern direction, with the Templo Mayor of Tenochtitlan at its center (Broda 2001b: 301). At most of these places

the remnants of Aztec shrines can still be perceived today, although unfortunately they have never received excavation or restoration.

The processions that led the children to their place of sacrifice consisted of priests that belonged to the hierarchy of the official priesthood and thus acted on behalf of the state. These ceremonies expressed the role of the Aztec state to provide cosmic harmony and guarantee the coming of the rains, the growing of crops and the well being of its subjects, the common people (*macehualtin*). At the same, these processions and rituals conveyed the message that the Mexica state was taking ritual possession of shrines and territories that formerly had belonged to other ethnic groups who were conquered by the Aztecs in the course of the 15th century.

IV *Huey tozoztli* (13 April – 2 May): Mt. Tlaloc and Pantitlan

During the month of IV Huey tozoztli, the Aztec ruler (*huey tlatoani*) himself participated in the cult of rain and maintenance. The cycle of child sacrifices culminated at the end of April, during IV Huey tozoztli, in the grand royal celebration in petition for rain that took place at the sanctuary situated at the summit of Mt. Tlaloc. On this occasion, according to Diego Durán, the rulers of Tenochtitlan, Tetzaco and Tlacopan with all their nobility,

ascended in pilgrimage to the sacred mountain to make sumptuous offerings that included the sacrifice of one or more male children (Broda 1971, 1991a, 2001b; Townsend 1993).

Another fundamental element of IV Huey tozoztli was its twofold complementary nature –consisting of a mountain as well as a lake festival. While on Mt. Tlaloc a male child was sacrificed, the ceremonies in the lake culminated at Pantitlan with the sacrifice of a girl dressed all in blue to represent the lake. Pantitlan, the dangerous drain or whirlpool in the middle of the lake, was considered an entrance “into” the subterranean waters that connected the lakes of the Basin with the sea, as well as being linked to the annual cycle of the rains (Durán 1977, ch.VIII; 1990, vol.2, ch. VIII: 399-400) (**Figure 9**). In this context it should be remembered that at the Templo Mayor the Aztecs buried, at the base of the double pyramid, offerings that concentrated an enormous amount of marine animals in order to symbolize and conjure the absolute fertility of the sea (Broda 1987a, 1987b).⁵

As mentioned above, Pantitlan also was a place of sacrifice during the first month of I Atlcahualo (Sahagún CF, II: 42). The male child that was sacrificed on this occasion received the name of Epcoatl and his garments were decorated with shells, apparently a clear reference to the sea.

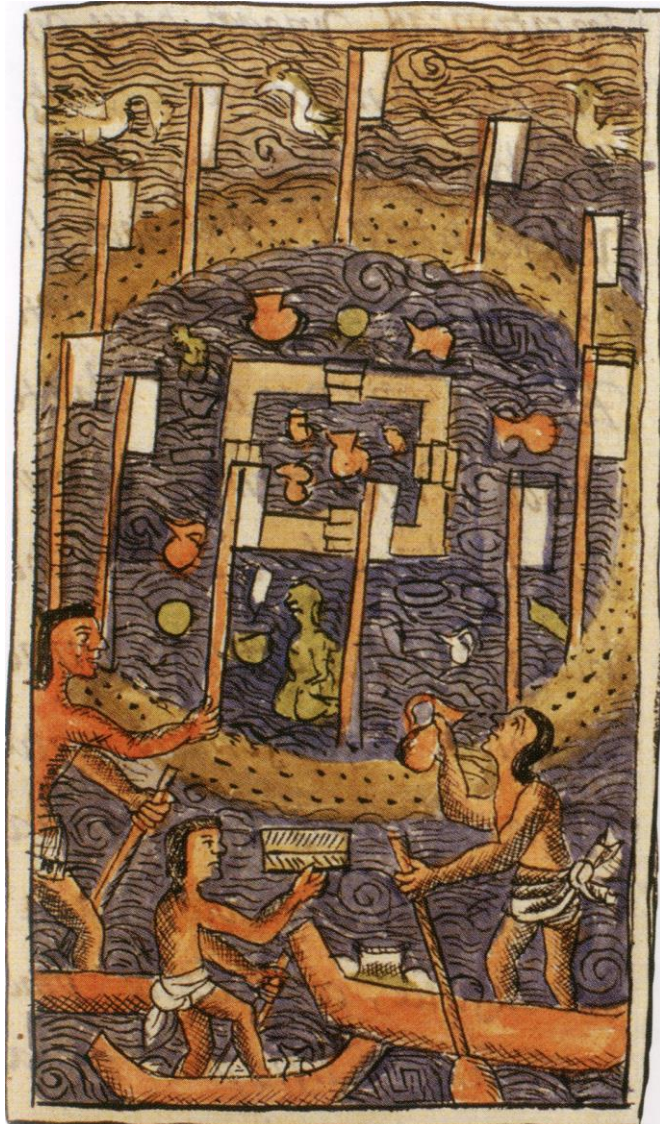


Figure 9. Pantitlan, the dangerous whirlpool of the lake (Sahagún, CF, Bk.I, fol. 23r.).

On the other hand, also during I Atlcahualo, at near-by Tepetzintli, the conspicuous small island in the middle of the lake, a female child called Quetzalxoch was sacrificed. The girl was dressed all in blue as a representation of the waters of the lake. In this context a myth has been preserved that establishes a reference to the Aztecs' rise to power within the Valley of Mexico and their claim to assume the heritage of the Toltecs by means of this sacrifice. In an earlier study I have commented in detail on this myth and proposed that it contained a political message regarding the transmission of power from the Toltecs to the Aztecs, the claim of the Aztecs to be the heirs of the Toltecs (Broda 1971: 258, 276).

