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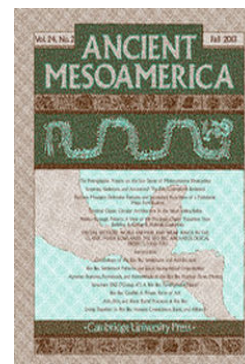
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DECAPITATED LUNAR GODDESSES IN AZTEC ART, MYTH, AND RITUAL

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Abstract

Aztec images of decapitated goddesses link the symbolism of astronomy with politics and the seasonal cycle. Rituals reenacting decapitation may refer to lunar events in the context of a solar calendar, providing evidence of a luni-solar calendar. Decapitation imagery also involves metaphors expressing the rivalry between the cults of the sun and the moon. Huitzilopochtli's decapitation of Coyolxauhqui can be interpreted as a symbol of political conquest linked to the triumph of the sun over the moon. Analysis of Coyolxauhqui's imagery and mythology indicates that she represents the full moon eclipsed by the sun. Details of the decapitation myth indicate specific links with seasonal transition and events taking place at dawn and at midnight. Other decapitated goddesses, often referred to as earth goddesses with "lunar connections," belong to a complex of lunar deities representing the moon within the earth (the new moon). Cihuacoatl, a goddess of the new moon, takes on threatening quality when she assumes the form of a *tzitzimime* attacking the sun during a solar eclipse. The demonic new moon was greatly feared, for it could cause an eternal solar eclipse bringing the Aztec world to an end.

The imagery of decapitated females in Aztec art and myth provides intriguing evidence of political and astronomical metaphors. Decapitation imagery seems to represent a form of metaphor referring to specific lunar phases and the potential for eclipse events. Cihuacoatl is a decapitated deity linked with solar eclipses that embodied a threat to the sun and the Aztec state. On other hand, Coyolxauhqui is a decapitated goddess connected with lunar eclipses that evoked the triumph of the Aztec state and its solar religion.

COYOLXAUHQUI'S DECAPITATION

A most dramatic decapitation event is evident in the legend of Coyolxauhqui, who plotted with her brothers to kill their mother, Coatlicue ("serpent skirt") after she was impregnated in a mysterious fashion by a floating ball of feathers (Sahagún 1950–1982:III:1–5). Warned of their plot, Huitzilopochtli came forth from his mother's womb armed with the *xiuhcoatl* ("fire serpent"), and he decapitated his sister, Coyolxauhqui, at the summit of Coatepetl (Coatepec). Her severed limbs tumbled down the mountain. Then he attacked the "innumerable" 400 Southerners (Centzon Huitznahua) on the mountain top; the few survivors fled to the south.

Intriguing variations in the Coyolxauhqui myth appear in three narratives, presumably derived from a single source (*Crónica X*; Heyden in Durán 1994:572–573). Two of these accounts identify Huitzilopochtli's sister as Malinalxoch(itl), while not specifying Coyolxauhqui's relationship to Huitzilopochtli; in the third source (*Crónica Mexicáyotl*), Coyolxauhcihuatl is Huitzilopochtli's mother, rather than his sister.

Durán (1964:21, 1994:27) says that Huitzilopochtli devoured Coyolxauhqui's heart on the ballcourt precisely at midnight. In one of Tezozómoc's (1975a:228–229) versions of the myth (*Cró-*

nica Mexicana), Huitzilopochtli killed the 400 Southerners and cut off Coyolxauhqui's head, extracting her heart over a hole filled with water in the ballcourt at Coatepec. The next day, it became clear that Huitzilopochtli had devoured the hearts of all of the 400 Southerners. Then, all the water dried up and the water birds and fish disappeared. In the other version (*Crónica Mexicáyotl*), Huitzilopochtli decapitated Coyolxauhcihuatl and her brothers on the ballcourt at midnight and devoured their hearts (Tezozómoc 1975b:34–35).

Coyolxauhqui's name defies exact translation, but it clearly incorporates the Nahuatl word for bells (*coyolli*) and a reference to face painting in the term *xauh*, which Aguilera (1979:6) translates as "*pintarse la india a su modo antiguo*." Broda et al. (1987:165) define Coyolxauhqui's name as "she who is adorned (or painted) with copper bells." González Torres (1991:49) translates her name as "she of the bells on the face." Nicholson (1971:Table 3) refers to her as "bells-painted," and Klein (1994:117) gives her name as "bells-on-cheek." Seler (1960–1961:IV:161) translates Coyolxauhqui as "she of the face painted with bells." Jane Hill (personal communication 1996) gives the name as "made-up with bells" or "face-painted with bells."

Huitzilopochtli's name is variously translated as "hummingbird of the south," "hummingbird-left," or "hummingbird to the left" (Broda et al. 1987:165; González Torres 1991:86; Nicholson 1971:Table 3). He is the tutelary war deity of one group of the Aztecs, the Mexica, who split from the other migrating tribes before reaching the Basin of Mexico.

A number of different sources note that the one group of the Aztecs changed their names to Mexica prior to their reaching Coatepec (González Torres 1968:186–187). Gillespie (1989:xiii, 78) often uses the generic term Aztec, referring to a number of culturally related agrarian city-states around Lake Texcoco, but she prefers

the term Mexica when referring to the migration legend involving Coyolxauhqui. In the analysis presented here, I follow Klein (1994:109, Note 9) in using the broader term Aztec, reserving Mexica for the inhabitants of Tenochtitlan. The Coyolxauhqui legend refers back to the Azteca-Mexica migration from Aztlan, long before the founding of Tenochtitlan (circa A.D. 1325), hence it seems appropriate to discuss it in the larger context of Aztec history.

Interpretation of the Coyolxauhqui Legend

Seler was the first to propose that Coyolxauhqui represents the moon conquered by the sun god, Huitzilopochtli. He originally interpreted Coyolxauhqui's decapitation as the gradual disappearance of the waning moon losing body parts as it moves closer to the sun, whereas Huitzilopochtli's triumph over her brothers, the 400 Southerners, depicts the daily triumph of the sun over the stars (Seler 1960–1961:III:320–329, 1991–1993:IV:157–162). Seler argued that it was a mistake to interpret the two events as exactly contemporaneous, even though they are connected in the myth. Nicholson and Quiñones Keber (1983:49) believe that Seler's analysis is compelling, but they note that Coyolxauhqui lacks specific lunar traits. Furthermore, she is not identified as a lunar deity in any of the chronicles (Aguilera 1978, 1979).

Huitzilopochtli is commonly interpreted as a solar deity, representing a warrior aspect of the sun or a god with solar connections (Gillespie 1989:86; León-Portilla 1978:24–25; Milbrath 1980; Nicholson 1971:425–426). His name refers to the solar imagery of the hummingbird (Benson 1989; Hunt 1977:60–69).

A number of scholars recognize a political metaphor in Coyolxauhqui's decapitation. González Torres (1975:80, 98) sees Huitzilopochtli's antagonism toward Coyolxauhqui and the Huitznahua as a battle for power between groups or clans with different affiliations. Nicholson (1985:83–84) notes that there is a historical context for the conflict at Coatepec, a place on the migration route from Aztlan to the Basin of Mexico; however, he also points out that Coyolxauhqui shares traits with Xochiquetzal, widely accepted as a lunar deity. Umberger (1987:412, 427–428) suggests that Coyolxauhqui's role was primarily as the representative of a political group rivaling the Mexica, therefore she takes the role of the moon as a rival to the Mexica solar god, Huitzilopochtli. In Klein's (1988) analysis of the political metaphor, Huitzilopochtli is a solar god conquering the warriors of the south, representing the southern cities. Matos Moctezuma (1991:17–22) sees the myth as an expression of an ancient political conflict, but he points out that the political interpretation does not contradict the astral symbolism, because one referred to real events, and the other to a duality inherent in the beliefs of agricultural people focusing on the sun and moon.

Many scholars continue to interpret Coyolxauhqui as a lunar deity (Gillespie 1989:86–88; 1991:325; González Torres 1975:98; Graulich 1981:48; Matos Moctezuma 1981:51–52, 1991; Milbrath 1995a, 1995b; Pasztory 1983:49). Gillespie (1991:333) notes that representations of Coyolxauhqui with her body dismembered—the torso separated from its head and limbs—evoke comparison with myths that incorporate dismemberment as a metaphor for the disjunction of time and space evident in the periodic movement of the heavenly bodies.

