

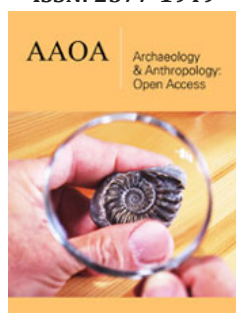
# A Clay Model of Dystocic Delivery in a Noble Woman of Pre-Hispanic Mesoamerican West from Teuchitlan Tradition

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## Abstract

A description and analysis of a complex clay model from western Mexico depicting dystocic childbirth and presenting the Mesoamerican worldview. The clay model is approximately 30cm in diameter and 20cm high; it comprises four characters: three humans (two male and one female) and a large hairless Xoloitzcuintli-type canid. The model is handmade and individually finished. It features red paint on cream and turquoise stone inlays resembling teeth. It dates from the late pre-classic period (350BC-150AD), Arenal phase in Ameca-Etztatlán style of the Teuchitlán tradition. The meaning of each aspect of the Mesoamerican worldview was analyzed and compared with similar examples from the literature, including codices and chronicles that describe first-hand many of the rituals of societies in pre-Hispanic Mexico and experts' interpretations thereof. The labor depicted is difficult, most likely because the woman is probably giving birth to twins. The dog guides the delivery, while an herbalist doctor helps perform the delivery and dispenses a possible oxytocic agent (without success), perhaps due to the difficulty, a midwife probably couldn't have performed it. The Mesoamerican worldview was governed by a duality of concepts; medicine was a mixture of the magical and methodical, which still applies in contemporary culture. A more extensive and in-depth analysis was performed than is ordinary for clay models, despite the absence of human remains or contextual data that might provide supporting evidence and the fact that the model was not discovered through an archeological excavation. This study allows us to understand more about how difficult births were handled at the time and how procedures accorded with the Mesoamerican worldview. Scholars should continue to analyze clay models, chronicles, codices, and osteological collections, thereby increasing our understanding of ancient diseases, everyday life events, and contemporary worldviews.

**Keywords:** Pre-hispanic dystocic birth; Pre-hispanic archeopathology; Pre-hispanic therapeutic rituals; Mesoamerican diseases; Ancient dystocic deliveries; Medical history of disease

## Introduction

Hundreds of clay figurines from different periods of the Mesoamerican West can be found in numerous private collections and museums; many have been extensively analyzed by scholars [1-3]. These figurines, which served the same function as photographs in the present day, depict everyday ritual acts and events in the lives of the people of the time. Maternity and pregnancy are recurring themes, just as they are in contemporary chronicles and codices, not least because they occupied a central place in the cosmogony of Mesoamerican societies [4,5]. Childbirth was regarded as a symbolic battle; whoever fought in it was engaged in a ritual; the deliverer captured the newborn [6], while the mother experienced the agony of death, according to the Nahuatl Text [7]. Women who died in childbirth (Cihuateteo, or divine women) were considered to have been killed in battle; after that, they accompanied the sun