At Tepetzintli there also existed an *ayauhcalli* (a "mist house") – a shrine

VI Etzalcualiztli (23 May – 11 June)

Pantitlan was again visited during the month of VI Etzalcualiztli corresponding to June, when the onset of the rainy season was celebrated. The month was dedicated to



dedicated to the rain gods - where the *huey tlatoani* (the supreme ruler) arrived personally on several prescribed dates to perform penitential rites in honor of the rain gods. There, as we have seen, a male child named Poyauhtecatl was sacrificed during I Atlcahualo, at the same time as the children Epcoatl and Quetzalxoch were offered at Pantitlan and Tepetzintli (cfr. *Table I*). Tepetzintli, doubtlessly, was a very important rocky outcrop situated at the center of the lakes; probably at the very point that separated the sweet waters of the lake of Mexico from the salty waters of the lake of Tetzaco. Nearby passed the "dike of Netzahualcoyotl" (el *albarradón* de Netzahualcoatl) that separated the domain of Tenochtitlan from that of Tetzaco

Tlaloc, the rain god and his consort, Chalchiuhtlicue. After the sacrifice of the impersonators of these gods at the Templo Mayor, the priests (*tlamacazque*) deposited their hearts in the *mixcomitl*, "the cloud vessel"; other offerings they prepared were the sacred banners (*tetehuítl*), the "cloud face cape" (*tilmatli aiahuixó*), green stones (*chalchihuitl*), quetzal feathers as well as several copal figurines (*copalteteo*). Carrying these sacred offerings dedicated to Tlaloc, the priests proceeded to a place called Tetamazolco situated on the edge of the lake. There they embarked on a large canoe driven by poles. These oars were painted blue and covered with liquid rubber (*ulli*) (Sahagún CF, II: 84) (**Figure 10**).

Figure 10. VI Etzalcualiztli: Mexica priests advancing in canoes and carrying the "cloud vessel" filled with human hearts to Pantitlan (Sahagún, CF II, fol. 22r.).

They began to row vigorously towards Pantitlan, and there their canoe entered a precinct within the waters marked by poles (*cuenmantli*) (see Fig. 9). While the priests blew their shell trumpets, the *tlenamacac* (the fire priest) arose by the prow of the canoe lifting the cloud vessel filled with hearts high up and then hurled it into the midst of the whirlpool; this provoked the waters to become rough and agitated, waves and foam rising in great fury. Finally, they tied the sacred banners (*tetehuitl*) to the poles (*cuenmantli*) that

surrounded Pantitlan, fixing some green stones on them. Other chalchihuites were “cast, scattered, and strewn upon the face of the water”. When the canoe began to retreat from the enclosure of the whirlpool, the *tlenamacac* deposited four sacred paper banners in his incense burner and set fire to them. Lifting the incense ladle with the burning paper banners high up into the air, he hurled them into the whirlpool. Then the priests returned to the shore. When they reached Tetamazolco, it was the moment of sunrise. (CF, II: 84, 85).

Aztec sanctuaries in the landscape of the Basin of Mexico

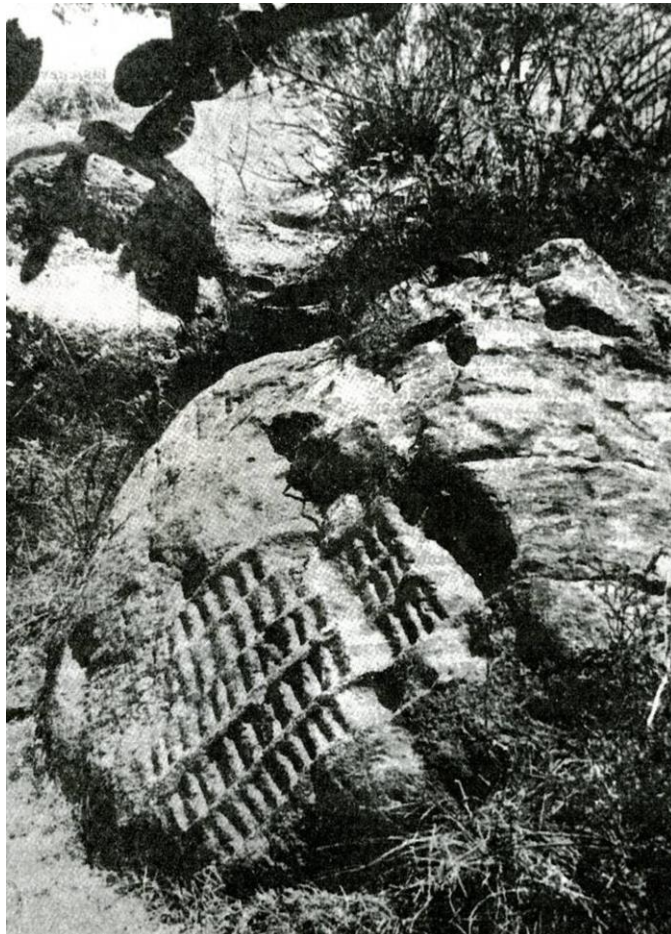
The above-mentioned historical information about sacrifices during I Atlcahualo, IV Huey Tozoztli and VI Etzalcualiztli is very detailed; *however, what really makes the interpretation of Aztec rain ceremonies so interesting, is their projection into real space. There, the anthropological interpretation of ethnohistorical sources meets with archaeology and its research into ritual landscapes.* We discover that Aztec ritual landscapes that were designed from the capital of Tenochtitlan, integrated ceremonial routes of pilgrimage that embraced the entire Basin of Mexico. As Lawrence E. Sullivan (1991; cf. Broda 1991b) pointed out, it certainly was an impressive landscape where the high mountains and the monumental imperial temple architecture were reflected in a myriad of specular [*sic*] images in the waters of the lakes. “It was an imaginal world –a world of matter and material elements, to be sure, but a material world reflected against, and reflected upon, by matter of vastly different kinds” (Sullivan 1991: 211).

The particular interest of these data on Aztec rites and pilgrimages, provided by the 16th century chroniclers, is that they can be confronted with archaeological evidence that still exists in the Basin of Mexico, despite the explosion of recent urbanization. In this perspective, let us return to the petition for rain during the month of IV Huey tozoztli corresponding to the end of April.

It so happens that the ruins of the sanctuary of Tlaloc which during Huey tozoztli congregated the rulers of the Triple Alliance with their nobility, still exist at the summit of the mountain, at an altitude of 4 120m (13,518 ft.) (**Figure 11**). Some archaeological work has been done there in recent years. The sanctuary consisted of a walled precinct and a 125m long causeway that led up to the site facing East. In its opposite Western direction, the pathway pointed towards Templo Mayor, the symbolic center of Tenochtitlan (Aveni, Calnek and Hartung 1988). Through this causeway, at dawn, the procession with the sacrificial victims advanced facing sunrise.

Figure 11. Aerial view of the archaeological site of Mt. Tlaloc showing the processional causeway (photo *Cia. Mexicana Aérofoto*, S.A. 1941) (Archive J. Broda).

