

## SYMBOLISM OF SOLSTICES IN MESOAMERICAN COSMOVISION

Yolotl González Torres<sup>1</sup>

### RESUMEN

La autora reitera su hipótesis, corroborada por otros autores, acerca de la importancia de los puntos solsticiales como marcas de un espacio rectangular regido por el sol. Importancia que se muestra en los registros de los solsticios en los monumentos arqueológicos en su celebración en las fiestas religiosas del calendario anual; en el simbolismo, en los glifos *kin* y *ollin*, en los diagramas cósmicos, y en los rituales agrícolas, sobre todo en los relacionados con el maíz.

### ABSTRACT

The author reaffirms her hypothesis, corroborated by other scholars, about the importance of the solstice points as markers of a cosmic rectangular space ruled by the Sun. Importance which is shown in the solstice registers in the archaeological sites, in the symbolism of the *kin* and *ollin* glyphs as well as in the cosmic diagrams, in the festivals celebrated during the solstices and in the agricultural rituals, specially the ones held in the maize fields.

*Key Words:* archaeoastronomy

Since long ago, we have insisted in the importance of the solsticial points in Mesoamerican cosmovision (González: 1963, 1975, 1995, 1999) which constitute – not only in Mesoamerica but in all the ancient world, one of the first and more meaningful marks to establish the limits of the universe. These points set limits to the horizontal space which surround humans, and in their imagination, place guardians who had as one of their tasks, stopping the sun at the solsticial points in the north and south of the horizon, so that would not lose itself in the infinite and in darkness.

In this paper, besides repeating the most important issues mentioned in my previous works, I add new data provided by scholars who have independently reached the same conclusions, regarding the importance of the solsticial points.

I insist on the importance of the solsticial points, because they are the ones which mark the limits of the earth, even though the earth can also be conceived as a living being.

### 1. SOLSTICE SYMBOLS

The medicinal wheels of the North American Plains and the solar petroglyphs of Mesoamerica may be the antecedent, or a complement, of Mayan *kin* glyphs or the Nahua *ollin* glyphs. The *kin* (Figure 1) symbol was represented by a square with a central point and axis or lines going to its corners or by vertical and horizontal lines, which show

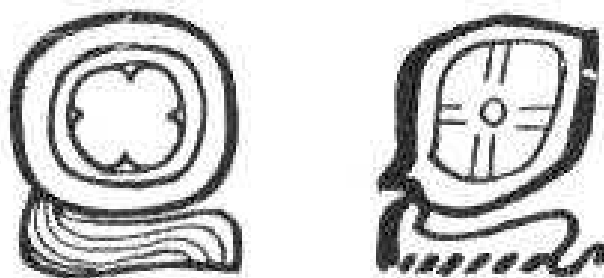


Fig. 1. The *kin* symbol.

the cardinal and intercardinal directions respectively (González, 1975: 53,54,58; Milbrath, 1999: 79; Sprajc, 1996 : 102).

The *ollin* sign (Figure 2) (González: 1963, 1975, 1995, 1999) has been generally represented by a dot, a little circle, or an eye in the center, from which four blades are directed more or less towards the intercardinal directions. Duran (1967, II: 268) clearly mentions that “The seventeen sign, who was called *ollin*, which word means “thing that moves or wiggles”, sign which was applied to the sun [...] *Ollin* is the sign or the character of the Sun, and it is, as we saw in the form of blade, for the four points which makes, which means movement”. Very likely a form of *ollin* was represented in the center of the Sun Stone (Tichy: 1976) marking also the four solstice directions.

In his meticulous study about the sign *ollin*, Köhler (1982) proposes that it represents an image

<sup>1</sup>DEAS, INAH (yolotlgonzaleztorres@gmail.com).

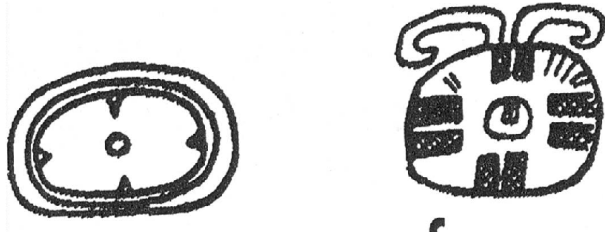


Fig. 2. The *olin* sign.

of the earth limited by the annual course of the Sun, as well as a model of the universe.