on its half-day journey from noon to twilight. Rather than becoming hummingbirds or butterflies like other souls, they returned to Earth on certain days of the calendar, and whoever saw them at night-time would subsequently contract a disease of some sort; epilepsy among children was attributed to this. At other times, it was believed they could reverse misfortune [5,7-9]. In pre-Hispanic times, the puerperal mortality rate was high because of infection and other complications. Records show that trained midwives regularly performed embryotomies [10-12], while stone sculptures from the time portray the effort involved in giving birth and the presentation of the baby [11]. Many models depict primarily ritual scenes involving various groups of people in great detail [1,13]. This study presents a piece of a clay model from the late pre-Classical period phase Arenal in the Ameca-Etztatlán style (300 BC-200 AD). It belongs to the Teuchitlán tradition, which was associated with Jalisco state in western Mesoamerica. It portrays the climax of a dystocic childbirth, and the magic symbolism-represented best by a dog, representing the god Xolótl (the Destroyer) and acts as the mother's guide into the underworld-is characteristic of the time [14]. This scene becomes more unsettling when one realizes that the delivery is being handled by a male, as was not the cultural custom. This could be because men were the repositories of botanical knowledge and could therefore identify oxytocic agents. The use of turquoise stone emphasizes the noble origin of the protagonists. Also demonstrates the trade that already existed between societies throughout Mesoamerica and beyond its borders. Pieces that combine materials with this stone or others like Amazonites are usually found more commonly in the classical, and post-classical age [15]. This piece is an extraordinary example of Western Mesoamerican art. In addition to its detailed elaboration, it could represent one of the first works where ceramics were combined with blue-green stone (Chalchihuitl) in Mesoamerica. Therefore, it contains and combines many characteristics with deeply ritual meaning that we try to analyze and explain with the few examples described and well documented in other areas of Mesoamerica. Adding to its importance and meaning, regardless of the historical-cultural context, it represents one of the very few examples of a pre-Hispanic clinical record that shows how medical problems were treated at that time.

## Case Presentation

### Historiography

The piece was discovered in 1977 near a private ranch belonging to an obstetrician from the Guadalajara Civil Hospital. In the municipality of Ahualulco del Mercado, adjacent to Teuchitlan, where Guachimontones is located, which according to current research represents the ceremonial center of this tradition. During construction work on stables attached to a mound, a fortuitous discovery of ceramic pieces was made, which by their characteristics seemed pre-Hispanic. Therefore, a private archaeologist was hired, whose name is not recorded and only a scant report of the discovery. At that time, legislation was incipient and resources were concentrated in the central highlands and the Mayan zone. The piece was found almost complete, covered by a

ceramic bowl with bright red paint, which was fragmented into multiple fragments upon discovery, so it was not preserved. No further details are described about it, only that it was covering the piece on a bed of flagstones just 30cm from the surface in the northeast corner of the mound. Also, many characteristics are not described other than its circular shape and monumental size, which is what is described in the scarce report. The piece was sent to the Western School of Restoration (ECRO), but the date is unknown and it is only known that a minimal intervention was carried out. It was kept by the doctor for more than 10 years in his private office. Until the creation of the cultural association and the museum of health and history of medicine in the Old Civil Hospital of Guadalajara, Fray Antonio Alcalde in 1992, it was donated to the museum and where it is currently exhibited to the general public. In the Museum it was intervened by the ECRO for second time in 2014. A sealant is placed on it to protect the piece. A pair of archaeologists from the INAH Jalisco delegation reviewed it, as well as another from the Teuchitlan Archaeological Project (PAT), the latter an expert in western Mesoamerica. Both independently certify the authenticity of the piece, the chronology and cultural tradition, in addition to its registration and cataloging. Experts agree that due to the paint finish, the outline and ceramic finishes, it is an authentic piece (Internal Museum Report 2015). At the same time Art historian Arcelia Garcia de Weigand, a member of the cultural association, also examines it in agreement with the specialists. The dental pieces were examined by surface microscopy, ruling out the presence of paint and corroborating the authenticity of the stone.

### Description of the model

The model was individually crafted, with red as the principal color and cream. It is 26cm in diameter and 19cm high (Figure 1). The ID for legal registration is documented [16]. Five characters and a vessel are represented. Three of the individuals are painted red on cream, only the dog and the fifth individual are completely in red. The central figure is a female with a bulging belly lying on a platform supported by nine struts. She seems to have difficulty giving birth to a child (as the second character) who is presented face-to-face at birth (Figure 2). The woman wears a large red headdress, earmuffs, nose rings, and bracelets. It is larger in size, disproportionately so, than the rest of the individuals, a characteristic seen in ceramic models in the West Mesoamerican where the main character of the scene is highlighted [17]. Her open mouth reveals 12 of 1mm tooth-like inlays (six upper and six lower) of blueish (most likely turquoise) stone (Figure 3). To the left of her is the third and most disturbing character, a Xoloitzcuintli-like (i.e., thin and hairless) dog (Figure 3). Each of these elements supports the hypothesis that she is of noble descent. The fourth character, positioned on the left, a male adult touches the dog with one hand and the intimate parts of the woman with the other. His headdress and earmuffs are more elaborate than the woman's and his cranium is of a slightly different shape; possibly with intentional cranial modification, like women, typical use of the nobles in all areas of Mesoamerica. It may be assumed that he is her partner, since in Mesoamerican the traditional cultures it is difficult for a man who is not her partner to be in that kind of act and could touch those areas (Figure 2). The