Gillespie (1989:78–95, Table 3-2) sees both political and cosmological aspects in the myth, pointing out that after the sacrifice

at Coatepec, the Aztecs departed toward Tollan. She notes that even though Sahagún places this episode in the distant past in the book dealing with the origin of Aztec gods, the myth shares features with subsequent episodes in Mexica migration history that involve the death of genetrix-mother goddess followed by a move to a different location. In other episodes of the migration account, mortals bearing the name of Toci and Xochiquetzal (Quetzalxochitl) are victims of sacrifice prior to the Mexica moving to a new location (Gillespie 1989:Table 3.2). It is noteworthy that both names refer to mother goddesses with lunar connections (Milbrath 1995a; Nicholson 1971:421). Coyolxauhqui, a goddess affiliated with the moon, also appears as a mother goddess when she takes the role of Huitzilopochtli's mother (Gillespie 1989:87). In one of Tezozómoc's (1975b:34–35) accounts, Huitzilopochtli fights with his mother (Coyolxauhcihuatl), rather than his sister. Such symbolism evokes the moon as mother of the sun, a relationship surviving today in central Mexican syncretic beliefs that relate the sun to Jesus and the moon to his mother, the Virgin of Guadalupe (Sandstrom and Sandstrom 1986:76, 204–205, 291–292). Indeed, there is a very widespread association between the Virgin and the moon as mother of the sun among the Maya today (Milbrath 1998).

Lunar Imagery Associated with Coyolxauhqui

The *Crónica X* versions of the Coyolxauhqui legend indicate a focus on a midnight event, indicating that we are not dealing with the daily triumph of the sun over the stars at sunrise as supposed by Seler. The Coyolxauhqui myth seems to be related to eclipse imagery. In the narrative derived from *Crónica X*, Huitzilopochtli ate Coyolxauhqui's heart after he decapitated her at midnight. The sun eating the moon in the middle of the night suggests a lunar eclipse. The classical Nahuatl term for lunar eclipse, *metztli iqualoca*, refers to the moon being eaten (Campbell 1985:187). A corresponding text in the *Codex Telleriano-Remensis* (folio 42v)¹ describes the sun eating the moon during a lunar eclipse. Even though this text does not mention a celestial battle, Muñoz Camargo (1948:144, 1984:190) indicates that eclipses were visualized as fights between the sun and moon in Tlaxcala. This eclipse image may relate to the battle between Huitzilopochtli and Coyolxauhqui, as I pointed in a previous publication (Milbrath 1995b). Lebeuf and Iwaniszewski (1994:186) arrived at a similar conclusion based on the explanation of eclipses given by contemporary Mesoamerican Indians. Indeed, a number of ethnographic accounts from Mesoamerica describe eclipses as fights between the sun and the moon (Báez-Jorge 1983:402, 404; Harvey and Kelly 1969:671–672; Lumholtz 1902:247; Thompson 1971:231).

Aztec visual imagery may represent the sun attacking the moon during a lunar eclipse. The *Primeros memoriales* (282r) depicts an image of a lunar eclipse that shows the sun showering the moon with dark rays (Baird 1993:Figure 39; Sahagún 1950–1982:VII:Plate 21, No. 4). The burst of dark rays passing from the sun to the moon suggests that the sun is attacking the moon, however, the text does not mention a fight (Jane Hill, personal communication 1996). European influence is evident in the crescent moon, but the sun disk is pre-Columbian in style (Baird 1993:131). The eclipse imagery

¹ Hereafter, numbers in parentheses (or brackets) following a primary source indicate folio, or page, numbers.

may be pre-Columbian, for it is quite different from an eclipse diagram in the *Chilam Balam of Chumayel*, which reflects a conservative sixteenth-century European explanation (Pre-Copernican) for eclipses (Roys 1967:Figure 9). The text from the *Memoriales con escolios* does not mention a fight between the sun and the moon, saying only that the moon becomes blackened, turning dark brown (Sahagún 1950–1982:VII:58–59). The image of lunar eclipse is more European in the *Florentine Codex* illustration; the companion text does not mention the sun's role, saying only that the eclipsed moon was covered with soot (Sahagún 1950–1982:VII:8, Plate 4).

The violence and suddenness of the moon's death in the Coyolxauhqui myth seems appropriate to an event like a lunar eclipse. Images of the monthly lunar conjunction are quite different. Sahagún (1950–1982:VII:40) notes that the Aztecs said that the moon died as it disappeared in conjunction; the description suggests death by natural causes rather than a violent attack. Most probably the moon was believed to die of old age. Indeed, when contemporary Mesoamerican people describe the waning moon in anthropomorphic terms, they say that it is an old person (Báez-Jorge 1988:247). The waning moon is represented as an aged woman in both contemporary and pre-Columbian Maya imagery (Milbrath 1995a, 1996).

Seler proposed Coyolxauhqui was the waning moon, but this does not seem to be the case, because her imagery does not emphasize old age. In the myths, Coyolxauhqui must be relatively youthful, for she is a vigorous warrior, and her mother is still young enough to give birth. Her youthful quality is also seen in a relief carving (Coyolxauhqui 3), which shows the goddess with a full set of teeth, rather than the toothless jaw characteristic of old deities (Figure 1).

The dismemberment so clearly evident in the myth and images of Coyolxauhqui may refer to the way the full moon seems to be cut into smaller parts as a lunar eclipse progresses. During a total lunar eclipse, the moon looks like a dark circle, ranging from brown to coppery red, colors that could evoke the image of dried blood.

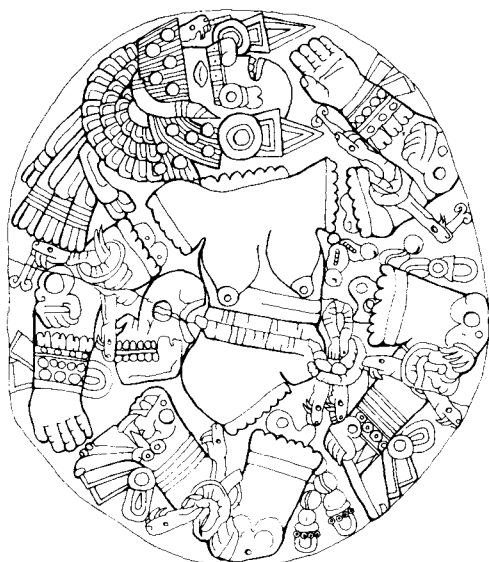


Figure 1. Coyolxauhqui 3 as a decapitated figure on a "moon-shaped" stone (from Pasztory 1983:Plate 103).

Coyolxauhqui 3, originally painted with a red background (Aguilera 1985:Figure 1), may represent the moon bathed in blood during a lunar eclipse. Her association with a "moon-shaped stone" (Graulich 1981:56) and golden bells (Figure 2a) suggests an image of the resplendent full moon, the only phase when a lunar eclipse can occur. Coyolxauhqui may be the moon at maximum brilliance, suddenly eclipsed by the sun in a violent attack. She lies on a disk that may represent the full moon transformed into the eclipsed moon by dismemberment and the imagery of blood.

In all three versions of the Coyolxauhqui myth, the act took place on a ballcourt, a location that may refer to a specific constellation. Tezozómoc identifies a star group called the *citlaltlactli* "star ballcourt," which seems to correspond to an illustration in *Primeros memoriales* (Sahagún 1950–1982:VII:Plate 21, No. 7; Seler 1904:356, Figure 92h). Seler identifies the constellation as the stars that circle the pole, but Coe (1975:27) notes that this interpretation is extremely tenuous. Perhaps the unidentified ballcourt constellation is closer to the ecliptic, marking a location where the sun eclipsed the moon. This may involve a seasonal reference, for the sun returns to a specific zodiacal constellations but once a year.