The site is very interesting in terms of its astronomical alignments. From the shrine on Mt. Tlaloc sunrise can be observed behind the broad profile of the summit of the prominent volcano of La Malinche. Additionally, Mexico's highest mountain, Pico de Orizaba, also aligns behind La Malinche and in this way sunrise behind the profile



of these two important volcanoes marked with precision five days between February 7-11, just before the Aztec beginning of the year on February 12 (Iwanizewski 1994; Morante 1997).

It was possible to reconstruct the existence of a considerable number of sacred places worshipped by the Aztecs in the Basin of Mexico.⁶ These sites included ceremonial precincts and causeways, monumental carved boulders and rocks, as well as miniature models with steps and canals carved in stone, all of them apparently belonged to the mountain-and-water cult (**Figure 12**).⁷

Figure 12. “*Maqueta*” (carved boulder depicting a model of a temple) from the Sierra de Tlaloc, Tetzoco, México, D.F. (after Cook de Leonard 1955).

At Acalpixca at the shore of the Southern lake of Xochimilco, the Aztecs created a large “maqueta” on a big boulder and carved several magnificent relief stones

that can still be seen ascending the slope of the hillside; the latter probably served for pilgrimages to this site (**Figure 13**).⁸



Figure 13. Carved relief stone at Cuailama, Acalpixca (photo J. Broda).

In the natural setting of the Pedregal lava flow, today Pedregal de Santo Domingo, there existed before its recent urbanization the 12m (ca. 39 ft.) long relief

of a plumed serpent, another sacred place in the Southern part of the Valley that must have been visited periodically by pilgrims (Beyer 1924; Robles 1995) (**Figure 14**).



Figure 14. Drawing of relief of a plumed serpent measuring some 12 m, engraved on lava stone, Pedregal de Santo Domingo, now destroyed (after Beyer 1918) .

Most of these places of worship also show interesting alignments towards sunrise on the Eastern horizon of the Basin with the spectacular view at sunrise towards the great volcanoes Popocatepetl and Iztaccihuatl as well as Mt. Tlaloc and Cerro Papayo (Broda, Iwaniszewski and Montero coords. 2001).

This means that the Aztecs chose significant natural elevations within the Valley that could be coordinated with solar horizon observations significant in terms of the Aztec calendar and its 18 monthly festivals. These sites were visited periodically at certain calendrical dates.

XIV *Quecholli* (30 October – 18 November):

Sacred warfare of the Aztec ruler and the warriors as hunters

The Aztec sanctuary on Cerro Zacatepetl is one of the most interesting examples of this kind. Nonetheless, it involved another class of mountain worship, different from the cult of Tlaloc. Zacatepetl is situated on the southwestern fringe of the Valley of Mexico, next to the Preclassic site of Cuicuilco. It is a small promontory surrounded by the Pedregal lava flow, the same that destroyed the great Mesoamerican

ceremonial and urban site of nearby Cuicuilco. Due to this location, however, the sanctuary on Zacatepetl permitted to make the same solar calendrical observations as have been hypothesized for Cuicuilco some 2000 years before (Broda 1991b, 2000, 2001a) (**Figure 15**).

Figure 15. The round pyramid of Cuicuilco, approximately 600 B.C. (photo J. Broda).



At the conspicuous horizon line of Cuicuilco-Zacatepetl, the major volcanoes of Popocatepetl and Iztaccihuatl mark almost precisely the winter solstice, and the date of February 12 (the initial date of the Aztec calendar) respectively, while the mountain of Papayo marks the equinoxes. On the other hand, as seen from the Aztec temple of

Zacatepetl the sun rises behind Mt. Tlaloc precisely at the end of April when the rulers and nobles ascended to the sanctuary at its summit (**Figure 16**). These circumstances cannot have passed unnoticed by the Prehispanic observer situated on Cerro Zacatepetl.

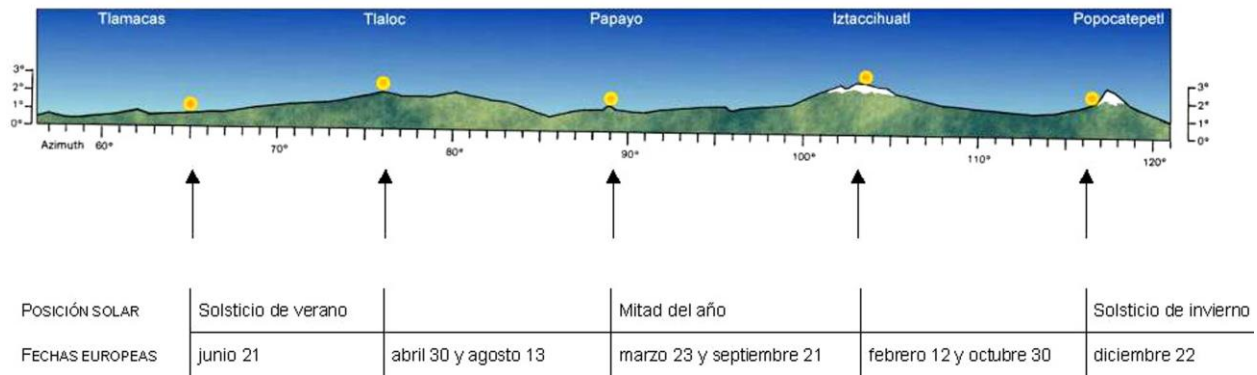


Figure 16. Horizon view from Cuicuilco pyramid, showing solar positions on key dates (after Broda 2001a: 184).

On the other hand, this small mountain had a number of other conspicuous characteristics: the natural setting of Zacatepetl consisted of dry grass vegetation (*zacate*) from where the mountain took its name. This inhospitable terrain surrounded by lava flow, seems to have evoked to the Aztecs their mythical Chichimec homeland situated to the North. This particular environment was

chosen to celebrate there the ceremonies of XIV *Quecholli* corresponding to November in the Aztec calendar. At this time of the year when military campaigns were about to start, the young and seasoned warriors prepared offerings of bundles of 20 arrows each, which they deposited at the Templo Mayor. These warriors assumed the function of hunters during *Quecholli* (**Figure 17**; **Figure 18**).



Figure 17. XIV *Quecholli*: Aztec warrior dressed as hunter with the insignia of the god Mixcoatl Camaxtli (Durán, 1990, vol. II, *El Calendario Antiguo*).



Figure 18. The god Mixcoatl as Aztec hunter (Durán, 1990, vol. II).

On the tenth day of the month, a ritual hunt in honor of Mixcoatl was to take place at “Zacatepec, there by *Ixillan tonan*” (i.e. ‘the navel of our mother’) (CF II: 126; Broda 1991b) (Figure 19).