fifth and final character, who is to the right of the woman, is probably assistance the birth, who seems to be presenting his giving his assessment of the situation to the couple. His headdress, earmuffs, and jewelry are unadorned. He holds a red-painted container of probably water in his right hand; his left hand is placed on the woman's abdomen (Figure 2). That he is the authority figure in the scene is indicated by the fact that he is painted entirely in red (a color used for xamanes or priests in specific rituals) [18]. The model was hand-crafted, the pastilleo and the delineation correspond to the Ameca Etzatlán style according to archaeologists. They also explain

that it was fired individually by the black spots that denote close contact with an organic heat source. The piece is in good condition, and it seems that it was not recently intervened; only the right ear of the song came off and was repaired with commercial polymer glue that did not cause damage to the structure. Also, the right hand of the priest is partially detached. Nor does it feature the scattered black spotting of manganese deposits characteristic of pieces that remained hidden for many years in burials, so the piece could be exposed until it was found today.



**Figure 1:** General view of the model with all the elements that compose it. The woman in labor (center), the husband (Lower left), the doctor-priest (Upper), the dog (lower right).



**Figure 2:** Facial presentation of the baby at birth (center), possible herbalist doctor with pot in hand (left), Noble with elaborate headdress possibly the husband (right).





**Figure 3:** The pained facial expression is evident, and the inlays of blue gemstones, such as the teeth characteristic of nobles, are evident, along with the headdress, cranial modification, and other jewelry. The dog's direct gaze toward the woman denotes his participation in the ritual and the intimate act of family bonding.

## Discussion

Many models from the Mesoamerican West portray ritual scenes involving multiple individuals in ceremonial or administrative contexts and everyday life. They tend to be depicted generically [3,13,19]. Several models feature ball games [20], though most, as has been noted, focus on funerary rituals, shamanism, priests, musicians, dancers, and everyday activities; few include identifiable deities [2,17]. The cycle of life was a central theme in all its stages, highlighting birth and death. Childbirth in Mesoamerica (as in all ancient cultures) was viewed as a highly symbolic ritual, as is evidenced in numerous texts [5,9,10,21]. One of the main causes of death in young women described in pre-Hispanic chronicles and codices was childbirth; a third of all females died from complications, colonial texts citing cephalopelvic disproportion

as the most common. Cesareans were not carried out, and when the child died inside the mother, an embryotomy was conducted [10,12,22,23]. However, few pre-Hispanic codices or figures refer to childbirth. In pre-Hispanic times, if a woman died in childbirth, she was called *cihuateteo* ("goddess women"). They accompanied the sun from midday to dusk, they were not reborn as hummingbirds, they returned to earth on certain days of their ritual calendar. If someone saw her at night, it caused a great tragedy, epilepsy in children was attributed to this cause. Or they could cure misfortunes, according to Mexican beliefs [5,7,10,21]. There are many figures and sculptures that represent pregnancy and motherhood, but there are very few registered in collections and museums that portray childbirth at the right moment. There is no reference to any with difficulties in the process, which makes it more special. There is a