The seasonal cycle certainly is part of Coyolxauhqui's imagery. Baquedano (1990:107) suggests that the Coyolxauhqui myth symbolizes the beginning of the dry season, because it refers to the water drying up after Coyolxauhqui was decapitated. Matos Moctezuma (1987:200, 1991:21) notes that the seasonal festival of Panquetza-

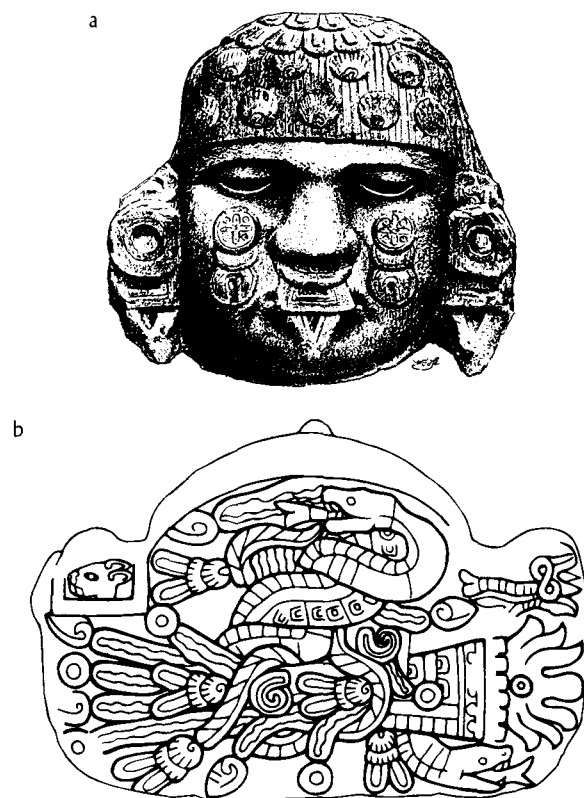


Figure 2. Coyolxauhqui 1: (a) feather plumes on headdress and bells on her cheeks [from Seler 1960–1961:IV:165, Abb. 133a]; (b) underside of the decapitated head with *atl-tlachinolli* and a rabbit year date [from Pasztory 1983:Plate 101].

liztli recreated the myth of Huitzilopochtli's triumph, an idea that supports previous interpretations by González Torres (1985:204–205) and Seler (1960–1961:IV:166). The *Primeros memoriales* indicate that Huitzilopochtli's birth was reenacted in November during the month of Panquetzaliztli; at this time his impersonator came down from the temple carrying the Fire Serpent weapon, and prisoners were sacrificed as representatives of the Centzon Huitznahua (Sahagún 1950–1982:II:145–148, 1974:56–58). This festival was appropriate for the birth of the Aztec war god, for with the coming of the dry season, agricultural pursuits came to a close and the season of warfare began (Torquemada 1943:II:299). Analysis of the Panquetzaliztli ceremony indicates that the birth of Huitzilopochtli may represent the seasonal triumph of the sun of the dry season, when the sun dominated the cloudless sky (Milbrath 1980:294).

Description and Context of the Coyolxauhqui Sculptures

The imagery and context of the Coyolxauhqui sculptures requires study in light of the apparent associations with the moon. Matos Moctezuma (1991) describes the known Coyolxauhqui sculptures, proposing a numbering system. He outlines the original context of each sculpture, noting that the majority have been found associated with the Templo Mayor. He concludes that the Coyolxauhqui sculptures indicate that the astronomical myth was converted into architecture, with the temple itself representing Cerro Coatepec, where Coyolxauhqui's sacrifice took place (Matos Moctezuma 1991:29). The Templo Mayor itself was referred to as Coatepetl ("serpent hill") during the Panquetzaliztli ceremony ritually reenacting the warrior god's triumph (Sahagún 1950–1982:II:147–148, 176).

A large greenstone head known since the nineteenth century is designated as Coyolxauhqui 1 by Matos Moctezuma (1991), being the first of the Coyolxauhqui sculptures discovered (see Figure 2a). Early in the nineteenth century, it was recovered very near the Templo Mayor, incorporated in the foundation of a house on the property of the Convento de la Concepción (Matos Moctezuma 1991:23; Seler 1960–1961:II:813, 1991–1993:III:138). Matos Moctezuma determines that the building's location on the Calle de Santa Teresa indicates that the original location of the piece was on Huitzilopochtli's side of the Templo Mayor. The head may originally have been located on the top platform or one of the stages of the Templo Mayor (Nicholson and Quiñones Keber 1983:49). The material is variously identified as diorite (Matos Moctezuma 1991:23; Pasztory 1983:152) or green porphyry (Nicholson and Quiñones Keber 1983:49, No. 9). Coyolxauhqui 1 depicts a decapitated head with partially closed eyes, indicating a lifeless state. The cheeks are decorated with bells attached to symbols for gold, a detail suggesting that Coyolxauhqui's bells were made of gold (Pasztory 1983:152). The head has striated hair covered with a radial feather ornament and down balls, the symbol of sacrifice (Nicholson and Quiñones Keber 1983:49). The nose ornament includes a crescent, possibly a *yacametzli* ("nose moon"), and a *yacaxihuitl* ("nose year") resembling a trapeze and ray design characteristic of the Mixteca-Puebla-style year sign in the *Codex Borgia* and in the Mixtec codices (Caso 1967: Figure 15). This element is not typical of Aztec year glyphs, however, it does appear as a headdress element on other Aztec goddesses (*Codex Borbonicus* [30]).

The underside of the monument represents serpents that symbolize blood spouting from Coyolxauhqui's severed neck (Pasztory 1983:152). There is also an *atl-tlachinolli* symbol intertwined with an *aztamecatl*, the plumed rope linked with human sacrifice (Figure 2b; Seler 1960–1961:III:277, 1991–1993:IV:132). Here the

flames emerging from the end of the fire band resemble a spider. An enigmatic "figure eight" attached to a snake recalls similar conventions in the headdress of Maya lunar deities (*Codex Madrid* [32]; Milbrath 1996). There is also a rabbit year glyph in a square cartouche, but the numeral coefficient is missing. Only the dates 1 Rabbit or 2 Rabbit could fit into this cartouche frame. Caso (1967:194) reads the damaged date as 2 Rabbit. Pasztory (1983:153) suggests that the date is 1 Rabbit, referring to the date the earth was created, rather than the year the sculpture was carved. The *Anales de Cuauhtitlan* (1975:4–5; Bierhorst 1992:25) says that 1 Rabbit is the year the earth and the sky were created. Nicholson and Quiñones Keber (1983:50) also suggest that the year date on the head is 1 Rabbit, noting that the *Codex Azcatitlan* links the year 1 Rabbit (1194) with Coyolxauhqui's death. However, the codex does not actually depict Coyolxauhqui nor mention her by name (Barlow 1949:108–109, Plate 6). Nonetheless, Coyolxauhqui's presence may be implicit in the images of Huitzilopochtli and the Fire Serpent and the Nahuatl text saying "there on Coatepec the serpent of fire descended" (León-Portilla 1992:118–119; Matos Moctezuma 1987:Figure 8).

Coyolxauhqui 2 is a very small jadeite head ($4\frac{1}{2}$ inches high) that shares a number of traits with the larger greenstone head, but it takes the form of a tiny mask (Nicholson and Quiñones Keber 1983:51, No. 10). It was acquired by the Peabody Museum in 1928, but its original provenience is unknown (Matos Moctezuma 1991:24). Like Coyolxauhqui 1, the tiny mask has the year-sign earrings, eyes partially closed in death, and the down balls of human sacrifice on the headdress. Instead of the nose ornament attached to the septum seen on Coyolxauhqui 1, the small head has a bar running over the nose attached to the cheek bells, here represented without gold symbols.

Coyolxauhqui 3, a round stone depicting the goddess with a severed head and limbs, was excavated in 1978 at the base of Huitzilopochtli's side of the twin pyramid in Phase IVb of the Templo Mayor (see Figure 1). The focus on female decapitation is also seen in associated offerings featuring the severed heads of females (López Luján 1993:261, No. 328). Coyolxauhqui's limb joints are covered with monstrous faces; banded serpents (coral snakes) are knotted on all four limbs and a similar snake undulates across her head. Bones protrude from the ends of the severed limbs depicted with scalloped ends rendered in the typical Aztec style (Nicholson 1985:78). The rosette-shaped feathered head ornament resembles that on Coyolxauhqui 1. The head is covered with down balls of sacrifice, like Coyolxauhqui 1 and 2. Like Coyolxauhqui 2, her only nose ornament is a band over the nose that attaches the cheek bells. Coyolxauhqui 3 also has the year-sign ear ornament, but no similar design on her nose. She has prominent breasts, an unusual feature in Aztec sculpture. Indeed, she is all but naked, like a victim of sacrifice. Her only garb is a belt tied in the matter of a male loin cloth (Nicholson 1985:79). Broda (1987:244) believes that the wrinkles on the abdomen of Coyolxauhqui 3 indicate that goddess is a mature woman who has already given birth (see also *Codex Nuttall* [16]; Seler 1963:II:246). Nicholson (1985:78) suggests her belly might even show postpartum creases. She is of child-bearing age, but she is by no means aged, because she has a full set of teeth.