Constanza Vega (1991:521) in her article "The Course of the Sun and Aztec Ceramics" registers a group of signs that she relates to the days which mark the solstices; all of them are shown together in the polychrome vessel (Figure 3).

A flower with four petals has also been interpreted as an image of the Sun and its solstices (Freidel et al; Vega). It is prevalent in Teotihuacan's iconography, including the cave underneath the Sun's pyramid, which has the form of a flower with its four petals that: "seem to point to the four solstitial points" Heyden (1983: 65, 66).

The ball game with its form of an I or a double T may also symbolize the annual course of the Sun, especially in the way it is represented in almost all the Mesoamerican codices: the horizontal bars of the I would mark the places where the Sun stops for a few days, when it reaches the most southern and the most northern point in its path on the horizon.

## 2. COSMIC DIAGRAMS

The images in the *Tonalamatl* of the *Pochtecas* (Fejérvary-Mayer,) and the Madrid Codex, contain the four sections of the Universe, including its corresponding trees, birds and gods, but also the intercardinal points which overlap with the solstitial points.

In the *Tonalamatl* of the *Pochtecas*'s diagram, the East, North, West and South sectors are clearly limited within a trapezoidal space. Between them, there are four long flower petals which mark the intercardinal directions, on the top of each, there is a bird which has on the center of its body a circle, inside of which there are one of four signs of the *tonalpohualli*, "carriers" of the year, and markers of the world directions: *acatl*—reed (NW), *tecpatl*—flint (NW), *calli*—house (SW) and *tochtli*—rabbit (SW). Inside and outside each petal there are many meaningful signs (Figure 4).

The diagram of Mayan Madrid Codex (Figure 5) also shows the cardinal and the intercardinal directions painted on the Mayan style with less figures and



Fig. 3. Group of signs in polychrome vessel.

more glyphs. Milbrath (1999:71) points out the differences between the two diagrams and proposes further comparative studies between the two of them.

## 3. ANNUAL CALENDAR

In 1975 I placed the summer and winter solstices in the month's *tecuilhuitontli* and *atemoztli* of the 365 days Mexica calendar according to the dates given by Cristóbal Del Castillo (1950:78). In the month *tecuilhuitontli* the days were longer, and even if the Sun seemed to rule, the aquatic deities had to be propitiated so that they would send their benefi-

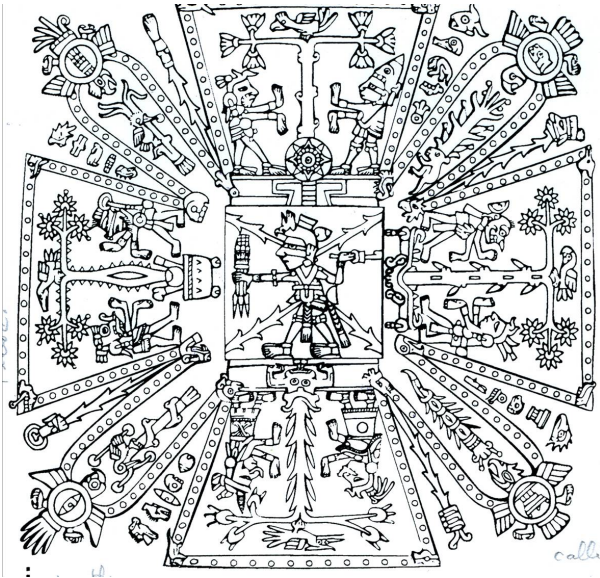


Fig. 4. The *Tonalamatl* of the *Pochtecas*'s diagram.

cial rains (González, 1975: 74)<sup>2</sup>. I placed the winter solstice (ibid :75) in *atemoztli*, following what Torquemada (1943, II:288) says: "the reason to order to celebrate [this feast] is because the Sun has reached the highest of it's way and [as everybody knows] after twenty one days it makes it's path and undoes what it has walked". And Duran (1967, I: 287) adds: "a commemoration of the descent of [the god] Huitzilopochtli was celebrated".