famous figure in serpentine stone from the Mexica culture of Bliss collection in full labor where it expresses facially the effort made when pushing and shows the baby with its head out in the crowning stage [5]. Although the analogies between figures from different cultures and temporalities may not be so linearly objective, the fact is that Mesoamerica is considered a cultural block, and although each region manifests its own characteristics, all regions manifest them in a homogeneous way. Unfortunately, although there has been more research in the West, there is still much to study, since the vision continues to be centralist and in the Mayan zone, since these are the areas that generate the most economic benefits from tourism [24]. For a long time, the authorities in power believed that the western area was marginal and carried out little exploration work, an aspect that encouraged looting and illegal trade. An aspect that is still not fully controlled, causing an enormous loss of information, even in the immense quantity of pieces that flood the museums. In western Mesoamerica, criteria and concepts are just beginning to become homogenized [3,25-27].

A great advantage of the West is the existence of a large number of ceramic pieces that depict people and their daily lives that have been little studied. Their rituals and religions, their way of life, their food, and some even their illnesses. Representations are in individual figures or in groups, some in models, as in this case, where a transcendental event that may have marked their social group is depicted in a model. The model shows a woman apparently in the process of giving birth with obvious signs of difficulty. The difficult moment of childbirth is undoubtedly reflected in the woman's facial expression, which denotes effort and pain as she seems to twist, associated with a large and swollen abdomen. During birth, a face-up presentation is already a cause of dystocia. However, this model shows the baby with the head facing forward (Figure 3). At that point, the body has already descended, and the swollen abdomen is usually no longer visible. However, in the model, the swollen abdomen is very pronounced, with the navel still protruding, indicating that pressure is still being exerted from within (Figure 2), [28]. Therefore, a multiple pregnancy could be suspected as a cause of dystocia, another answer, perhaps as to why a dog is used here. A disconcerting fact is the absence of women as midwives, a role almost exclusive to their work. It is worth noting the absence of a midwife in the model, an exclusive role given the importance that these characters had in pre-Hispanic Mexico; in fact, they continue to be highly valued in indigenous and very remote communities. [11,21,29]. As has been pointed out, this may be explained by the presence of the male as a font of knowledge on herbalist (an activity that was not exclusive to women and both sexes could practice it) He probably knew of the oxytocic effects of plants (and animals), as many codices and chronicles attest. One such plant is the *Montanoa tomentosa* known to the Mexica as *cihuapatli* (medicine for women), or the tail of an opossum *Didelphis marsupialis* [6,30,31]. The former was widely used during the colonial period, and this remains the case in predominantly indigenous rural areas throughout Mexico [10]. One feature to highlight is the color, with the only human character painted entirely in red. It has been documented in Nahuatl culture in rites by priests who painted