Coyolxauhqui 4, a fragmentary sculpture excavated by Manuel Gamio in the southeastern corner of the Templo Mayor, is associated with Phase IVb in the chronology developed by Matos Moctezuma (1991:25, Plate 3). Apparently this piece was recognized as a Coyolxauhqui sculpture only after the 1978 discovery was des-

ignated as Coyolxauhqui 3. Although only a small fragment, it displays Coyolxauhqui's striated hair decorated with down feathers and a serpent head, and a nose band that probably was attached to bells.

Coyolxauhqui 5 is a large round stone found in fragments in the upper levels of the Templo Mayor (Figure 3; Matos Moctezuma 1991:25–26, Plates 4–6). It is composed of four fragments: one with a rayed disk and part of Coyolxauhqui's rosette-shaped feather headdress; the second showing her torso speared by the Fire Serpent; the third with her right arm; and the fourth with her right leg bearing details very similar to that of Coyolxauhqui 3. The fragment of Coyolxauhqui 5 showing Huitzilopochtli's Fire Serpent penetrating Coyolxauhqui's body duplicates the myth recorded by Sahagún (Matos Moctezuma 1991:26, Plate 5; Miller and Taube 1993:189). Bells on the fragment with the rayed disk evoke Coyolxauhqui, whose name and face paint incorporate bells (see Figure 2a). The rayed disk design will be studied in detail below, for it may actually represent the moon.

Coyolxauhqui 6 is a relief on a greenstone slab depicting a headless figure with severed limbs and a wrinkled stomach, like Coyolxauhqui 3 (Figure 4). The associated offerings included an obsidian knife, 10 flint knives, and 40 olive shells in Offering 92; and a sawfish snout in Offering 93, a body part used in decapitation rituals (Matos Moctezuma 1991:27–28). Coyolxauhqui 6 pertains to Phase IVa and is currently in situ at the site (Matos Moctezuma 1991:26–27, Plate 7). When it was discovered in 1978 beneath Coyolxauhqui 3, it was interpreted as the representation



Figure 3. Moon disk issuing a water stream with bells and a shell attached (Coyolxauhqui 5; photograph by Susan Milbrath).

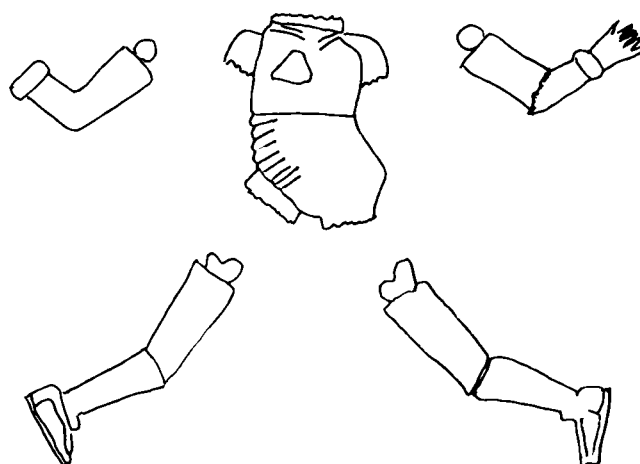


Figure 4. Coyolxauhqui 6 as a decapitated figure with her heart extracted (after Matos Moctezuma 1991).

of a child, but complete excavation in 1987 revealed that it is a decapitated figure. The bones protruding from the severed limbs are like Coyolxauhqui 3, but Coyolxauhqui 6 lacks the decapitated head, joint masks and knotted serpents. Townsend (1992:151) describes it as a stylistically primitive sculpture dating to the time of Motecuhzoma Ilhuicamina. Unique aspects of the relief include the heart lying on the chest, apparently extracted from the chest cavity, an interesting detail that evokes the image of Huitzilopochtli devouring Coyolxauhqui's heart. An interlaced pair of serpents resembling a mat and a shield with darts are positioned below the relief figure on separate sculptures. Matos Moctezuma (1991:27) interprets the shield as the symbol of Tenochtitlan and the interlaced serpents as the *petlacoatl* ("mat of serpents"). Sahagún (1950–1982:XI:80–81, Plate 262) notes that the *petlacoatl* was a configuration of intertwined serpents resembling a mat. If a person managed to sit upon these serpents, they would become a ruler. Clearly, Coyolxauhqui never achieved this status, although her proximity to the mat might indicate that she tried and failed to become a ruler.

Coyolxauhqui 5 as a Lunar Image

Further analysis of Coyolxauhqui 5 may help to confirm Coyolxauhqui's lunar associations. One fragment features a rayed disk that Matos Moctezuma (1991:25–26, Plate 6) identifies as a sun disk (see Figure 3). The rayed disk issues a water band wrapped with bells on a cord. The water band is bordered by a shell decorated with a *chalchihuitl* (a jade bead) and a bell. The shell is probably one of the imported marine shells found in the Templo Mayor excavations, such as *Olivia sayana*, commonly referred to as olive shells. The *Codex Telleriano-Remensis* (21v) depicts similar shells on a water band in the headdress of Chantico, however, here the jade beads are represented separately from the shells (Figure 5).

The water band emerging from the center of the rayed disk on Coyolxauhqui 5 is like that on the moon disk in the pre-Columbian *Codex Borgia* (18) (Figure 6). This white lunar disk forms a complete circle broken only by a blue water band flowing between two lunar rays. Other pre-Columbian codices of the Mixteca-



Figure 5. Chantico with the *atl-tlachinolli* insignia [from *Codex Telleriano-Remensis* [2lv]].

Puebla style also represent the liquid in the moon as blue water (*Codex Nuttall* [19]). Water is easily distinguished from other liquids, such as frothy white pulque represented in Mixteca-Puebla codices (*Codex Borgia* [12]; *Codex Nuttall* [5]). Pulque can be

distinguished from water by color and line quality in the *Codex Borbonicus*, a post-Conquest Aztec codex that most closely parallels the pre-Columbian Aztec style (Nicholson and Quiñones Keber 1994:xi). This codex invariably depicts shells in liquids representing water. Thus we can be sure that Coyolxauhqui 5 depicts a rayed disk with water in its center, and there seems to be sufficient evidence to propose that this is a rare Aztec representation of the moon disk.

The problem with identifying the rayed disk on Coyolxauhqui 5 as the moon is that examples of "Mexican-style" lunar disks are known only from Mixteca-Puebla codices and one Mixtec monument (see Figure 6; Paddock 1966:Plate 247). Pre-Columbian Mixteca-Puebla codices always depict the lunar symbol with a *yacametzli* ("nose moon") in the middle; but we cannot be sure this was true of Aztec lunar imagery. The Mixteca-Puebla style is now distinguished from the Aztec style (Nicholson and Quiñones Keber 1994:xi). Consequently, there are few known Aztec images of the moon from the pre-Columbian epoch, except for a horseshoe-shaped ornament known as the (*yacametzli*). This design appears on pulque vessels (Figure 7) and as a nose ornament worn by pulque deities. However, in Aztec art it is not used in contexts that are clearly astronomical, such as in pre-Columbian sky bands or Colonial-period eclipse images. Colonial-period codices not not depict images that help us to identify pre-Columbian representations of the moon. The *Codex Borbonicus* does not represent the moon disk in any recognizable format. Sahagún (1950–1982:VII) shows lunar images clearly influenced by European designs, except for the detail of red-striped face paint on one image of the moon. Are we unable to recognize Aztec images of the moon, because our expectations of what the Aztec moon disk looks like are improperly based on imagery from the Mixteca-Puebla codices?

