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# Tláloc: atmospheric knowledge and political epistemology in ancient Mexico\*

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## ABSTRACT

Humankind experience in the world corresponds to the appropriation of its external environment and to its own self-conformation. The link of human collectives with what is called “atmospheric phenomena” in Occidental society is mainly expressed as climatic and meteorologic knowledge. In this article, this is examined through the analysis of the inscribed knowledge concerning the deity called Tláloc which was produced by the pre-Cortesian people from Anáhuac and through the study of the episteme that may have supported it. To inquire into the atmospheric knowledge inscribed in the deity and gain a glimpse into the atmospheric experience of pre-Cortesian people as well as their later epistemic and cognitive conquest and destruction by Spanish conquerors, we have selected a set of ancient iconographic inscriptions of Tláloc as our central object of study. The text begins with an interpretative framework of Tláloc’s pre-Cortesian images; then, we demonstrate the heterogenous constitution of an intellectual device clustered around Tláloc, the deified expression of its atmospheric and human capacities, and its posterior desacralization and dehumanization by Spanish conquerors; we conclude with a reflection on the study of the inscribed knowledge produced by the peoples of ancient Mexico.

## KEYWORDS

Tláloc; atmospheric knowledge; political epistemology; ancient Mexico; anthropology of knowledge

## PALAVRAS-CHAVE

Tláloc; antropologia do conhecimento; epistemologia política; conhecimento atmosférico; México antigo


## PALABRAS CLAVE

Tláloc; antropología del conocimiento; epistemología política; conocimiento atmosférico; México antiguo

## Tláloc: conhecimento atmosférico e epistemologia política no México antigo

### SUMÁRIO

A experiência do ser humano no mundo corresponde à apropriação de seu ambiente externo e à sua própria auto conformação. A ligação entre os grupos humanos e o que na sociedade Ocidental é chamado fenômeno atmosférico se expressa principalmente nos conhecimentos do clima e dos fenômenos meteorológicos. Neste artigo, este vínculo é refutado no estudo dos conhecimentos inscritos na divindade atmosférica chamada Tláloc, elaborada pelos povoadores Pré-colombianos do Anáhuac,

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assim como no estudo da episteme que poderia tê-lo sustentado. Neste trabalho tomamos como objeto central de estudo algumas inscrições iconográficas do Tláloc anteriores a Hernan Cortés; nos perguntamos sobre o conhecimento atmosférico cunhado na divindade e tentamos com tudo isso vislumbrar a experiência e o conhecimento atmosférico pré-Cortestino, bem como sua posterior conquista e desconstrução cognitiva e epistêmica pelos conquistadores espanhóis. O texto começa com o enquadramento interpretativo das imagens pré-Cortestinas de Tláloc; continua com a demonstração do dispositivo intelectual em torno de Tláloc, explicando sua constituição heterogênea, sua expressão deificada de suas capacidades atmosféricas e humanas e sua desestabilização, desnaturalização e desumanização pelos conquistadores espanhóis; finalmente, reflete sobre o estudo dos conhecimentos cunhados pelos povos do antigo México.

## **Tláloc: conocimiento atmosférico y epistemología política en el México antiguo**

### **RESUMEN**

La experiencia del ser humano en el mundo corresponde a la apropiación de su medio exterior y a su propia autoconformación. El vínculo de los colectivos humanos con lo que en la sociedad Occidental se denomina fenómenos atmosféricos se expresa principalmente en el conocimiento climatológico y meteorológico. En este artículo, este vínculo se declina en el estudio del conocimiento inscrito sobre la deidad atmosférica denominada Tláloc, elaborado por los pueblos precortesianos del Anáhuac, así como el estudio de la episteme que pudo haberlo sustentado. En este trabajo tomamos como objeto de estudio central algunas inscripciones iconográficas precortesianas de Tláloc; nos interrogamos sobre el conocimiento atmosférico acuñado en la deidad e intentamos con todo ello vislumbrar la experiencia y el conocimiento atmosférico precortesiano, así como su subsiguiente conquista y desconstrucción cognoscitiva y epistémica por los conquistadores españoles. El texto se inicia con el encuadramiento interpretativo de las imágenes precortesianas de Tláloc; continúa con la demostración del dispositivo intelectual en torno a Tláloc, explicando su constitución heterogénea, la expresión deificada de sus capacidades atmosféricas y humanas, y su devenir desacralizado, desnaturalizado y deshumanizado por los conquistadores españoles; finalmente, se reflexiona sobre el estudio del conocimiento acuñado por los pueblos del México antiguo.

## **1. Introduction**

Science and technology studies (STS) have focused mainly on the increase of technological and scientific knowledge in Euro-America. In response to this diagnosis, Lin and Law (2019) have pointed out that STS practice is related to how scholars imagine knowledge practices' performativity and institutional arrangements of their objects of study. Following this argument, they analyzed East Asian STS strategies as ideal types contributing to enacting different worlds, competencies, and institutional forms (Lin and Law 2019).

Acknowledging Lin and Law's contribution, we propose to establish an extended geographical and historical STS practice, with an anthropological scope, to objects of study,

knowledge practices, performativities, and institutional arrangements of the anthropic realm (Arellano-Hernández and Morales-Navarro 2019). The underpinning epistemological purpose of this proposal is to symmetrize modern Occidental knowledge- sustaining STS practices and non-Occidental knowledge, including ancestral knowledge.