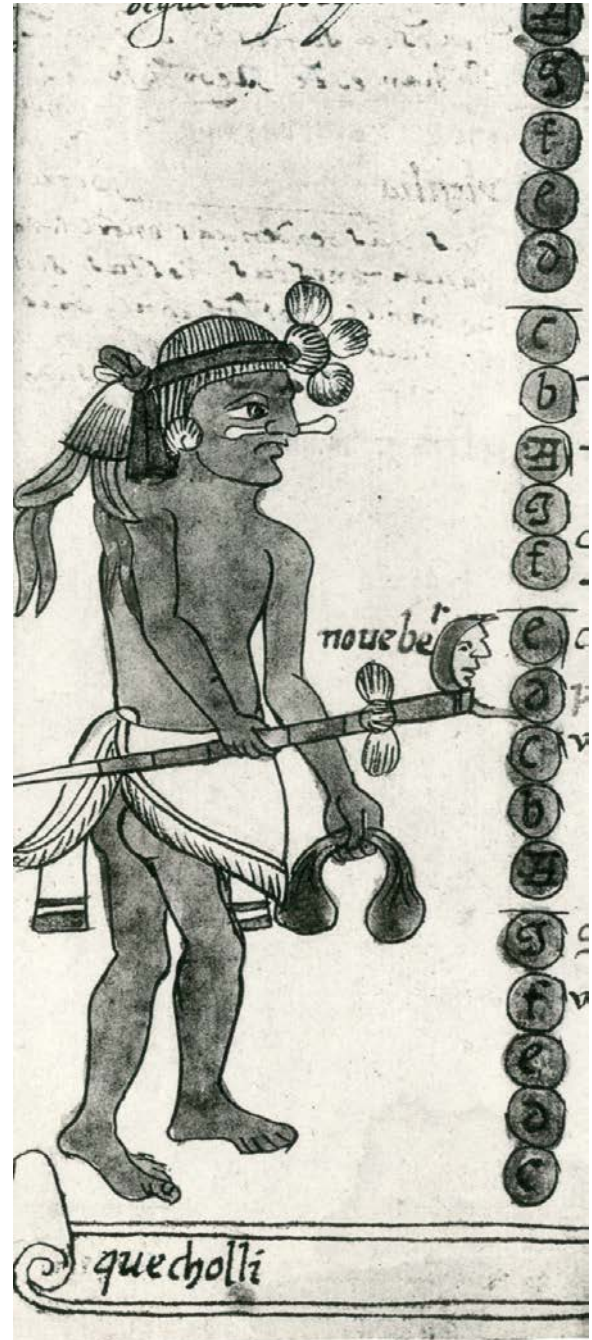


Figure 19. Aztec warrior representing the month of XIV *Quecholli* (Tovar Calendar, Pl. XI).

Zacatepetl was also a place of worship of the earth goddess in one of her varied advocations. A ceremonial path strewn with *zacate* grass was prepared that led from the town to the sanctuary; on it the hunters went in procession arrayed with the insignia of the patron deity of the Chichimec hunters, Mixcoatl (“Cloud Serpent”) (Gómez de Orozco 1945: 50) (Figure 20; Figure 21). The Tenochca as well as the Tlatelolca participated in this ritual hunt; they were joined by emissaries from the towns of Quauhtitlán, Quauhnhuac and Coyoacán.



Figure 20 (above). XIV *Quecholli*: Procession of Aztec warriors dressed as hunters proceeding from the temple of Mixcoatl (Sahagún, 1974, *Primeros Memoriales*).



Figure 21. At left, the god Mixcoatl as hunter (*Codex Borbonicus*).

The ritual hunt on Zacatepetl ended with blood-sacrifices of deer and other game as well as of several mother deities. A dramatical reference to the mythical past of the Aztecs as Chichimec hunters of the North was enacted. It also implied a reference to the origin of sacred warfare. The Aztec nobility as well as the ruler himself participated in these ceremonies and for this purpose came walking in procession all the way from Tenochtitlan. They must have crossed the lake by canoes before entering the inhospitable lava terrain that surrounded Zacatepetl.

Zacatepetl was a former territory of the Tepanec city state of Coyoacán, with Otomi and Chichimec population. Thus it constitutes an example of how the Aztecs took possession of the territories of conquered political entities within the Basin adopting and transforming these former places of worship into their own sanctuaries and attributing new meaning to these places. Thereby we discover one of the many ways in which the Aztecs became the heirs of the civilizations that had preceded them in the old cultural land of the Basin of Mexico. It makes us realize that there operated in pre-Hispanic times a historical consciousness and tradition with respect to “holy places” that became manifest in the existence of certain important sanctuaries. A

magnificent example for such a sanctuary that persisted and increased its importance after the Conquest, is the Tepeyac where the Virgin of Guadalupe is worshipped today (cfr. Broda 1991b: 88-92) However, in contrast to Tepeyac, Zacatepetl was not adopted as a sacred place during Colonial times. It remained far away from Mexico City amidst the inhospitable lava terrain; the latter was only urbanized beginning from the 1940s when the exclusive residential area of *El Pedregal de San Angel* was created.

The site of Zacatepetl with its three main structures still exists today, although in a very deteriorated condition. No restoration has been undertaken so far. It consists of the vestiges of a large plaza and the remains of

two rather large pyramid mounds as well as a third smaller mound (Parsons et al. 1982: 237, 238). The three constructions are connected by causeways that may have served for processions and rituals. The design of *pyramid, enclosure and causeways* is rather similar to the major site at the height of Mt. Tlaloc (**Figure 22**).

On the other hand, the sanctuary of Cerro Zacatepetl was aligned with another sacred mountain situated towards the western horizon of the *Sierra de las Cruces*. Its modern name is *Cerro del Judío*, while in Nahuatl it was known as Mazatepetl, “Deer Mountain.” Its elevation is 2,700 m (ca. 8,858 ft), some 400 m higher than Zacatepetl.



Figure 22. Aerial view of the site of Zacatepetl surrounded by the Pedregal lava flow (Compañía Mexicana de Aéreo-foto, S.A. 1941) (Archive J. Broda).

Without entering into further detail it should be mentioned that at the summit of Mazatepetl there existed another important shrine, a pyramid constructed on top of a natural rock outcrop (**Figure 23**). At its lower platform hewn out of the bedrock, a large

tortoise was carved from the live rock. It has been heavily damaged by mutilation (Rivas 2006). At the rear side of the pyramid, at the summit of the mountain, the natural boulders located there were worked as “maquetas” with miniature models of stairs, steps and ponds.