To distinguish Aztec lunar images, we must first analyze conventional solar images. Aztec sun disks on monuments are represented with a variety of central motifs. Sometimes there is a doughnut-shaped hole completely penetrating the sun disk, as on

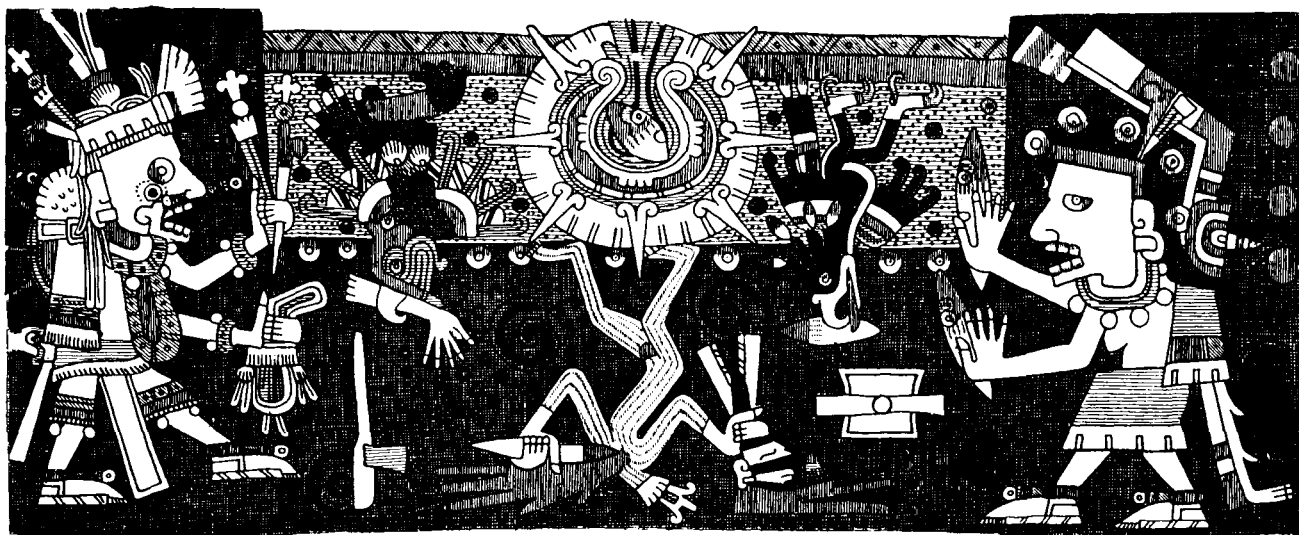


Figure 6. Moon symbol with flowing water [from *Codex Borgia* [18]; Seler 1960–1961:IV:622, Abb. 590].

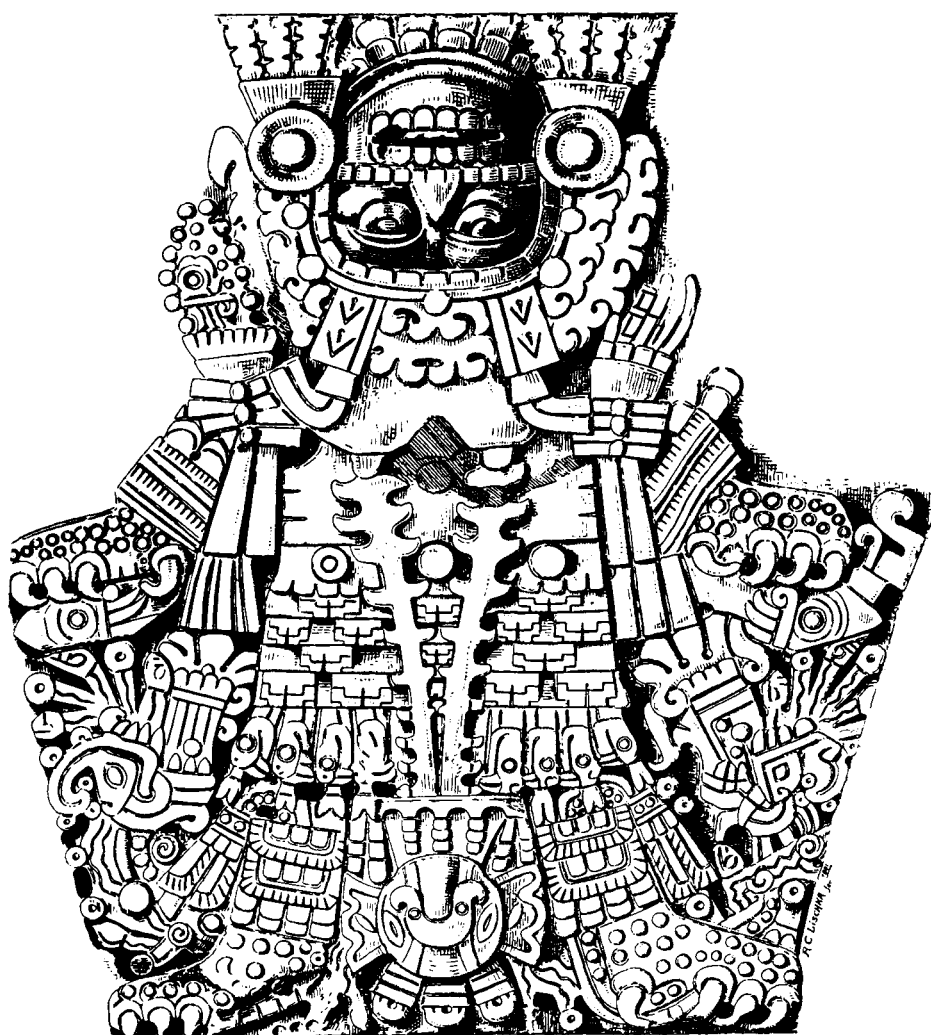


Figure 7. Rear of Bilimek Vessel depicting the decapitated Mayahuel, the goddess of maguey, with her breasts pouring *aguamiel* into a pulque vessel (from Seler 1960–1961:II:944, Abb. 49).

the ballgame stones (*tlachtemalacatl*) and the *temalacatl* stones (used in gladiatorial sacrifice in Xipe Totec's festival; Sahagún 1950–1982:II:51). Other times the central design is an Ollin glyph, usually with a central star-eye and the number four to designate the date 4 Ollin, the calendar name for the sun in the Fifth Era, the epoch of the Aztecs. The central design may also incorporate an anthropomorphic deity represented by a whole figure or just a face, as on the Aztec Calendar Stone, where the face is in the middle of an Ollin glyph.

Water is not commonly associated with the sun disk, except in the fire and water imagery of sacred warfare. A Mixteca-Puebla mural from Tehuacan Viejo depicts a rayed disk with a star eye issuing parallel bands of fire and water, an image interpreted by Sisson and Lilly (1994:37, Figure 8) as the sun with the *atl-tlachinolli* ("water-burned thing") symbol of warfare in its center. The *Codex Borgia* (71) depicts a red and gold sun disk flanked by bands of water and golden feathers (fire?), apparently symbolizing a similar concept. An Aztec monument depicting a rayed disk, probably also representing the sun of sacred warfare, has the *atl-tlachinolli* symbol in its center, but here the bands are intertwined, following the format typical of the Aztec style (Figure 8; Matos Moctezuma 1990:426, 468). Intertwined bands of fire and water

are also found on the base of one of the Coyolxauhqui sculptures (see Figure 2b) and on the headdress of Chantico, a lunar goddess of the hearth fire who seems to be closely related, perhaps even identical to Coyolxauhqui (see Figure 5; *Codex Borbonicus* [18]; Milbrath 1995a:63; Nicholson 1971:414, 1985:84–86). Indeed, Chantico, symbolizing the hearth fire, is an appropriate image of the full moon giving light to the night sky, just as the hearth fire gives light at night. What distinguishes Coyolxauhqui is her nature as a decapitated deity and her conflict with the solar god, both elements that seem to point to her association with the full moon eclipsed by the sun.