themselves for ceremonies related to fire, heat or light. The latter term is associated with births called *alumbramientos* or related to lighting a flame of light [18]. The dog plays a central role in the ritual sub-text of the model; it is both the Destroyer and by proxy, the Creator, since it is the twin brother of Quetzalcoatl [14,32]. It is widely believed that dog breeds such as the *Xoloitzcuintli* were created in western Mesoamerica. In addition to their symbolic significance, they were considered excellent companion pets. They were, however, expensive and were therefore the province of the well-off. They make a regular appearance in ceramics of the time, particularly those of Colima, Jalisco, and Nayarit, where they are presented as individuals and in groups or as part of funerary and daily life scenes [33]. The dog was believed to be able to transport the souls of the dead to the underworld and bring them back, narrated in a beautiful and poetic way in the *Popol Vuh*. In the context of a cosmogonic duality, elements of life were believed to go through different cycles (life-death itself, woman-man, day-night, light-dark, hot-cold, and seen in twins too). In western Mesoamerica, the dog also symbolized strength, and courage. Even twinning, as *Xolotl-Quetzalcoatl* is represented, another aspect that supports the use of the dog as a means of guidance from the underworld as birth was considered for this worldview [10,14,32,33]. In the present model, the dog serves the function of providing the mother with emotional strength or spiritual guidance, which also supports the idea that the birth of twins is involved. The Nahuatl still believe this to be the case. The birth of twins is itself a representation of the god *Xolotl*. The analogy of evidence from the pre-Classical period seems difficult to explain with sources from the post-Classical era, a thousand years later, because no sources exist on the subject. However, knowledge in Mesoamerica was highly homogeneous in traditions but with a great diversity of knowledge enriched by different areas, which have demonstrated intense trade and communication between communities [7,33]. For the Purepechas of Cheran (a Western culture closes to the Teuchitlan tradition and one of the possible descendants of this ancestral tradition), childbirth was practiced exclusively by women (*pehuatahpe pikurpiri*), but in herbal medicine (*sipiatl miteti*), men also existed and represented different professions. They were part of the doctors who treated medical or natural illnesses. The use of the color red as protection against illness was fundamental, and they describe the bulging of the abdomen as indicative of the number of children, which was subject to the designs of their deities [34]. It could be argued that the representation is a ritual case of ecstasy caused by narcotics, commonly used in shamanic acts in ancient cultures around the world. However, they were used in acts of bad medicine, as described by the Purepechas, but they usually require acts of ecstasy that include dances and dances with colorful and extravagant attire, typical of priests. Although they were also used in sickness, they were usually ingested and performed by the priest, where they were not necessarily used by the patient. As has been documented in the Zapotec culture in acts of divination. [29,35,36]. I consider this not to be the case due to all the factors described that argue for the use of substances for a specific problem, such as difficulties in childbirth.

Although there is a great variety in the content of pre-Hispanic ceramic models from Western Mesoamerica, most represent ritual acts. Some refer to illnesses, but very few to daily life; nor were materials that were then widely available in combination used. Therefore, this is one of the few or first reports of the combination of bluestone (turquoise) with clay pottery from Western Mesoamerica. The trade routes of especially blue stones with the north and the rest of Mesoamerica are well documented, as well as the west, with the proximity of the mines found in Altavista Chalchihuites in Zacatecas, even associated with circular architecture typical of the Teuchitlan tradition [15,27,37,38]. Another aspect to discuss is the individual firing process to which it was subjected, characterized by dark carbon stains imprinted on the ceramic painted in red on cream (potential sample for corroboration with C14), an activity that is still carried out manually by multiple ethnic groups in the country and artisans. Process carried out on pieces of high symbolic value or commercial importance. [39,40]. In the case of the absence of Manganese stains, characteristic of funerary pieces, which give it the context of authenticity due to the delay in the formation process [41]. The piece does have these views with the analysis of surface microscopy with a stereoscope (Photo not included) (Leica®) but they are not very noticeable to the naked eye and are camouflaged with the dark stains. Archaeologists consider that they were not completely formed due to their proximity to the surface and that they were very isolated on the plate and the bed of flagstone. The model may be regarded as a comprehensive sculptural representation of a medical file or a set of osteopathological remains. It shows the procedures employed in delivering a baby after dystocic labor and the difficulties in childbirth care are a cause maternal and infant morbidity and mortality rates were so high [22,23,42]. Duality played and continues to play an important role in the cosmogony of the peoples of Mesoamerica, including the understanding of and approach to disease [7,43]. This analysis has provided insight into the procedures and tools Mesoamericans used to meet their medical needs and how these align with obstetric case studies in multiple historical chronicles and codices. It also delves beyond superficial descriptions of pre-Hispanic Mesoamerican ceramic pieces, revealing stunning snapshots of past events.

## Conclusion

This model is a pre-Hispanic representation of an everyday event that is symbolized by Mesoamerican cosmogony, which reinforces the meaning of what is prescribed in the literature. Besides, it shows how they handled clinical problems with a mixture of magical-scientific elements that persists in current culture as its cosmogonic duality. It also represents a sublime work with a particular mix of materials rarely seen in the West that are used to decorate it with profound ritual significance. This highlights the importance of preserving cultural heritage so that it can continue to be studied and valued by future generations, to be shown to the world.

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