The anthropological scope of this proposal implies a leap in the scale of reflection and observation. Humankind experience in the world corresponds to the appropriation of its external environment and its own self-conformation. All human groups have expressed their experience in producing conceptual and technical knowledge and also about their own collectives (Arellano 2015). Therefore, a strategy to learn about humankind is to study its knowledge with anthropological methods.

In this work, the link of human collectives with what is commonly called “atmospheric phenomena”<sup>1</sup> in Occidental societies is studied in the inscribed knowledge produced by the pre-Cortesian<sup>2</sup> peoples from Anáhuac in relation to the deity called Tláloc and in the episteme that may have underpinned it.<sup>3</sup>

The post-Cortesian attempts to comprehend the original meanings produced in relation to Tláloc began with the historical accounts written by the conquerors of the Mexica and has never stopped. Prominent intellectuals have institutionalized research on Tláloc, regarded as one of the richest metaphysical representations of the Anáhuac peoples. Our approach to Tláloc is rooted in the anthropology of knowledge. We interpret the constructions in relation to this deity in the same way that we have previously studied, with an STS approach, the representations that result from contemporary scientific and erudite practices.

Our central object of study consists of a selection of pre-Cortesian iconographic representations of Tláloc that we submit to a socio-semiotic analysis of scientific representations (Bastide 1985a, Bastide 1985b; Latour and Bastide 1983),<sup>4</sup> to “experimentally put in evidence the reality construction process” (Latour and Bastide 1983, 111). Thereby, we inquire on the atmospheric knowledge carried by the deity and try to gain a glimpse into the experience and atmospheric knowledge of pre-Cortesian peoples and their later epistemic and cognitive conquest and destruction by Spanish conquerors.

In this article, we test the following conjectures: the ideographic representations of Tláloc convey theogonic, cosmogonic, and empirical knowledge produced by pre-Cortesian peoples in their experience of the atmosphere; giving an account of their knowledge and their later disintegration informs us not only about their comprehension of climatic-meteorologic phenomena, but also about the pre-Cortesian peoples themselves.

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<sup>1</sup>In Occidental societies, knowledge about the atmosphere came from Greek culture, strengthened at the end of the Middle Ages, and consolidated in modern times. Indeed, the first known treatise on meteorology is Aristotle’s *Meteorology* (Aristotles 1474), which was an application of his philosophy to the atmosphere; centuries later, Descartes (1637) would resume the topic, in a meteorologic version, as a particular object of study of the *Discourse on the Method*, and as an application of his natural philosophy. Nowadays, climatic and meteorologic research deploy the largest scientific paraphernalia in the world (Arellano 2014). We ignore the existence of an equivalent term for “atmosphere” in autochthonous pre-Cortesian languages.

<sup>2</sup>Hernán Cortés, by conquering the Mexica Empire and the rest of Anáhuac, interrupted the cultural trajectory of the Anáhuac peoples.

<sup>3</sup>Anáhuac is the term used by the inhabitants of the central part of present-day Mexico. The term is polysemic but it is clearly different from Kirchoff’s (1960) idea of Mesoamerica.

<sup>4</sup>Françoise Bastide is a seminal reference of Bruno Latour’s work on semiotic analysis of scientific discourse (Latour 1987). Drawing on pre-Cortesian material bypasses the debates on the acculturation of anthropological sources, as pointed out by Aguilera (1997).

### 1.1. Interpretative framework of Tláloc's pre-Cortesian images

All the accounts of the Conquest of Mexico describe how war and diseases decimated the Mexica nobility (León-Portilla 2003). Bonifaz (1996) explains that, following the destruction of the indigenous religious community, the first historians and chroniclers of the Conquest were unable to understand the meanings carried by the sculptural and ideographic objects that they came in contact with. The unpreventable changes of meaning in the interpretation of any actual object (McCarty 2008) would explain, from then on, the difficult interpretation of these archaeological objects.

Furthermore, the difficulty in interpreting archaeological artifacts has increased due to the unavoidable epistemic projections of interpreters who, by and large, support the modernist dualist model, consisting of an ontology and a political epistemology<sup>5</sup> segregating naturalistic and culturalist domains (Descola 1986; Latour 1991).

In fact, numerous scholars of pre-Cortesian peoples consider that dualism corresponds to the episteme that undergirded their cognitive production. Thus, León-Portilla emblematically invokes the dual explanatory conception of the pre-Cortesian universe (León-Portilla 2005); Westheim points out that “dualism is the essential principle of the pre-Cortesian world ... ; here lies the solution for the cosmic enigma” (Westheim, 1970:19; in Bonifaz 1996); Matos-Moctezuma (1988) states that the duality of life and death became the conception of the Mesoamerican universe; while López (1984) asserts that dualism rules the old Nahua conceptions.

Acknowledging the unreliability of post-Cortesian interpretations made without archaeological support, in our explanation we will suspend the modernist epistemology projection on the objects of study; instead, we will correlate Tláloc images' interpretations with hypotheses about epistemes that could have undergirded the production of those images. Nevertheless, we recognize that we also possess our own epistemic interpreting apparatus; our epistemic hypothesis results from repeated observations of pre-Cortesian iconography: every entity is constituted by a heterogeneous and interpenetrated content of theogony, cosmogony, and empiricity. Thus, the analyzed archaeological artifacts are outcomes of the intellectual activities of pre-Cortesian peoples, whose episteme, devoid of the naturalistic and culturalist fractures of modernist epistemology, would consist of blends of synthesized representations of heterogeneous entities.