In addition to its connection with sacred warfare, *atl-tlachinolli* may also symbolize the eternal duality of night and day, and the rainy season (*atl*) and dry season (*tlachinolli*), according to Broda et al. (1987:105). We could extend this metaphor to say that the imagery reflects the sacred war between the moon as ruler of the rainy season and the sun as ruler of the dry season. Huitzilopochtli's birthday took place at the beginning of the dry season, and his association with warfare is appropriate to dry season imagery (Milbrath 1980). The moon and its attendant lunar deities were closely linked with water and rainfall throughout Mesoamerica, a connection that still survives today (Milbrath 1995a, 1998; Thompson 1939).



Figure 8. Rayed solar disk with *atl-tlachinolli* in the center (from Matos Moctezuma 1990:468, Plate 24-153).

The rayed disk on Coyolxauhqui 5 can be distinguished from representations of the sun with *atl-tlachinolli* because the central ring-shaped design closes around a stream of water, and there is no evidence of an intertwining band of fire. It seems here that the rayed disk on Coyolxauhqui 5 is a moon symbol issuing lunar water and bells, evoking the link between Coyolxauhqui and the moon.

Chronology of the Coyolxauhqui Sculptures

Attempting to define the chronology of the Coyolxauhqui sculptures is somewhat difficult, but is worthwhile exploring not only in terms of the chronology of the temple itself, but also because the imagery of Coyolxauhqui suggests a possible link with historical lunar eclipses. It is possible that all the Coyolxauhqui monuments were carved to commemorate lunar eclipses, with the exception of Coyolxauhqui 2, which clearly was not part of the monumental architecture sequence in the Templo Mayor.

We can conclude that Coyolxauhqui 6 is the earliest known of the Coyolxauhqui monuments, based on its archaeological association with Phase IVa of the Templo Mayor (see Figure 4; Matos Moctezuma 1991:26–27, Plate 7). Matos Moctezuma suggests a date of 1460, but the sculpture could be slightly earlier. A plaque with the year 1 Rabbit (1454) also belongs to Phase IVa (Umberger 1987:417, 421). Another alternate dating would be contemporary with the 1447 renovation of the temple during the reign of Motecuhzoma I mentioned in the *Historia Mexicana por sus pinturas* (Nicholson 1987:467). According to the chronicles, there were two renovations in Motecuhzoma's time, one in 1447 and another in 1467 (Nicholson 1987:471; Umberger 1987:417, Note 6). Only the earlier renovation would seem to correspond to Phase IVa.

Coyolxauhqui 3, found overlying Coyolxauhqui 6 at the base of Huitzilopochtli's side of the twin pyramid, pertains to Phase IVb in the Templo Mayor chronology. Matos Moctezuma (1991:24) dates the Coyolxauhqui 3 monument to around 1469 (3 House), the date on one of the plaques associated with Phase IVb and the year of Axayacatl's coronation following the death of Motecuhzoma I. However, Umberger (1987:418, 421) places the primary construction of Phase IVb in the reign of Motecuhzoma I, noting that a plaque bearing the year 8 House (1461) seems to date con-

struction of the platform, whereas the 1469 plaque may have been added later to commemorate the death of Motecuhzoma or the accession of Axayacatl. Nicholson (1985:86) dates the monument to one of the two renovations of Motecuhzoma 1 (1449–1469), and elsewhere he notes that the documentary evidence places these renovations circa 1447 and circa 1467 (Nicholson 1987:471). Coyolxauhqui 4 also dates to Phase IVb, based on the context described in Gamio's excavations in 1914 (Matos Moctezuma 1991:25). It is not clear whether it is earlier or later than Coyolxauhqui 3.

Other Coyolxauhqui sculptures apparently correlate with later phases of the Templo Mayor. Coyolxauhqui 1 and Coyolxauhqui 5 appear to postdate Coyolxauhqui 3 and 4. Matos Moctezuma (1991:25) suggests that Coyolxauhqui 5 pertains to the last phases of the Templo Mayor, because it was found near the surface of their excavations. Although he does not pinpoint the phase, it would seem that this sculpture must date to Phase VI or VII.

Nicholson (1985:81) suggests that the colossal greenstone head (Coyolxauhqui 1) may have been carved in 1487 as part of the expansion of the temple in the time of Ahuizotl. Pasztory (1983:153) also believes that the greenstone head was carved around 1487. The last renovation of the Templo Mayor documented in the chronicles took place during the reigns of Tizoc (1481–1486) and Ahuizotl (1486–1502), most probably between 1483 and 1487 (Nicholson 1987:472; Umberger 1987:422). This renovation involved a new sculpture of Coyolxauhqui (Durán 1994:328). Umberger (1987:420–422) links the 1487 renovation to Phase VI in the Templo Mayor chronology. Although subsequent renovations of the temple are not mentioned in the chronicles, construction activity is indicated by the Phase VII level.

Coyolxauhqui 1 certainly could be a late piece, because it was incorporated in a building that probably dates to the Colonial period, indicating that it was not buried beneath the surface at the time of the Conquest. Seler (1960–1961:II:814, 1991–1993:III:138) concludes that it was originally part of the Templo Mayor pyramid representing Coatepetl, and it was probably located near its summit in accord with the Coyolxauhqui myth, which seems to indicate that her head stayed on top of Coatepetl while her body tumbled down. Its sophisticated style also suggests a relatively late date. On Coyolxauhqui 1, the underside of the block has a rabbit year, but the glyph block does not seem to allow room for a year date any higher than 2 Rabbit. If the date refers to a mythological date in the distant past, the best candidate is 1 Rabbit, a date of considerable importance as the year of the earth's creation (Pasztory 1983:153). If instead the Rabbit year refers to the date it was carved, the only possible historical dates between 1455 and 1521 are 2 Rabbit (1494) and 1 Rabbit (1506). The year 1506 was especially significant. It coincided with a great famine and drought, a year so bad that the *Codex Telleriano-Remensis* (41v) states that ceremony for binding the years (symbolizing the 52 year "century") was moved from 1 Rabbit to the year 2 Reed. It may be that the head was carved at a time when the Aztecs felt a need to reaffirm their historical traditions in light of the natural disasters that took place in the year 1506. Given that Coyolxauhqui 1 was visible when the Spaniards were collecting construction material in the sixteenth century, it probably dates to Phase VII, the last construction phase. In this light, the Coyolxauhqui sculpture mentioned as part of the 1487 renovation (Phase VI) may actually be Coyolxauhqui 5, which would seem to be earlier than Coyolxauhqui 1, because it was buried beneath the surface.

The latest image of Coyolxauhqui may be that shown in the drawing in a letter from Cortés, most probably referring to a sculp-

ture that dates to Phase VII (Boone 1987:Figure 1; Nicholson 1981, cited in Umberger 1987:414). This drawing depicts a headless body, apparently carved in the round. It does not seem to have much in common with Coyolxauhqui 1 or 5, the latest known sculptures, and may represent a sculpture that was broken up by the Spaniards for building material.

Lunar Eclipses and the Coyolxauhqui Sculptures

Having established the probable dates for a number of sculptures, we can turn to the eclipse record to see whether any of these monuments may commemorate lunar eclipses. All of the lunar eclipse data was calculated by John Oliver (Department of Astronomy, University of Florida). The dates given here are in the Julian calendar to facilitate comparison with the calendar used at the time of the Conquest. Oliver's calculations indicate that lunar eclipses were often visible in the Basin of Mexico during the Aztec epoch. For example, there were 27 lunar eclipses visible between 1454 and 1487. To suggest a correlation with the sculptures, we must narrow the choices by using more specific criteria. It seems likely that the most significant lunar eclipses would be those that took place at some pivotal point of the night or season. Lunar eclipses can only occur at the full moon, the time of the month when the moon rises at dusk and sets at dawn. The most significant lunar eclipses would surely include those occurring at dusk, midnight and dawn, and those falling on or near the solstices, equinoxes, and solar zeniths and solar nadirs, especially those at the time of seasonal transition in May and November. Other elements that may have made certain eclipses important is the incidence of two lunar eclipses in a single year, a fairly unusual event. Based on the dates suggested for the monuments and the discussion below, the following paired eclipses are suggested for each phase (Table 1).

The date of 1460 for Coyolxauhqui 6 suggested by Matos Moctezuma could indicate a link with two total eclipses in 1460 (1/8/1460 and 12/27/1460). However, the Aztecs counted only one eclipse in that year, since early January was actually part of the preceding year in the Aztec calendar (Caso 1971:Table 4).