Figure 23. Pyramid at the summit of Mazatepetl, “Deer mountain” (Magdalena Contreras, México, D.F.) (photo J. Broda).

The larger design of the site naturally is strongly deranged today; however, at the access to the summit, an ample causeway is still recognizable. It may have served for processions and pilgrimages ascending to the height of Mazatepetl.

Another remarkable circumstance is that from the summit of Deer Mountain the winter solstice sun rises precisely behind the volcanic cone of Popocatepetl, permitting an even more precise observation than from Cuicuilco-Zacatepetl.

At the eastern slope of Mazatepetl, among the encroaching modern urbanization, an impressive free-standing carved boulder still preserves the relief of the rain god Tlaloc who, without doubt, was worshipped at the site (**Figure 24**). This Tlaloc also faces the East, towards the prominent horizon line of the volcanoes.

Although the mountain of Mazatepetl is represented on several pictorial documents, however, it is not mentioned in the chronicler's accounts of Aztec calendar festivals. In that respect the detailed description of the ceremonies taking place on Zacatepetl and Mt. Tlaloc are unique.⁹

Figure 24. Relief carving of the rain god Tlaloc on the eastern slope of Mazatepetl (Magdalena Contreras, México, D.F.) (photo J. Broda)



Aztec conquests and the creation of new centers of pilgrimage

Finally, I would like to refer briefly to Aztec expansion beyond the Basin of México and the creation of new ritual landscapes. Aztec conquests led them to establish themselves and create their monumental rock

sanctuaries at Malinalco (today state of Mexico) and Tepoztlán (state of Morelos) in the territories of conquered ethnic groups (**Figure 25**).



Figure 25. Map of the Central Highlands of Mexico, with Tepoztlán and Malinalco indicated.

At Tepoztlán, the Aztecs built at the end of the 15th century, their temple to the Wind God (Ehecatl-Quetzalcoatl) on top of previously existing structures. According to one historical source, the sanctuary of *El Tepozteco*, a cliff temple situated on a steep volcanic ridge some 660 m above the Valley, attracted pilgrims from as far away as Guatemala (Figure 26).¹⁰ Still more important than Tepoztlán was Malinalco, the rock sanctuary where the Aztecs carved its magnificent temple

precinct out of the live rock (Figure 27). Malinalco is situated to the West of the Basin of Mexico, today the state of Mexico, and was an important local sanctuary that was conquered by the Aztecs in 1476. It is interesting that the Aztecs did not just co-opt the nearby shrine of Chalma. Instead they chose to build a new shrine (with military themes and on a fortified hill site) in a key strategic location to expand and maintain their imperial borders to the west. In this case the military agenda was also satisfied.



Figure 26. The Temple pyramid of *El Tepozteco* (photo J. Broda).



Figure 27. General view of the cliff sanctuary of Malinalco, State of Mexico (photo J. Broda).



Figure 28. The Monolithic Temple of the Jaguars and Eagles at Malinalco (photo J. Broda).

In 1501 the Aztecs initiated an ambitious building project at the site that reveals the political and religious importance that Malinalco represented to them. The whole mountain, today called *Cerro de los Ídolos* was converted into a sanctuary, the main temple buildings are situated half-way up the summit (**Figure 28**). Its principal temple is carved from the cliffs of the mountain and imitates a cave, its entrance carved as the fangs of the earth monster,

entrance into the interior of the earth. Inside, in the dark artificial cave are carved from the bedrock the hides of three eagles and one jaguar, i.e. they represent dead animals (**Figure 29**; **Figure 30**). The shrine of Malinalco might have served as a place of worship that congregated Aztec rulers and noble warriors of the eagle and jaguar orders to perform certain ceremonies and do penance at the site (Broda 1977).



Figure 29. Sculptures of eagle and jaguar hides inside the Monolithic Temple of Malinalco (photo J. Broda).



Figure 30. Feline sculpture carved from the bedrock inside the Monolithic Temple of Malinalco (photo J. Broda).

A magnificent mural was discovered at Malinalco during the first excavation of the site that José García Payón (1974) undertook in 1936; it decorated one of the walls of Temple III. Unfortunately, it has faded away by now. The mural depicted a procession of Aztec (or Toltec?) warriors converging upon the sanctuary.

At Malinalco, there exist remarkable astronomical alignments at the site, on the one hand towards a natural cut in the nearby mountain range; as seen from the entrance of the temple cave the alignment towards this cleavage points precisely to the south which indicates that the precinct was deliberately oriented in this way. On the other hand, on the eastern side of the cliff sanctuary there are the remains of what was once a spacious hall also hewn from the bedrock. Its orientation is towards the eastern horizon across the Valley towards a natural cut in the horizon line that coincides with two highly significant dates of the annual calendrical cycle. These dates are February 12 and October 29 according to

Galindo (1990) and previous measurements and visits to the site by Aveni and Hartung, Tichy, Romero Quiroz as well as this author.¹¹ No recent measurements have been undertaken at the site. February 12, as has been noted above, coincided with the Aztec beginning of the solar calendar.¹²

The ruins of Mount Tlaloc, Zacatepetl, Mazatepetl, Tepozteco and Malinalco are the most important extant examples of Aztec sanctuaries dedicated to the cult of mountains and the earth; at these sites it is also possible to show the existence of astronomical alignments of calendrical significance. Apparently, their geographic location was chosen deliberately and the architectural projects were meticulously planned. Additionally, these sites belong to the Aztec conquests of historically important places and pre-existing sanctuaries in the vicinity of the Valley of Mexico; thus the building projects of these sanctuaries became an ideological expression of Aztec expansion and growing political domination (cfr. Pasztory 1983).

Final remarks

In this article we have reviewed information on Aztec calendrical festivals that included processions to sacred places and shrines situated in the Basin of Mexico and adjacent areas of the Central Highlands. These data are not easy to reconstruct from the ethnohistorical sources. They require a rather complex methodology to be applied to the study of 16th century chroniclers and indigenous pictorial documents. These sources are then interpreted in terms of anthropological concepts and theory. In the interdisciplinary methodology applied in this paper, concepts like *the observation of nature* and *the creation of ritual landscapes* are

fundamental in order to situate the processions and ceremonies into *real space*. The use of archaeological data and fieldwork is very important for this research, as well as the collaboration with cultural geography and archaeoastronomical and calendrical studies.