Regarding the representations of Tláloc that concerns us, there are three main archaeological-cognitive layers; in chronological order: sculptural and ceramic objects and *amoxtli* (quasi-books) produced before the Conquest and preserved without significant alterations; interpretations of these representations made by the first Europeans to come in contact with elders, sages, scribbles, and descendants of former Mexica-Tlaxelolco governors; and finally, the reinterpretations of the two aforementioned layers that numerous modern intellectuals have made since the sixteenth century. On these materials, we have taken into consideration the interpretative contributions of art scholars and archaeologists, among other experts in these fields (Anders, Jansen, and Alejandra

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<sup>5</sup>The term “political epistemology” refers to the social production and legitimation of knowledge. In Latour's perspective (1991), modern political epistemology produces knowledge inscriptions formatted in conformity with the idea of the existence of a unique nature but relative politics; as such political epistemology is incomplete and unattainable, “We have never been modern.” In our view, political epistemology is a situated and historical construction; therefore, modern political epistemology differs from other collectives' practices of production and legitimation of knowledge as those of pre-Cortesian cultures or more recent collectives not impacted by modern epistemes (Arellano 2015).

1994; Aguilera 1997; Batalla Rosado 1994; Boone 1983; Broda 2004; Caso 1967; Muñoz 2006; Nowotny and y de Durand-Forest 1974; Pasztory 1983; Seler 1963; Villaseñor 2012; Díaz and Alan y Byland 1993; Bonifaz 1996).

Our interpretations need some clarifications. First, we acknowledge the infeasibility of keeping all these interpretative layers completely apart since accessing the original ones would only be possible by means of reformulating preserved linguistic elements. Second, in spite of suspending previous studies' epistemes, we are conscious that in our analysis and interpretations we cannot elude the presumptions of our own episteme. Third, we recognize that our interpretations, as any others, occur at the juncture between our own projected episteme and the episteme that would have given rise to the objects.

### 1.2. *The intellectual device on Tláloc*<sup>6</sup>

Pre-Cortesian peoples produced a vast intellectual device consisting of intellectual technologies, organic communities "tuned" by elaborate symbolic corpus and epistemes stabilized over thousands of years (Arellano 2017). The intellectual technologies with which they produced Tláloc representations are components of highly specialized practices such as pictographic writing, sculpture, architecture, ceramic art, which required an ad hoc technical paraphernalia to be performed.

The practice of these technologies was performed by various linguistically organized communities: the vast ruling class, requesting and sponsoring accounts, and interpretations of the world to keep their societies and territories functioning; an intellectual community composed of *tlamatinime*,<sup>7</sup> *tlacuiloque*,<sup>8</sup> and their students; a whole society "tuned" to the conceptual and empirical "pitches" inscribed on deified objects of art.

Tláloc representations were underpinned by complicated epistemes and metaphysical elaborations expressed theogonically; by rich cognitive contents developed on collective reflection; and by positivities<sup>9</sup> resulting from empirical references to the atmosphere, celestial bodies, agriculture, the environment in general, and the collective organization of the Anáhuac peoples. The symbolic network of the pre-Cortesian pantheon is a key epistemic component of their intellectual device. It consisted of a wide mixture of mutating qualities integrated into the deities' representations. Attributes and qualities associated with other deities may not only be found in Tláloc but participate, along other heterogenous entities, in his very definition.

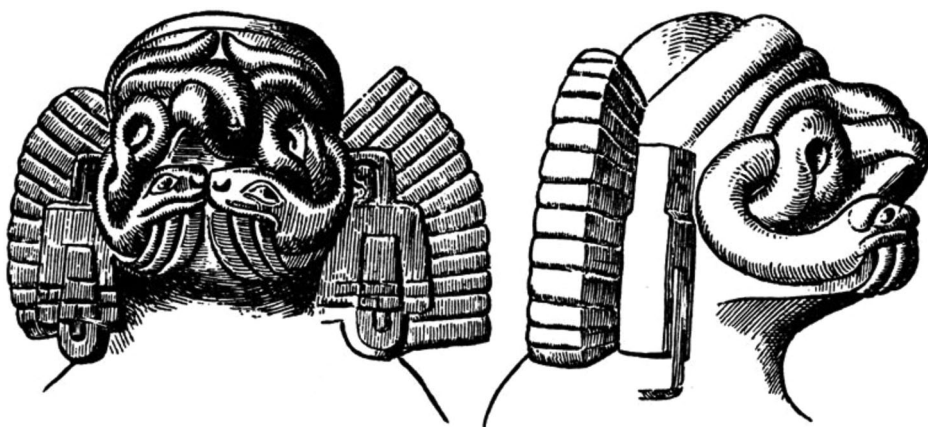
We will identify the term "Tláloc' epistemology" with the study of the atmospheric episteme of the pre-Cortesian culture through the analysis of Tláloc iconography. Tláloc representations constitute the empirical subtract of our interpretations of pre-Cortesian knowledge production. To facilitate the demonstration, we will begin the study of Tláloc's heterogenous constitution with sculptural art representations (a). Then, we will

<sup>6</sup>We have derived the concept of "intellectual device" from Foucault's "device" notion (see: Arellano Hernández 2017b); it connotes a heterogeneous reticular set of symbolic, artifactual, epistemic and collective elements interrelated by specific contents at a historical moment. It could be paralleled to what Lin and Law (2019) identify with STS practices (see the Introduction).