The second eclipse was more than two weeks after the winter solstice (12/11 O.S.), marking the first full moon after the solstice.

Another possibility is that Coyolxauhqui 6 dates to 1447, the earlier renovation of the temple in the reign of Motecuhzoma I. There were two total lunar eclipses in this year, a relatively rare event, for only seven years from 1440 to 1521 had two total lunar eclipses falling in the same year of the Aztec calendar. The first, on April 1, 1447, had its midline at midnight, whereas the second, on September 24, had its midline about an hour and a half after midnight. The September lunar eclipse was less than two weeks after the fall equinox (9/12 O.S.), which may have made it seasonally significant.

An alternate date for Coyolxauhqui 6, the one preferred here, is the year 1454, the date of the 1 Rabbit year plaque found associated with Phase IVa. There were two total lunar eclipses in 1454, and both coincided with the transition of the seasons. The first eclipse on May 12 was very close to the day of solar zenith (at 19° latitude 5/7 O.S., or Julian; 5/17 N.S., or Gregorian), marking the beginning of the rainy season, and the second on November 5 was very close to the solar nadir (at 19° latitude 11/10 O.S.; 11/20 N.S.), marking the beginning of the dry season (Milbrath 1989:106).

The significance of the seasonal position of the two total eclipses in 1454 becomes clear when we note that between A.D. 1440 and 1521, only 12 years had two lunar eclipses; seven of these were paired total lunar eclipses (1447, 1454, 1468, 1479, 1494, 1501, 1508), and only the year 1454 had two total lunar eclipses that fell at the times of seasonal transition in May and November. The 1454 lunar eclipses had added significance because the midline (midpoint) of the first eclipse took place at midnight, and the midline of the second took place at dawn. The November 5 lunar eclipse began at 5 a.m., when the moon was about 13° above the horizon, and when the eclipse reached its midline, the moon was setting (dawn estimated at 7 a.m. in November). As the eclipse began, the moon seemed to be cut into smaller parts, almost as if going through its lunar phases in high speed; and when the moon set in the west at dawn, it was transformed into a dark disk—metaphorically bathed in blood.

Table 1. Templo Mayor chronology and paired lunar eclipses

Phase	Date A.D.	Eclipse (Time at Midline)
Phase VII?	1511	partial 4/13/1511 (1h48m); total 10/6/1511 (16h2m)
Phase VII?	1508	total 6/12/1508 (22h32m); total 12/7/1508 (6h45m)
Phase VII?	1501	total 5/2/1501 (22h32m); total 10/26/1501 (2h13m)
Phase VII?	1494	total 3/21/1494 (19h29m); total 9/14/1494 (23h53m)
Phase VII?	1489	partial 6/13/1489 (0h45m); total 12/7/1489 (22h17m)
Phase VI	1487 ^a	total 2/7/1487 (20h39m); partial 8/4/1487 (6h41m)
Phase V?	1479	total 7/3/1479 (20h33m); total 12/28/1479 (17h34m)
Phase IVb	1468	total 2/8/1468 (2h6m); total 8/3/1468 (19h26m)
Phase IVb?	1464	total 4/21/1464 (17h17m); partial 10/15/1464 (2h8m)
Phase IVa	1454 ^b	total 5/12/1454 (0h10m); total 11/5/1454 (6h54m)
Phase IVa?	1447 ^a	total 4/1/1447 (0h5m); total 9/24/1447 (1h39m)
Phase IVa?	1440	partial 2/17/1440 (20h51m); total 8/13/1440 (0h18m)

Note: Paired eclipses in years 1451 and 1460 omitted because the first eclipse falls in the first three weeks of January, pertaining to the previous year in the Aztec calendar.

^aRenovation date mentioned in chronicles.

^bDate on a carved plaque.

The 1454 eclipse took place in a 1 Rabbit year, the traditional date of the New Fire Ceremony before a calendar reform took place in 1506 (*Codex Telleriano-Remensis* [41v]; Quiñones Keber 1994: 229). Furthermore, the year 1 Rabbit has great mythological significance, because it was the first year of the Fifth Era, and the year the earth was formed. According to Umberger (1987:417, Appendix), 1 Rabbit was the first year of the 52-year cycle. On the other hand, Klein (1980:164) identifies 1 Rabbit as traditional end of the 52-year century. The New Fire Ceremony does seem to mark the end of the 52-year cycle by burning the bundles of 52 reeds representing the years, but it was also a renewal, when the fires were relit after the Pleiades passed overhead at midnight (Milbrath 1980). Because of the structure of the calendar, the new year actually fell some months later. In terms of the calendar, the 52-year cycle did not begin or end during this ceremony.

Adjustments to the calendar may have kept the seasonal festivals approximately in the same position over time. There must have been some form of adjusting the calendar so that the seasonal festivals did not stray too far from the solar seasons (Broda 1992:105–106; Caso 1971:346; Tena 1987). In this regard, it is noteworthy that pre-Conquest Aztec dates combine day glyphs and year glyphs derived from the 260-day *tonalpohualli*, generally omitting references to the month, so that the two calendars may have functioned quite independently. This means that the months could be moved without affecting the intricate relationship of the year and day glyphs.

The November 5 eclipse event in 1454 happened to fall relatively close to the annual birthday of Huitzilopochtli in Panquetzaliztli. Different sources give somewhat different dates for Panquetzaliztli (11/21–12/10 O.S. [Caso 1971:Table IV]; 11/12–12/1 O.S. [Sahagún 1974:56]). The earliest dates for Panquetzaliztli are recorded in the *Primeros memoriales*, but even these dates fall a few days after the November eclipse, which probably coincided with the month Quecholli. However, since Panquetzaliztli was paired with Quecholli in terms of astronomical events (the New Fire Ceremony could be celebrated in either month [Broda 1980]), the symbolism of the November eclipse still could be linked with Huitzilopochtli.

The eclipse events in 1454 seem ideally suited to evoking the mythology of Coyolxauhqui, for they were paired total lunar eclipses taking place at times of seasonal transition and at pivotal times of the night (midnight and dawn). Sahagún's description seems to emphasize a dawn event, for Huitzilopochtli emerges from the womb of the earth (sunrise), cutting up Coyolxauhqui's body and sending her into the underworld. On the other hand, the midnight eclipse would fit the accounts in Durán (1994:27) and Tezozómoc (1975b:34–35), which emphasize a midnight event and do not mention Huitzilopochtli's emergence from the earth mother. These generalized parallels may have reinforced the mythology, but given the antiquity of the Coyolxauhqui myth, the lunar eclipses of the fifteenth century cannot be said to be the basis for the mythic imagery. Nonetheless, it seems possible that new sculptures of Coyolxauhqui were carved on the occasion of an important lunar eclipse, especially in years with two total eclipses.

The November 1454 eclipse evokes details of the mythology and festival. Huitzilopochtli's weapon, the Fire Serpent, may be linked with the constellation accompanying the sun at the time of the second lunar eclipse in November 1454. During November, the dry-season sun (Huitzilopochtli) was positioned in Scorpius, a constellation that may be symbolized by the Fire Serpent, whose stellar attributes are clearly represented on the Aztec Calendar Stone

(Milbrath 1980, 1995b:498). The November 1454 lunar eclipse may have been visualized as a cosmic reaffirmation of Huitzilopochtli's triumph over Coyolxauhqui reenacted annually in November, when Huitzilopochtli carried the Fire Serpent as a symbol of the sun's conjunction with Scorpius in November. Prisoners in the Panquetzaliztli festival were taken to the top of the temple, where they were burned and their hearts extracted. The bodies would have been thrown down and dismembered on the sculpture of Coyolxauhqui, according to Matos Moctezuma (1991).