The month before *atemoztli* was *panquetziztli*, when Huitzilopochtli's big feast was celebrated. In relation to this month, the *Historia de los Mexicanos por sus pinturas* (Del Castillo, 1950:234) says that it was celebrated when the Sun was in its declination, so I (González, 1975:75) infer that "to the eyes of the Mexicas the Sun was getting weak, therefore it was necessary that the nourishing blood and hearts were given to him with the help of the war god: Huitzilopochtli". Aguilera (1982) places the winter solstice in *atemoztli* and Huitzilopochtli's celebration in *panquetzaliztli*. According to her calculations the inauguration of the Great Temple of Tenochtitlan took place in a winter solstice and Broda (1980) places this event on December 22nd of 1487.

#### 4. ARCHAEOLOGICAL ORIENTATIONS

Most of the archaeological ruins of buildings in Mesoamerica are astronomically oriented and many of them were oriented in relation to the Sun's culmination, equinoxes and solstices. Aveni and Har-

<sup>2</sup>According to Sahagún, *tecuilhuiltontli* took place from June 12th to July 1st, and *atemoztli* from November 13th to December 28th.

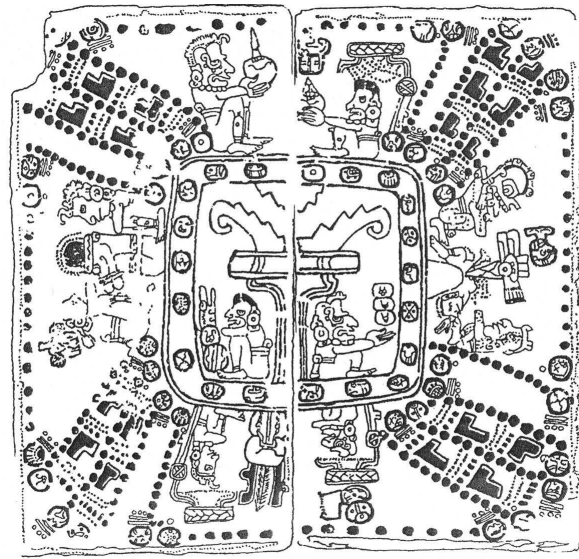


Fig. 5. The diagram of Mayan Madrid Codex.

tung registered 113 places with solstitial orientation among the Mayans (cit Milbrath: 65). Also in places like Cuicuilco, Teotihuacan, Xochicalco, Monte Albán, Cholula, Tepoztlan and the Great Temple the solstice points were marked.

Aguilera (ibid: 202) notes that according to the drawing of the Great Temple of Tenochtitlan in the Florentine Codex, the proportions of the rectangle of the serpent's wall, larger in length than in width, suggests that it was reflecting the form of an earthly mat [*petate*] which, very likely, was determined by the four extreme points of the apparition and disappearance of the Sun in the solstices". And further, she interprets that according to hypothetical lines in the horizon dividing the four regions of the world leaves: "from the center to the left, is the side of the summer solstice, ruled by Tlaloc, the months when the rains are more abundant. From the center to the right, the side of the winter solstice, the driest months are Huitzilopochtli's region. These two divisions are the seasons determined by Mexico's climate counted by the Indians: *xopan*, the time of the waters and *tonalco* the side of heat and of the Sun, the dry season".

#### 5. SOLSTICES AND ETHNOGRAPHY

Several authors who have carried out ethnographic research in different sites of Mesoamerica, mention the reference of the four corners of the world, or the four solstitial points, which define the rectangular space of the earth. These mentions refer to the cosmological view as well as to the rituals per-

formed following this worldview, especially the ones related to growing maize.

The first to write about the importance of the solstices among the Mayans from Yucatan was Villa Rojas (1968), but the scholar who has done more research on this field is Ulrich Köhler. Köhler, declares that the discussion about this point was initiated by Girard who tried to clarify the erroneous concept of cardinal points used by the chronicles and followed by the modern scholars. He insisted that rather than cardinal points, the idea the Mesoamericans had, and have, is of “rumbos”, spaces or sides,-idea that was expressed long ago by León Portilla - and that the holders of the sky were not in the cardinal points, but on the corners of the universe.

Barbara Tedlock (1992: 177, 178) in her study among the Quiché of Guatemala denies the existence of the conception of fixed cardinal points.