<sup>7</sup>Nahuatl term that literally means "those who know something" or "those who know things."

<sup>8</sup>*Tlacuilos* were professional pictorial artists mastering the application of pigments, the correct use of materials, and space, narrative, and color composition techniques; they also had good knowledge of traditions and culture (Muñoz 2006).

<sup>9</sup>We derive the terms *positive* and *positivities* from Foucauldian epistemology to designate systematized empirically based knowledge.



**Figure 1.** Ophidian-humanoid-atmospheric-hydraulic image of Tláloc. Source: De Santillana and von Dechend (1969, 290). From the sculpture of Tláloc in the Ethnological Museum of Berlin.

analyze some Tláloc's pictorial representations inscribed in pre-Cortesian *amoxtli*; in particular, a leaf from the *amoxtli* Codex Laud, which expresses its atmospheric and human capacity (b). Finally, as a counterexample of the pre-Cortesian episteme, we will examine Tláloc representation in Sahagún's work to analyze its epistemological disintegration with the Conquest (c).

### 1.2.1. Tláloc's heterogenous constitution

Numerous interpreters of Tláloc identify it with a deified human entity covered by a serpent mask (Caso 1966), as if it were a masked man; others suggest an entity wearing "blinkers" (Peñafiel 1979; Seler 1963), as though the deity would symbolically or physically need these artifacts; some describe Tláloc's "mustache cover" (Pasztor 1983; Vaillant 1960; Matos-Moctezuma 1979), as if the snake jaws needed mustache-like accessories to fit the fangs of the deity; canine fangs have also been attributed to Tláloc (Von Winning 1987), dissociating it from its ophidian nature, or else, a "twisted" nose, disregarding the two intertwined snakes that are its nose.

Interpretations of this nature define Tláloc by an addition of metaphoric artifacts permeating it with modern paraphernalia allochthonous to the original archaeological contents. The epistemological and conceptual projection of standard studies, expressed in the artifactuality in which they have wrapped Tláloc, seems to focus on the Occidental modern corpus rather than advance on the discovery of indigenous pre-Cortesian peoples' knowledge and conceptual systems.

In order to identify an alternative interpretation of the deity's content, we first examine a pre-Cortesian sculpture studied by Bonifaz (1996). Held at the Ethnological Museum of Berlin, Tláloc's sculpture (Figure 1) is recognizable by the two coiled snakes that make up its face and part of its head: their long bodies clearly shape the deity's human (external) eyes and nose while their facing heads, with open jaws, produce its human mouth, from which large fangs come out. The coiled snakes humanize Tláloc's face, while the human body "ophidianizes" Tláloc's sculptural ensemble. However, this mixture is neither a snake-masked man nor a pair of snakes embodied into a human. Bonifaz has proposed



to consider Tláloc as a human-serpentoid entity (Bonifaz 1996);<sup>10</sup> we consider this approach as an interpretative accomplishment, for we are indeed before a figure composed by heterogeneous ophidian and human content.

However, in spite of its heterogeneous epistemological scope, Bonifaz's interpretation lacks a description of the artifacts representing atmospheric and hydrologic elements inscribed by sages and sculptors in the figure. Indeed, Tláloc wears an *amacuexpalli* (a double-pleated fan-like neck ornament) on its head, which symbolizes clouds, and rectangular "ear flaps," allusive to running water. Incorporating these elements, we consider this representation as the product of a mixture and interpenetration of indigenous ontological entities attributes defining Tláloc as an ophidian-humanoid-atmospheric-hydraulic being.

This description is reinforced by Tláloc's Mexica representation on the decorated vase of Offering 21, discovered in the archaeological findings of the Templo Mayor (Figure 2). Tláloc's tetra-dimensional content is clearly displayed in this ceramic item. Furthermore, owing to the object characteristics and its well-preserved finishes, other attributes, like color, are distinguishable: turquoise green, associated with water, in its head and face; white or brown, representing clouds, in the *amacuexpalli* and the helmet; red, in complementary elements such as the snakes' fangs or in the earrings and ear flaps' stripes.

Introducing the specific use of both objects further enhances this interpretation. They were presumably employed in theogonic rituals. There are no data on the sculpture location and disposition; as to the vase, the archaeological report states that it was discovered facing down, with *chalchihuites*<sup>11</sup> (green jade stones) in its interior, and it could be inferred that the ensemble was disposed as if it represented a fount from which water flowed.

The analysis of these two Tláloc representations underpins its heterogeneous content. Bonifaz's *serpentoid*-humanoid interpretation enhances the understanding of pre-Cortesian knowledge, but has the paradoxical virtue of highlighting the interpretative difficulties to investigate the pre-Cortesian episteme. Our interpretation complements Bonifaz proposal by identifying Tláloc's atmospheric and hydraulic elements and synthesizing it as an ophidian-human-atmospheric-hydraulic entity.