In this perspective, our methodology has been (1) first to reconstruct the ceremonies from the ethnohistorical sources; (2) explore the spatial dimension of processions and ceremonies, i.e. their projection into real space; (3) consider the political aspects of processions in relation to the territory conquered by the Aztec state; (4) and finally analyze how Aztec cosmovision

represented the creation of a ritual landscape and its symbolic interpretation. We have argued that Aztec expansion and conquests in the core area of their political domain made them take possession of the landscape and reinterpret their own history in terms of the new cultural and political landscape they created. Such an ideological message is perceived in the case of sacred places like Zacatepetl, Mazatepetl or Cocotitlan that formerly belonged to the territory of other ethnic groups. This also happened in the *outer heartland*¹³ of the Aztec core area, i.e. in their conquests of the sanctuaries of other ethnic groups like Malinalco and Tepoztlan.

In this perspective, I agree with Bauer and Stanish (2001: 18) who in the case of the Ancient Andes, point out that “the mere fact that a pilgrimage center associated with the dominant state exists on or near an older sacred site sends a powerful message of cultural dominance or legitimate succession.” According to the approach used here, shrines and sanctuaries are not visualized as a manifestation of hierophanies (Eliade), rather it is the rituals performed there through which social groups and political communities take possession of the landscape and turn it into a sacred geography.¹⁴

In the Aztec case, this political scenery became part of their reinterpretation of the natural landscape centered on the worship of mountains, caves, lakes, springs and the sea. Processions and pilgrimages produced a continuous movement that animated the landscape, thus we are dealing with fundamental ritual processes that created the sacred landscape. In Aztec times, starting from their symbolic center at Templo Mayor, processions and pilgrimages spread over the entire Basin, taking up older routes and creating new ones. From the island of Tenochtitlan, these routes crossed the lake by canoe towards the different cardinal directions

where shrines were located, or approached Tepetzintli, the small conspicuous island in the middle of the lake where the Aztecs carved magnificent reliefs on its steep boulders.

During the month of I Atlcahualo, the procession of priests with the child Cocotl approached by canoe the Southern shore of the lake and former territory of the competing city-state of Chalco. There, at Cocotitlan, the Aztecs built a shrine at the summit of the hill which up to the present has remarkable petroglyphs on its boulders. Looking from there towards the East, one obtains a magnificent view of the near-by great volcanoes Popocatepetl and Iztac Cihuatl. Sunrise takes place behind the broad profile of Iztac Cihuatl on February 12 (**Figure 31**).

Thus, the date of the orientation of this mountain shrine corresponded to I *Atlcahualo* and the Aztec beginning of the year. We have seen in this paper that most of the shrines possessed visual alignments towards sunrise behind the prominent volcanoes of the eastern horizon of the Basin. This observation applies to Mt. Tlaloc, Cuicuilco-Zacatepetl as well as Mazatepetl mentioned in this text. The fact that February 12, the initial day of the Aztec year, figures prominently among these dates, is worth noting. The same date was incorporated into the ground plan of the spectacular sanctuary the Aztecs created at Malinalco.

We further observe that the distribution of child sacrifices in the geography of the Basin evoked a certain directional symbolism that implied a division of the territory according to the four cardinal directions and the center. At the very center of the lake we find the location of Pantitlan, the dangerous whirlpool of the lake, a geological break that became a principal place of worship. It was situated amidst the salty waters of the lake of Tetzaco.

Thus, the offerings at Pantitlan are also conspicuous because this fearsome drain was considered to be an entrance into the subterranean space filled with water that connected to the sea. The latter was called *ilhuica atl*, “the divine water which blends with the sky.” The Aztecs considered the sea as the absolute symbol of fertility and their

endeavor to integrate the sea within their cosmovision reflected their political claim to rule over the known world. Thus, the Aztecs created ritual landscapes based on their cosmovision blending the observation of nature with an ideological interpretation of the human world as well as the cosmos.



Figure 31. Sunrise on February 12 behind Iztaccihuatl, as seen from Cocotitlan (photo J. Broda 12 Feb. 1998).

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I dedicate this paper to Elizabeth H. Boone remembering our joint visit to Zacatepetl years ago and in recognition of her important contributions to the studies on Aztec religion and ritual performances.

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References cited

ABREVIATIONS:

IIA	Instituto de Investigaciones Antropológicas
IIH	Instituto de Investigaciones Históricas
INAH	Instituto Nacional de Antropología e Historia
UNAM	Universidad Nacional Autónoma de México

Acuña, René (ed.)

1985 *Relaciones geográficas del siglo XVI*, vol.1, no.6. IIA, UNAM.

Aveni, Anthony F.

1980 *Skywatchers of Ancient Mexico*. Austin, University of Texas Press. (Revised and Updated Version, 2001).

1991 Mapping the ritual landscape. Debt payment to Tlaloc during the month of Atlcahualo. In *To Change Place: Aztec Ceremonial Landscapes*, D. Carrasco (ed.), pp. 58-73. University Press of Colorado, Niwot.

Aveni, Anthony F., Edward Calnek and Horst Hartung.

1988 Myth, environment, and the orientation of the Templo Mayor of Tenochtitlan. *American Antiquity* 53: 287-309.

Aveni, Anthony F. and Horst Hartung.

1981 The observation of the sun at the time of passage through the zenith in Mesoamerica." *Archaeoastronomy* 3 (Supplement to the *Journal for the History of Astronomy* 12), S1-S16.

Bauer, Brian S. and Charles Stanish

2001 *Ritual and Pilgrimage in the Ancient Andes*. University of Texas Press, Austin.

Beyer, Hermann

1918 Sobre antigüedades del Pedregal de San Angel. *Memorias de la Sociedad Científica Antonio Alzate* 37: 1-16, México.

1924 Los bajorelieves de Santa Cruz Acapulcán. *El México Antiguo* II: 1-2: 1-13.

Boone, Elizabeth H. (ed.)

1987 *The Aztec Templo Mayor*. Dumbarton Oaks Library and Collection. Washington, D.C.

Boone, Elizabeth H.

1991 Migration Histories as Ritual Performance. In *To Change Place: Aztec Ceremonial Landscapes*, D. Carrasco (ed.), pp. 121-151. University Press of Colorado, Niwot.

Broda, Johanna

1971 Las fiestas aztecas de los dioses de la lluvia. *Revista Española de Antropología Americana* 6: 245-327. Madrid.

1977 Malinalco: santuario solar y calendárico de los aztecas. Unpublished Manuscript, México.

1982 La fiesta azteca del Fuego Nuevo y el culto de las Pléyades. In *Space and Time in the Cosmology of Mesoamerica*, F. Tichy (ed.), *Lateinamerika Studien* 10: 129-158. Ed. Wilhelm Fink, Munich.