Köhler himself (1995: 90, 91)<sup>3</sup> after his field investigations among the Tzotziles of San Pablo from Chiapas, concluded that at least in that place:

1. There is no name for the cardinal points;
2. The pillars of heaven are placed as a rectangle;
3. These pillars are located in the corners of heaven, or in the world building;
4. North and South are called “side of Heaven”;
5. Two pillars are located in each of the Eastern and Western horizons;
6. The ascent of the solar god described in the myth was done through a post in the house approximately placed in the Southeast direction;
7. The lines drawn by an observer towards the pillars placed to the East and West form an approximate grade of 40°-50°;
8. The four pillars of heaven limit the Sun’s path. And, he adds, that the first five points show that the pillars of heaven cannot be placed in the cardinal points, instead, the other three points clearly show that they are located in the solstitial points.

Köhler (ibid: 92-97) mentions similar data from other Mayan Tzetzal communities and from several other groups of Mesoamerica<sup>4</sup>.

<sup>3</sup>This book was first published in German in 1977.

<sup>4</sup>For lack of space we cannot include the names of all the scholars who have mentioned the squareness of the earth.

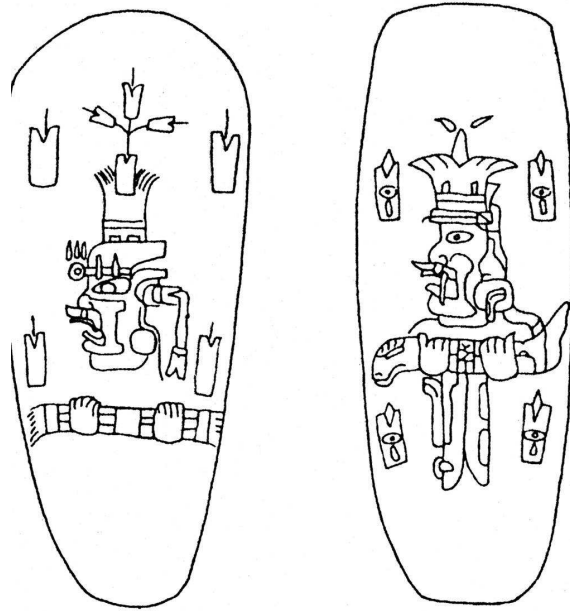


Fig. 6. Two Olmec plates.

This quadripartite form of the cosmos is described in the creation of the world in the Popol Vuh: (D. Tedlock: 63-64):

“The fourfold siding, the fourfold cornering/ Measuring, fourfold stacking/ Halving the cord, stretching the cord/ In the sky, on the earth. /By the Maker, modeler/ Mother-Father of Life, Humankind.”

The importance of the demarcation of space in the four solstitial points is shown clearly on the rituals performed by several Indian groups, especially the ones related to the *milpa* -agricultural field- which are mentioned by the observation of many scholars like Barrera-Bassols (2003: 239) who says that the Totonacs before starting the cultivation of maize, make an offering to the earth in the “four corners and in the center of the field”. There are many more instances of these type of rituals but for lack of space we cannot give more examples, but it is fundamental to know that this demarcation of the milpa-earth- cosmos is found since Olmec times as can be seen in two plaques of this culture (Figure 6), where the Maize God is pictured in the center with the four maize sprouts in the corners in the four solstitial or intercardinal points forming a quincunx.

#### REFERENCES

- Aguilera, Carmen. 1982, “Xopan y Tonalco. Una hipótesis acerca de la correlación astronómica del calendario mexica”, *Estudios de Cultura Náhuatl*, México, Instituto de Investigaciones Históricas, vol. 15, pp. 185-207.