### 1.2.2. The deified expression of Tláloc's atmospheric and human capacity

The symbolic appropriation of the Anáhuac world was mainly recorded by ideographic writing (Muñoz 2006). The intellectual units, named *amoxtli*<sup>12</sup> (or books)<sup>13</sup> by those peoples, were stored and eruditely organized in physical repositories called *xiuhamoxtli* (libraries). The institutional component of this intellectual technology was undergirded

<sup>10</sup>Quesada García (2009) took inspiration on Bonifaz to study the image of Chaac, enriching the knowledge on atmospheric deities and contributing to the heterogeneous analysis of pre-Cortesian iconography.

<sup>11</sup>*Chalchihuites*, from Nahuatl *chalchihuitl*, means turquoise or green jade. It was a precious stone used in rituals by pre-Cortesian peoples; some nobles wore necklaces of this material and it was also used to decorate buildings and sculptures.

<sup>12</sup>We distinguish between *amoxtli*, produced in pre-Cortesian times, and *books*, written after the conquest. The use of the term "codex" being generalized among the scholars studying all these documents, we will use it in their bibliographic references.

<sup>13</sup>According to León-Portilla, Sahagún noted that there were *xiuhámatl* (annals), *tonalámatl* (books of the days and destinies), *temicámatl* (on dreams), *cuicámatl* (songbooks), *tlacamecayoámatl* (on lineages), *tlalámatl* (on land), and *titici* (physicians) (León-Portilla 2013).





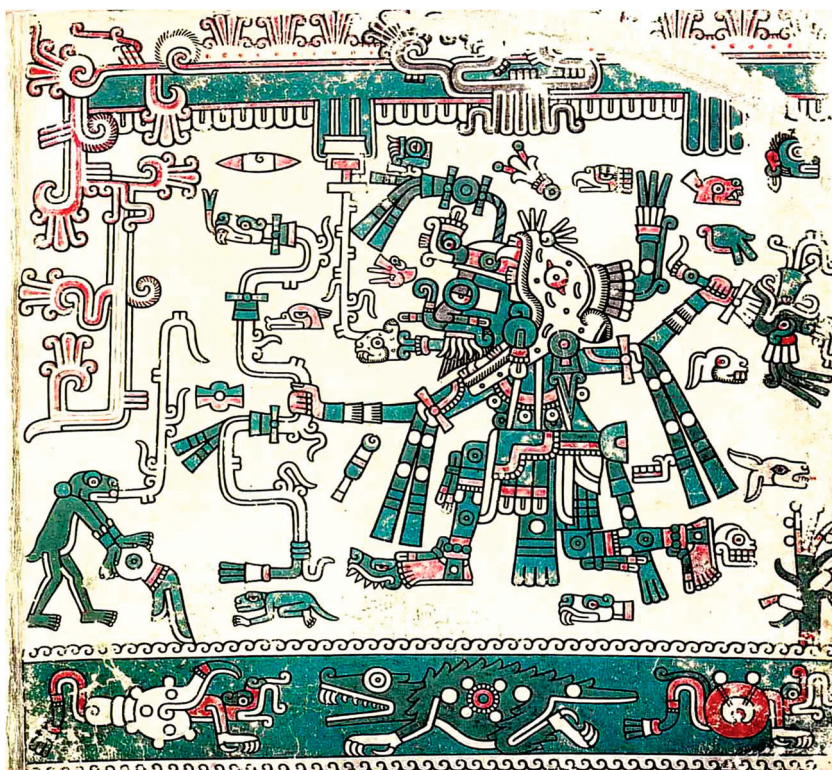
**Figure 2.** The image of Tlálóc in Offering 21 of Templo Mayor. Source: photograph of Tlálóc vase, Offering 21, Templo Mayor.

by a set of *amoxtli*'s interpreters, priests and sages (*tlamatinime*), by professional hieroglyphic writers (*tlacuiloque*), and schools (*calmecac*). Nevertheless, *amoxtli* differ from Latin alphabet books not only by their pictographic writing, but also because they correspond to an episteme proper to pre-Cortesian peoples.

To discover the cosmogonic, theogonic and philosophic plexus of pre-Cortesian peoples, Mexican *amoxtli* have been analyzed and interpreted from various disciplinary standpoints, following astronomic (Seler 1963), historical (Caso 1967), divinatory and ritual (Nowotny 2005), or calendrical<sup>14</sup> (Villaseñor 2012) considerations. In addition, other authors have complemented their interpretations with data and arguments proceeding from Spanish narratives, ethno-historical monographs, and ethnographic accounts of present-day ethnic groups.

The latest interpretative tendencies of *amoxtli* inscribed contents come from multidisciplinary programs, but these are subsidiaries of epistemic approaches presenting theogonic or calendrical interpretations unrelated to each other. Even today, it is difficult to interpret the multiplicity of entity mixtures observed in these works, as it stands out in the elucidations of the digitally restored Codex Borgia *amoxtli* by Anders, Jansen, and Cruz (1994) and Díaz, Rogers and Byland (1993).