- 1987a Templo Mayor as Ritual Space. In *The Great Temple of Tenochtitlan: Center and Periphery in the Aztec World*, by J. Broda, D. Carrasco and E. Matos, pp. 61-123. University of California Press, Berkeley.
- 1987b The Provenience of the Offerings: Tribute and Cosmovisión. In *The Aztec Templo Mayor*, edited by E.H. Boone, pp. 211-256. Dumbarton Oaks Library and Collection. Washington, D.C.
- 1991a Cosmovisión y observación de la naturaleza: El ejemplo del culto de los cerros. In *Arqueoastronomía y Etnoastronomía en Mesoamérica*, edited by J. Broda, S. Iwaniszewski and L. Maupomé, pp. 461-500. IIH, UNAM, Mexico City.
- 1991b The Sacred Landscape of Aztec Calendar Festivals: Myth, Nature, and Society. In *To Change Place: Aztec Ceremonial Landscapes*, edited by D. Carrasco. University Press of Colorado, Niwot.
- 1996 Paisajes rituales del Altiplano Central. *Arqueología Mexicana* 4: 20: 40-49.
- 1997a El culto mexica de los cerros de la Cuenca de México: apuntes para la discusión sobre graniceros. In *Graniceros: Cosmovisión y meteorología indígenas de Mesoamérica*, edited by B. Albores and J. Broda, pp. 49-90, El Colegio Mexiquense A.C.- IIH, UNAM, Mexico City.
- 1997b Lenguaje visual del paisaje ritual de la Cuenca de México. In *Códices y documentos sobre México: 2° Simposio*, edited by S. Rueda, C. Vega and R. Martínez, pp. 129-162. Colección Científica, INAH, vol. 1.
- 2000 Mesoamerican astronomy and the ritual calendar. In *Astronomy across Cultures: The History of Non-Western Astronomy*, edited by H. Selin, pp. 225-267. Kluwer Academic Publishers, Dordrecht-Boston-London.
- 2001a Astronomía y paisaje ritual: el calendario de horizonte de Cuicuilco-Zacatepetl. In *La montaña en el paisaje ritual*, edited by J. Broda, S. Iwaniszewski and A. Montero, pp. 173-198. INAH – IIH/ UNAM – Universidad Autónoma de Puebla, Mexico.
- 2001b Ritos mexicas en los cerros de la Cuenca: Los sacrificios de niños. In *La montaña en el paisaje ritual*, edited by J. Broda, S. Iwaniszewski and A. Montero, pp. 173-198. ENAH/INAH – IIH/ UNAM – Universidad Autónoma de Puebla, Mexico.
- 2008 El mundo sobrenatural de los controladores de los meteoros y de los cerros deificados. *Arqueología Mexicana* 16: 91: 36-43.
- 2009 Las fiestas del Posclásico a los dioses de la lluvia. *Arqueología Mexicana* 16: 96: 58-63.
- 2012 Observación de la naturaleza y ‘ciencia’ en el México prehispánico: algunas reflexiones generales y temáticas. In *La relación hombre-naturaleza, reflexiones desde distintas perspectivas disciplinarias*, edited by B. Von Mentz, pp. 102-135. CIESAS. Siglo XXI Editores, Mexico City.
- 2015 Political Expansion and the Creation of Ritual Landscapes: A Comparative Study of Inca and Aztec Cosmovision. *Cambridge Archaeological Journal* 25: 219-238.
- Broda, Johanna, David Carrasco and Eduardo Matos
 1987 *The Great Temple of Tenochtitlan: Center and Periphery in the Aztec World*. University of California Press, Berkeley,

- Broda, Johanna, Stanislaw Iwaniszewski and Arturo Montero (coords.)
 2001 *La montaña en el paisaje ritual. Coedición* CONACULTA, INAH – IIH, UNAM – Universidad Autónoma de Puebla, Mexico.
- Broda, Johanna and Alejandro Robles
 2004 De rocas y 'aires' en la cosmovisión indígena: culto a los cerros y al viento en el municipio de Tepoztlán. In *Historia y vida ceremonial en las comunidades mesoamericanas: los ritos agrícolas*, edited by J. Broda y C. Good Eshelman, pp. 271-288. INAH-IIH/UNAM, Mexico City.
- Carrasco, David (ed.)
 1991 *To Change Place: Aztec Ceremonial Landscapes*. University of Colorado Press, Niwot.
- CF *Florentine Codex*, see Sahagún 1950-82.
- Codex Borbonicus*
 1974 *Codex Borbonicus: Bibliotheque Nationale de l'Assemblee Nationale, Paris (4120)*. Edición y comentario por Kart Anton Nowotny, edición facsimilar, Akademische Druck-und Verlagsanstalt (ADEVA), Graz.
- Cook de Leonard, Carmen
 1955 Una 'maqueta' prehispánica. *El México Antiguo* 8: 169-91.
- Durán, fray Diego
 1977 *Book of the Gods and Rites and the Ancient Calendar*. Trans. and ed. by Fernando Horcasitas and Doris Heyden. University of Oklahoma Press, Norman. 2nd edition.
 1990 *Historia de las Indias de Nueva España e Islas de la Tierra Firme*. Ed. José Rubén Romero Glaván and Rosa Camelo. 2 vols. Banco Santander, México City.
- Farrington, Ian
 1992 Ritual Geography, Settlement Patterns and the Characterization of the Provinces of the Inka Heartland. *World Archaeology* 23: 368-385.
- Galindo, Jesús
 1990 Solar observations in Ancient Mexico: Malinalco. *Archaeoastronomy* 15, *Supplement to the Journal for the History of Astronomy*, S16-S36.
- Gallo S., Joaquín
 1987 *Tepoztlan. Personajes, descripciones y sucesos*. Libros de México. México.
- García Payón, José
 1974 *Los monumentos arqueológicos de Malinalco*. Biblioteca Enciclopédica del Estado de México. Mexico City.
- Gómez de Orozco, E. (ed.)
 1945 Costumbres, fiestas, enterramientos y diversas formas de proceder de los indios de Nueva España. *Tlalocan* 2: 37-63.
- Iwaniszewski, Stanislaw
 1994 Archaeology and archaeoastronomy of Mount Tlaloc, Mexico: A Reconsideration” *Latin American Antiquity* 5: 158-176.
- Kubler, George and Charles Gibson
 1951 *The Tovar Calendar. Memoirs of the Connecticut Academy of Arts and Sciences*. New Haven.