- Barrera-Bassols, Narciso. 2003, "Symbolism, Knowledge and Management of Soil and Land Resources in Indigenous Communities: Ethnopedology at Global, Regional and Local Scales, 2 vols", Belgium, PhD in Earth Sciences, Faculty of Sciences, Ghent University.
- Broda, Johanna. 2001, "Astronomía y paisaje ritual. El calendario de horizonte Cuicuilco-Zacatépetl" in Broda, Johanna and Arturo Montero [coord.], *La montaña en el paisaje ritual*, México, Consejo Nacional para la Cultura y las Artes, Instituto Nacional de Antropología e Historia, Universidad Nacional Autónoma de México, Universidad Autónoma Metropolitana, pp. 173-199.
- Del Castillo, Cristóbal. 1950, "Historia de los Mexicanos por sus Pinturas", traducción de Francisco del Paso y Troncoso, Florencia, [u.p.], (Biblioteca Náhuatl V. Tradiciones, Migraciones).
- Duran, fray Diego de. 1967, "Historia de las Indias de la Nueva España e Islas de Tierra Firme, I and II", México, Editorial Porrúa.
- Freidel, David, Linda Schele and Joy Parker. 1993, "Maya Cosmos: Three Thousand Years on the Shaman's Path", New York, W. Morrow.
- González Torres, Yolotl. 1963, "El culto a los astros entre los mexicas", México, Master Thesis in Anthropology, Escuela Nacional de Antropología e Historia.
- \_\_\_\_\_. 1975, "El culto a los astros entre los mexicas", México, Secretaría de Educación Pública-Sepan Cuantos.
- \_\_\_\_\_. 1995, "Puntos solsticiales y equinocciales en la cosmovisión mexica", in *Coloquio Cantos de Mesoamérica*, México, UNAM, pp. 163-172.
- \_\_\_\_\_. 1999, "Some considerations on the vertical and horizontal levels of the universe in Cosmology of the Sacred World", Decent Books, New Delhi, India, pp. 61-91.
- Heyden, Doris. 1983, "Mitología y simbolismo de la flora en el México prehispánico", México, Instituto de Investigaciones Antropológicas.
- Köhler, Ulrich. 1982, "On the Significance of the Aztec Day Ollin", Franz Tichy, [Ed.], *Space and Time in the Cosmology of Mesoamerica*, München, Lateinamerika-Studien, pp. 111-127.
- \_\_\_\_\_. 1995, Chonbilal Ch'elal- Alma Vendida. "Elementos fundamentales de la cosmología y religión mesoamericana en una oración maya-tzotzil", México, Instituto de Investigaciones Antropológicas, UNAM.
- Milbrath, Susan. 1999, "Star Gods of the Maya. Astronomy in Art, Folklore and Calendars", Austin, University of Texas Press.
- Popol Vuh. 1996, "The Mayan Book of the Dawn of Life", Tedlock, Dennis [trad.], New York, Simon & Schuster.
- Schele, Linda. 1980, "Palenque: la casa del sol agonizante", in Broda, Johanna Stanislaw Iwanisewsky y Lucrecia Maupomé [eds.], *Arqueoastronomía y Etnoastronomía en Mesoamérica*, México, Instituto de Investigaciones Históricas, UNAM, pp. 67-83.
- Sosa, John R. 1984, "Las cuatro esquinas del mundo. Un análisis simbólico de la cosmología maya-yucateca" in Johanna Broda, Stanislaw Iwanisewsky y Lucrecia Maupomé [eds.], *Arqueoastronomía y Etnoastronomía en Mesoamérica*, México, Instituto de Investigaciones Históricas, 193-202.
- Sprajc, Ivan. 1996, "La estrella de Quetzalcoatl. El planeta Venus en Mesoamérica", México, Diana.
- Tedlock, Barbara. 1992, "Time and the Highland Maya", Albuquerque, University of New Mexico Press.
- Tichy, Franz. 1981, "Order and Relationship of Space and Time in Mesoamerica: Myth or Reality", in Benson, Elizabeth [ed.], *Mesoamerican Sites and World Views*, Washington, Dumbarton Oaks Pub Service, pp. 217-245.
- "Tonalamatl de los pochtecasl", (Codice Mesoamericano Fejérvary-Meyer), 1985, 10<sup>a</sup>. Edition, ed. Introduction and commentaries of Miguel León-Portilla, México, Celanese Mexicana.
- Torquemada, fray Juan de. 1943, "Monarquía Indiana", Chávez, Hayhoe [Ed.], México, [s.e.].
- Vega, Constanza. 1991, "El curso del sol y la cerámica azteca tardía" in Broda, Johanna, Stanislaw Iwanisewsky and Lucrecia Maupomé [eds.], *Arqueoastronomía y Etnoastronomía en Mesoamérica*, México, Instituto de Investigaciones Históricas, UNAM, pp. 518-522.
- Villa Rojas, Alfonso. 1968, "Los Conceptos de Espacio y Tiempo entre los Grupos Mayances Contemporáneos", in *Tiempo y Realidad en el Pensamiento Maya*, ed. Miguel León Portilla, Instituto de Investigaciones Históricas, UNAM, México, pp. 121-167.