<sup>14</sup>The authors identify the following cycles: *Tonalpohualli* (*tonalámatl*) or 260-day calendar; *xiuhpohualli* (*tonalpohualli*) or 365-day cycle; and *Xiuhmolpilli* or 52-year cycle (Del Paso y Troncoso, 1980; Nowotny and y de Durand-Forest 1974; Meza 1985; Batalla Rosado 1994). See also, *Manual de la antigua cronología mexicana* (Prem 2008) and *Ciclos agrícolas en la cosmovisión prehispánica en el ritual mexicana* (Broda 2004).



**Figure 3.** Tláloc's actuation in the world. Source: Codex Laud, Leaf 23.

Leaf 23<sup>15</sup> of the *amoxtli* known as Codex Laud (Figure 3) is convenient to demonstrate the scope of the heterogeneous episteme inscribed in Tláloc. According to Anders, Jansen, and Cruz (1994), Tláloc appears as the Lord of the days to state its temporary and spatial omnipresence in the pre-Columbian world. In the interpretative tradition of Nowotny, Tláloc has been considered as the “owner of the calendrical symbols, who determines the character of the days” (Anders, Jansen, and Cruz 1994, 255).

The crucial content of Tláloc's image is its tetra-dimensional quality, as pointed out in the previous section. The main color in the leaf is turquoise, representing water in its biological, liquid, and gas states; water is also represented by *chalchihuites*. Tláloc's vesture is opulent and ornamented in the style of nobility, probably as metaphoric meaning-exchange between deity and nobility. The headgear is adorned by *chalchihuites* and a precious feather. It wears an ocelot-head helmet, an attribute of fierceness and power. The helmet itself is embellished by an earring alluding to solar rays.

In one hand, Tláloc holds an axe with a quetzal head, whose beak emits sound glyphs<sup>16</sup>; this would symbolize thunder bursting from the animal. In this sense, there is

<sup>15</sup>According to Del Paso y Troncoso (1980) revised foliation.

<sup>16</sup>In the context of *amoxtli*, a glyph has a concept value; thus, a glyph unfolds as a pictogram, an ideogram and a phonogram. According to the online Nahuatl encyclopedia *Contextos Pictográficos del Náhuatl*, Tlachia: “To characterize a glyph is to query about the particularities of the glyphs in which the searched constitutive element appears. Its features

a reciprocal relationship – mediated by mixtures of animal and artifactual elements – between the deity's and the thunder's agency. Its other hand holds an incandescent snake-shaped lightning, as noticeable in the flame glyphs coming out from the snake's body. The association of Tláloc's hand and the snake symbolizes an interaction between their powers to produce lightning: it means that Tláloc has the capacity to control lightning, which transfers powers back to the deity.

Tláloc's mouth utters advocations conveyed via the day-sign Ocelot glyph to the ascendent lightning (notice the direction of the flames), to the day-sign *Calli* (glyph), to the raindrops and through these to the clouds. This schema of heterogeneous relations possibly symbolizes a prayer that takes the form of lightning, a situation that would be causally linked to the generation of rain. Tláloc literally *manipulates* a complex of animal entities-meteorologic forces (lightning, thunder, rain); through its voice-lightning, it manipulates calendrical entities (day-sign *Ocelot* and day-sign *Calli*), rain and clouds; and indirectly, as a deity, it interacts with all the entities represented in the leaf. Besides this description of the character and its action capacity – directly related to the link between its body and artifacts and animals – the leaf contains the twenty day-symbols of the pre-Cortesian month. Day-signs meaning as a function of their strategic position is still unknown (Boone 1983; Anders, Jansen, and Alejandra 1994).

In the leaf, the day-signs associated with the deity are the following: day-sign Ocelot, linked to the breath coming from its mouth, a possible symbol of Tláloc's capacity for oral advocacy and commanding lightning; day-sign *Quiahuitl*, linked to its precious-feather headdress, likely symbolizes rain; day-sign *Cipactli* associated with its front foot means earth; and day-sign *Mictlán*, associated with its back foot's sole, means death settled on the ground. The remaining day-signs around the entity would symbolize calendrical references to diverse atmospheric phenomena; their distribution on the leaf, rather than only esthetic, would probably have spatiotemporal and climatic-meteorologic meanings.

In the leaf, Tláloc stands between the water of the clouds and the water flowing over the ground: it is the atmospheric mediator directly linking the water circulating diversely in the atmosphere and the water running on the ground. Numerous rain-related phenomena are depicted on the leaf top. The broad strip represents a layer of liquid water; above it, water evaporates; below, it precipitates in different forms. At the center of the strip sits a fragment of what could be a mountain, associated with cloud formation. The presence of vortices suggests clouds in constant movement.

Water behavior in the atmosphere is thus described: Tláloc's immediate environment is full of water in the gaseous state, it accumulates in a bank of water in the sky where varied clouds are generated and from which rain falls in its various forms, heavier, or lighter, producing different sounds. Tláloc and its action are linked to the atmosphere, to the clouds, to the rains that fall on the ground to feed maize.

In the lower strip representing the ground, three entities inhabit a fluvial current: at the center, an ornamented *cipactli* – an animal from the mangroves and swamps – and at the sides a snail and an arthropod, typical marine animals. On the streamside, at the right,

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will be found in the drawing, in its connections to the other elements, in their interpretation, or even in the reading sense" (Tlachia: <https://tlachia.iib.unam.mx/documentos/terminologia>, consulted on October 31, 2015).

grows a maize plant with two large *cuateras* (twin) ears of corn, which symbolizes a good harvest and productivity. In the leaf, Tláloc is depicted as an entity interacting in a fully interpenetrated world of human, environmental, metaphysical, and physical contents; it is a humanized-environmentalized-deified world where all the entities interact with one another and are permanently connected and active.