- López Austin, Alfredo and Leonardo López Luján
2009 *Templo Mayor. Monte Sagrado*. IIA, UNAM, Mexico City.
- López Luján, Leonardo
1994 *The Offerings of the Templo Mayor of Tenochtitlan*. University Press of Colorado, Niwot.
- López Luján, Leonardo et al.
2012 Un portal al inframundo: ofrendas de animales sepultadas al pie del Templo Mayor de Tenochtitlan. *Estudios de Cultura Náhuatl* 44: 9-40.
- Marcus, Joyce
1982 The Aztec Monuments of Acalpixcan In *Prehispanic Settlement Patterns the Southern Valley of Mexico: The Chalco-Xochimilco Region*, by Jeffrey R. Parsons et al. *Memoirs of the Museum of Anthropology*, no. 14: 475-86. University of Michigan, Ann Arbor.
- Morante López, Rubén B.
1997 El Monte Tlaloc y el calendario mexica. In *Graniceros: Cosmovisión y meteorología indígenas de Mesoamérica*, edited by B. Albores and J. Broda, pp. 107-139. El Colegio Mexiquense-IIH/ UNAM, Mexico City.
- Motolinía, Fray Toribio de Benavente
1971 *Memoriales o libro de las cosas de la Nueva España*. Ed. Edmundo O'Gorman. IIH, UNAM. Mexico City.
- Parsons, Jeffrey R., Elizabeth Brumfiel, Mary H. Parsons, and David J. Wilson
1982 *Prehispanic Settlement Patterns in the Southern Valley of Mexico: The Chalco-Xochimilco Region*. *Memoirs of the Museum of Anthropology*, No.14. University of Michigan, Ann Arbor.
- Pasztor, Esther
1983 *Aztec Art*. Abrams, New York.
- Rivas Castro, Francisco
2006 *El paisaje ritual del Occidente de la Cuenca de México, siglos VII-XVI: un análisis interdisciplinario*. Tesis de Doctorado en Historia y Etnohistoria, Escuela Nacional de Antropología e Historia, Mexico.
- Robles García, Alejandro
1995 *Geografía Cultural del SW de la Cuenca de México: Estudios históricos sobre el Pedregal, Ajusco y M. Contreras*. Tesis de Maestría en Historia y Etnohistoria, Escuela Nacional de Antropología e Historia, México.
- Romero Quiróz, Javier
1987 *Solsticio de invierno en Malinalco*. Universidad Autónoma del Estado de México. Toluca.
- Sahagún, fray Bernardino de
1950-82 *Florentine Codex: General History of the Things of New Spain*. Arthur J.O.Anderson and Charles E. Dibble, transl. and eds., 12 kbs. in 13 vols. School of American Research and the University of Utah, Santa Fe.
- 1974 *Primeros Memoriales*. Textos en nauatl, traducción y comentarios por Wigberto Jiménez Moreno. Colección Científica no.16. INAH, México.

Sullivan, Lawrence E.

- 1991 Reflection on the Miraculous Waters of Tenochtitlan. In *To Change Place: Aztec Ceremonial Landscapes*, edited by David Carrasco, pp. 205-211. University Press of Colorado, Niwot.

Tichy, Franz

- 1981 Order and Relationship of Space and Time in Mesoamerica: Myth or Reality? In *Mesoamerican Sites and World-Views*, edited by E.P. Benson, pp. 217-245. Dumbarton Oaks Research Library and Collections, Washington, D.C.
- 1991 *Die geordnete Welt indianischer Völker: Ein Beispiel von Raumordnung und Zeitordnung im Vorkolumbischen Mexiko*. Franz-Steiner-Verlag, Wiesbaden.

Townsend, Richard F.

- 1993 El renacimiento de la naturaleza en el Templo de Tlaloc. In *La antigua América. El arte de los parajes sagrados*, edited by R.F. Townsend. The Art Institute of Chicago – Grupo Azabache S.A. de C.V. Chicago, Ill.-México.

Zimbrón, Rafael

- 2010 *Paisajes tallados en piedra en Xochimilco y Milpa Alta*. Ediciones Fuente Cultural, Mexico City.

Footnotes

¹ These sources are discussed in Broda (1971). Cf. *Codex Borbonicus* (1974), Sahagún: *Primeros Memoriales* (1974); *Florentine Codex, Bk. II* (1950-82); *The Tovar Calendar* (Kubler and Gibson 1951); Motolinía (1971); Durán (1977, 1990; Gómez de Orozco ed. 1945).

² Blood-offerings, *nextlahualli*; human banners, *tlacatetehuítl* (CF II: 43).

³ Cf. Broda 1971, 1991a, 1996, 1997a, 1997b, 2000, 2001b, 2008, 2009, 2012.

⁴ Cf. D. Carrasco ed. 1991; Boone 1991; Broda 1991b.

⁵ Cf. Boone ed. 1987; Broda, Carrasco and Matos 1987; López Luján 1994; López Luján et al. 2012; López Austin and López Luján 2009.

⁶ Some were substituted by Christian churches that became centers of pilgrimage during Colonial times (Tichy 1991).

⁷ I have registered more than 30 significant places through field work and historical or ethnographical documentation (see fig. 2) (Broda 1991a, 1991b, 1996, 1997a, 1997b, 2001b). However, the explosive growth of Mexico City over the past 50 years (and particularly so since the 1990s) makes it almost impossible to continue this research today.

⁸ Cf. Cook de Leonhard 1955; Marcus 1982; Zimbrón 2010.

⁹ However, the New Fire Ceremony which took place every 52 years on Huixactecatl, today Cerro de la Estrella, should also be mentioned in this context (cf. Broda 1982).

¹⁰ Acuña ed. 1985; Broda and Robles 2004; Gallo 1987.

¹¹ Aveni 1980: 117, Aveni and Hartung 1981; Broda 1977; Romero Quiroz 1987; Tichy 1981: 220, 1991

¹² Broda 1977, 2000; Galindo 1990; Sahagún, CF II: 1.

¹³ Cfr. Broda 2015; Farrington 1992.

¹⁴ Of course, the rituals were also connected to the enactment of myth.

Broda, Johanna

2016 Processions and Aztec State Rituals in the Landscape of the Valley of Mexico. In *Processions in the Ancient Americas*. edited by S.T. Evans, *Occasional Papers in Anthropology* No. 33: 179-211, Department of Anthropology, Penn State University.

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