At this point, we may say that Tláloc is the inscribed expression, in its deified version, of the theogonic, cosmogonic and atmospheric knowledge of pre-Cortesian peoples, and by extension, a deified representation of pre-Cortesian humankind. It is neither an absurd nor an unrestrained representation, but the inscribed representation of symbolic, material and collective entities, and their functions, of an *amodern* world.

### 1.2.3. *Tláloc, a desacralized, denaturalized, and dehumanized entity*

The destruction of the Mexica empire also implied that of its intellectual devices and its supplantation by the Spanish ones, in which Bernardino de Sahagún had a decisive role. Between 1558 and 1562, Sahagún was introduced to informants of Tetepulco and Tlalte-lolco to gather knowledge and collect testimonies of their ways of life (Jiménez 1938). Exposed to great vicissitudes, religious censorship and manipulations of his draft, he managed to compile his work as *Historia general de las cosas de la Nueva España* (*General history of the things of New Spain*), whose only three copies were confiscated in 1577; the volume was not published until 1829 and only thanks to the intervention of Carlos María de Bustamante (Simeon 1880).

Sahagún's work covered three aspects: a cognitive effort in gaining knowledge of the pre-Cortesian world to influence its Catholic re-ideologization; a linguistic enterprise – akin to Calepinus' work – to transcribe Nahuatl language and improve its translation; and, a narrative translation of the pre-Cortesian world for his European contemporaries. *Historia general de las cosas de la Nueva España* (Sahagún 1880, 1938) is written in Castilian, Nahuatl, Latin, and ideograms; its episteme corresponded to ecclesiastical canons, organized therefore according to an ontology that distinguished divine, human, and natural entities. As to the divine, Sahagún presented the new description and depiction of Tláloc (Figure 4) in the leaf 10, called "*Tláloc Tlamacazqui* god of the rains," the appellative with which it is still designated today. Sahagún portrays it as follows:

This god called *Tláloc Tlamacazqui* was the god of rains. They believed it produced the rain to water the land, the rain nurtured herbs, trees and fruits and foods: also, they believed it sent hail, lightning and thunder, and the tempests of water, the danger of rivers and the sea. Being called *Tláloc Tlamacazqui* means the god that dwells in the earthly paradise and that gives man the necessary foods for their bodily life. (Sahagún 1938, 17)

The image of Tláloc produced by Sahagún was dispossessed of all the cognitive pre-Cortesian attributes we have previously mentioned. From the intermixed Tláloc depicted with a complex chromaticism in the *amoxtli* there barely remained a gray skinned man, with stained cheeks, whose anatomy was almost reduced to a body contour. Instead of a character wielding meteorologic forces, a man is holding a white rush branch in his right hand and a small shield or forearm protection with an aquatic flower on the left hand. Instead of the character's loincloth, the man is dressed in a spotted short skirt, as





**Figure 4.** The image of Tláloc according to Sahagún. Source: Sahagún, Leaf 10.

a possible symbol of rain, and crowned by a white-feather headdress adorned by apparent maize tassels topped with a green feather.

Leaf 10 illustrates the disempowering and disintegration of pre-Cortesian intellectual technology. The image instantiates an epistemic change. More precisely, it reveals the epistemological colonization that truncated the Mexica political episteme by depriving Tláloc of its cognitive qualities; by stripping it away from its serpent-human-atmospheric-hydraulic content, Tláloc was then reduced to its insignificant humanity.

In relation to the human, Sahagún's narratives give an account of the link between linguistic, ritual, and cognitive elements of the conquered peoples practices concerning the ancient deity. For example, Sahagún describes the meaning of petitions and prayers associated with Tláloc's veneration, as in the Sixth Book, Chapter VII, about "the language and effects used when they prayed to the god of rain called Tláloc, which they deemed as the lord and king of the earthly paradise" (Sahagún 1938, 72, TII).

Concerning Nature, Sahagún discredits the origin given by pre-Cortesian peoples to atmospheric phenomena. For example, about thunder and lightning, in the Seventh

Book, Chapter V, he states: “Mexicas gave several names to lightning, to thunder, which they attribute to gods *Tlaloque* or *Tlamacazque*. It was said that it was them who produced the lightning and thunder” (Sahagún 1880, 484). Or likewise, about clouds, in the same book, Chapter VI, he writes:

Clouds and rains were attributed by these naturals to a god they called *Tlálocantecutli*, and which had many other under its command that were called *Tlaloque* and *Tlamacazque*. They thought that these produced all the things necessary for the body such as maize and beans, etc., and that these sent the rains so that all the things that grow from the ground are born. (Sahagún 1938, 267, TII)

Medieval intellectual episteme divided the world into divine, ritual, and natural entities. By colonizing the heterogeneous pre-Cortesian episteme with it, Sahagún fractured Tláloc’s theogony-cosmogony-positivity and stripped it of any valid cognitive property. Thenceforward, Tláloc became a humanized god of rain, impotent in its action and an incorrect source to explain meteorological phenomena.

Only a few centuries later, the modernist epistemic movement dismissed in turn Sahagún’s own divinities. Modernists comprehended Tláloc as a component of a lost civilization’s theogonic plexus; it became an entity devoid of any atmospheric knowledge or content that would suggest erudition.

### **1.3. Conclusions and reflections**

Pre-Cortesian peoples inscribed their appropriation of the atmosphere in the representations of the deity called Tláloc. Tlaloquian representations symbolized the empirical, theogonic, cosmogonic and political knowledge plexus developed by these peoples. They also illustrate their high artistic mastery and were an important constituent of their episteme. The Mexica episteme was based on the production of heterogeneous entities and deities. Endowed with the capacity of acting in the world, heterogeneous deities contributed to survival and social reproduction. Reduced solely to a mythological entity after Sahagún, Tláloc was, nevertheless, also the inscription of Mexica peoples’ knowledge.

To approach the original episteme that produced the pre-Cortesian knowledge, we have suspended Tláloc’s iconography interpretations based on modern unilateral and disciplinary epistemic readings. For this purpose, we required an analytical approach adapted to interpreting intellectual technologies that mix heterogeneous ontological entities. Based on our analysis, we conclude that the political epistemology that supported the pre-Cortesian pantheon was hetero-causal and conformed to theogonic-cosmogonic considerations; hence, its symbolization was necessarily polysemic.

We have considered that the episteme and the intellectual technologies that undergirded Tláloc inscriptions corresponded to pre-Cortesian collectives’ facts; the historical elements of the atmosphere appropriation that we have developed in our analysis are therefore linked to those human groups’ history. Tláloc’s representations had a theogonic component not only because they contain sacred icons of snakes, humans, artifacts, atmospheric, and hydraulic phenomena but also because they were considered deities: each of its representations would acquire its complete form sacralizing its crafting and use.

From an epistemological perspective, the episteme displayed in Tláloc’s representations was presumably shared by the community of its authors and users. Therefore,

they were concretions of an epistemic plexus that was accessible and acceptable to the intellect of the knowledge communities that produced, recreated, and integrated them into their practices; they were thus neither false realistic representations of the world nor spurious religious images, as the Spanish conquerors claimed.

Catholic conquerors confronted this singular hetero-causal episteme with their epistemic and cognitive scholastic apparatus. Thus, the enormous effort they deployed in the epistemic and cognitive colonization corresponded to their endeavor to dominate at the deepest level the pre-Cortesian peoples' souls. Clear examples of this battle in the political epistemology were recorded in the intellectual biography of New Spain most sophisticated Spanish mind, Sahagún, who considered the contents of the Anáhuac's *amoxtli* and plastic arts as insupportable positive knowledge, fraught with errors and idolatry, or as inaccessible epistemic elaborations.

The colonization destroyed the Mexica epistemic device abruptly; the conquerors interrupted the production and reproduction of that civilization's erudition with violence, from their institutions related to knowledge to the material aspects of writing. The epistemic conquest was completed by staging and socializing the Spanish intellectual technologies and epistemes; previous knowledge was irreversibly destroyed and substituted by other arrangements that gave rise to the establishment of new theogonic, cosmogonic, and positive conceptions.

The topic of the knowledge on atmospheric phenomena inscribed in Tláloc is a milestone in the vast field of the anthropology of epistemes and knowledge; it is an interpretative proposal in which the epistemology of knowledge on atmospheric phenomena is an object of study of the science of the human phenomenon in the world.

Anthropologically oriented epistemology may become the ground to understand the knowledge, technicity, sociality, and intersubjectivity that mediate interhuman relationships and those between humans and their environment. The anthropology of knowledge on the atmosphere is developed by studying human self-domestication and domestication of its exterior environment concerning atmospheric phenomena, that is, by rendering an account and analyzing human knowledge therein.

In the cognitive domain, Tláloc representations characterized atmospheric phenomena anthropomorphically. In Tláloc inscriptions, those phenomena were assigned an anthropic and environmental/external/theogonic causality through symbolic, social, artifactual, and intersubjective mediations between humans and between them and their environment. Therefore, a contemporary relevant sociological and anthropologic analysis of knowledges should study the simultaneous interactions between extra-human and human entities in the world, arranged as knowledge by the collectives that produce them, and detail their forms, mechanisms, scales, and spheres.

## Biography

**Antonio Arellano-Hernández** has a post-disciplinary background in natural sciences, engineering, and humanities, with studies in anthropology and social studies of science and technology. Currently, he holds a professorship at the Universidad Autónoma del Estado de México, and is an active member of the Academia Mexicana de Ciencias (Mexican Academy of Sciences) and the Mexican Sistema Nacional de Investigadores (National System of Researchers). His work focuses mainly on the anthropology of science and technology. He has conducted ethnographic and anthropological studies in a broad range of topics such as plant biotechnology, applied physics,



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**Leon Arellano-Lechuga**, architect, holds an MA in Architecture from the Polytechnic University of Catalonia, an MA in Documentary Filmmaking from Grenoble Alpes University and an MA in Political Arts from the SPEAP program at Sciences Po Paris. He is an audiovisual creator and independent researcher in the field of architecture. His work focuses on the built-environment constitution and transformation employing audiovisual and ethnographic techniques for research and restitution.

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