Coyolxauhqui 3, directly overlying Coyolxauhqui 6, may be the next in the sequence of sculptures to commemorate lunar eclipses. As noted above, Matos Moctezuma dates Coyolxauhqui 3 to 1469, the date of the 3 House plaque associated with Phase IVb, whereas Nicholson dates it to the reign of Motecuhzoma I (1440–1469). In 1469, there was a partial lunar eclipse that took place on July 24, from 10:30 p.m. to 1:30 a.m. Its midpoint (midline) took place exactly at midnight, when the full moon was at its highest point in the sky, crossing the meridian. Of 26 lunar eclipses that occurred in the years running from 1440 to 1469, only three had a midline at midnight (1440, 1454, 1469). The 1469 lunar eclipse also echoes the 1454 midnight eclipse in that it took place close to the solar zenith, but in the year 1469 the eclipse took place when the sun was making its second annual passage through the zenith position (at 19° latitude 7/19 O.S.; 7/29 N.S.).

Another alternative is that Coyolxauhqui 3 correlates with a pair of total lunar eclipses that took place in 1468 (2/8/1468 and 8/3/1468), the year before Motecuhzoma's death. The first eclipse began at midnight and the second took place around dusk. However, there is no documentary or archaeological evidence reinforcing an association between Coyolxauhqui 3 and this year. Coyolxauhqui 4, also dating to Phase IVb, could also be linked with this eclipse date, but again we have no specific evidence for such an association.

Another set of lunar eclipses in 1479 is also interesting. There were two total lunar eclipses in the year (7/3/1479 O.S.; 12/28/1479 O.S.). The first eclipse fell a little over two weeks before the second solar zenith and the third about the same interval (16 days) after the winter solstice. The year 1479 surely would have been an appropriate year for carving a sculpture symbolizing lunar-eclipse imagery, however, we do not have documentary or archaeological evidence that this date is associated with a specific phase, date plaque, or sculpture of Coyolxauhqui. It may be that the year 1479 coincides with Phase V, which lacks date plaques and was not apparently associated with a sculpture of Coyolxauhqui.

The 1487 (8 Reed) renovation clearly involved a new image of Coyolxauhqui, and it seems significant that this was a banner year for lunar eclipses, being one of 12 years from 1440 to 1521 that had two lunar eclipses. In 1487, a total lunar eclipse was followed by a partial eclipse. The total eclipse took place as the full moon was rising. It lasted from around 7 to 10 p.m. on February 7, a date that may have been significant because it fell in the first month of the year (Izcalli) using Caso's (1971:Table 4) correlation. The partial eclipse took place from around 5 to 8:30 a.m. on August 4, 1487. At the beginning of the eclipse, the moon was about 8° above the horizon, but the midline occurred after the moon had already set. This eclipse could correspond to the image of Coyolxauhqui 1, if we follow the dating suggested by Nicholson and Pasztory, or to Coyolxauhqui 5, according to the analysis presented above.

Coyolxauhqui 1 could commemorate the 1506 eclipse in the year 1 Rabbit, a year glyph that may be indicated by a partially destroyed glyph on the monument. The February 7, 1506, lunar

eclipse had its midline around 8:30 p.m. as the moon was about 37° above the horizon on February 7. This was only a partial eclipse, and its seasonal position does not seem significant. The only reason it would have been noteworthy was because it occurred on exactly the same day in the solar year as the total lunar eclipse in 1487, a year that apparently corresponds to a new sculpture of Coyolxauhqui.

Another alternative is that Coyolxauhqui 1 bears a 2 Rabbit date correlating with A.D. 1494, the year of two total eclipses close to the equinoxes (3/12 and 9/12 O.S.). These two eclipses (3/21/1494 O.S. and 9/14/1494 O.S.) were certainly noticeable, but an association with Coyolxauhqui 1 remains speculative, because scholars generally identify the fragmentary date on the base of the head as 1 Rabbit.

The Coyolxauhqui decapitation myth is so strongly linked with lunar eclipse imagery that it seems likely that the Aztecs had lunar eclipses in mind when they commissioned sculptures of Coyolxauhqui. Although we cannot be certain that any of these sculptures correspond to specific lunar eclipses, there is a strong possibility. The 1454 lunar eclipses so closely fits different aspects of the mythology, that this year may have inspired the beginning of a sequence of sculptures carved to commemorate lunar eclipses.

DECAPITATION IMAGERY AND CIHUACOATL AS A GODDESS OF THE NEW MOON

Having explored the role of Coyolxauhqui's decapitation in relation to lunar-eclipse imagery, we can now turn to another complex of decapitated goddesses that appears to be linked with solar eclipses and with the new moon, the only lunar phase when a solar eclipse can occur. Impersonators of Teteoinnan-Toci and Xochiquetzal were both decapitated in the annual festival cycle. Their imagery suggests an association with the moon, or more specifically the new moon, when the moon moves into conjunction with the sun making it invisible in the sun's glare (Milbrath 1995a:56, 59, 83–84). Toci's impersonator was to be married to the sun, an image that suggests the moon in conjunction with the sun. Similarly, Xochiquetzal was sometimes visualized as bride of the sun (Thompson 1939:129–130). Both goddesses also are associated with the earth, most probably because the moon seems to disappear into the earth when it moves into conjunction (its last visibility is as a thin crescent at dawn in the east).

Cihuacoatl's impersonator was decapitated during her annual festival in the temple of the sun, an association that suggests lunar conjunction for the moon loses its body parts as it moves into conjunction with the sun (Milbrath 1995a:68–69). She also is closely aligned with the earth, and indeed her modern counterpart is the moon within the earth among the Nahua people of Puebla (Milbrath 1995a:66; Sandstrom and Sandstrom 1986:129). Yet, Cihuacoatl also has a more monstrous side not seen in the other decapitated lunar goddesses. As we shall see, in some contexts Cihuacoatl threatened the sun with destruction by solar eclipse.

According to Seler (1963:II:70–71), Cihuacoatl is a lunar being who acts as an adversary of the sun, a role like that of Coyolxauhqui. Some scholars argue that Coyolxauhqui and Cihuacoatl are essentially the same deity (Broda 1987:246; Klein 1988:243). Although they do share some features as lunar goddesses, Cihuacoatl has skeletal features and weaving implements, and she is often shown in the frog-like "birthing" pose of the Earth Monster, Tlaltecuhli, traits never associated with the imagery of Coyolxauh-

qui. Indeed, she seems to be merged with the earth in a number of images discussed later.

It seems that Cihuacoatl represents the new moon phase, when stars are quite prominent, whereas Coyolxauhqui represents the full-moon phase, when stars are not easily seen. Although Coyolxauhqui is leader of the 400 Southerners, usually interpreted as the stars, she is not shown with stars on her costume, despite Aguilar's (1979) assertion to the contrary. In contrast, Cihuacoatl has clear stellar associations. In addition to the stars resembling round eyes seen in the imagery of Cihuacoatl described below (Figures 9, 10a, and 17), Sahagún's (1950–1982:II:155) description of Cihuacoatl-Ilamatecuhtli indicates that she wears a shell skirt known as the "star skirt" (*citlalli cue*). Representations of Cihuacoatl as the patroness of Tititl depict her a shell-bordered skirt representing her star skirt (Figures 11 and 12). Seler (1960–1961:II:742; 1991–1993:II:100) argues that Cihuacoatl's star skirt is an image of the Milky Way. A link between the new moon and the Milky Way is suggested by a contemporary Maya myth that tells how the moon fell to pieces in the water (new moon phase) and was raised up by a net of fish that became the Milky Way (Milbrath 1998).

Cihuacoatl, Ilamatecuhtli, and Tonan appear to be interchangeable as the principal deity of the month Tititl, which ran from December 31 to January 19 at the time of the Conquest (Nicholson 1971:Table 4). In Tititl, the Aztecs cut out Ilamatecuhtli's heart and decapitated her (Sahagún 1950–1982:II:31, 155–156). Apparently there was a gender change after decapitation, for an old man grabbed her head and became the "likeness of Ilamatecuhtli." The transformation of a female to a male or a male taking the role of a female is in keeping with the gender ambiguity associated with Cihuacoatl, who is referred to with pronouns of both genders and impersonated by a man in woman's clothing (see below). In the



Figure 9. Hackmack Box showing Cihuacoatl's decapitated head, probably an image of the new moon surrounded by stars (from Seler 1960–1961:II:734).



Figure 10. Bilimek Vessel: (a) front of vessel showing a decapitated lunar head partially covering the sun during a solar eclipse [from Pasztory 1983:Plate 280]; (b) skeletal head with *malinalli* hair on the front (from Seler 1960–1961:II:915, Abb. 6).

Tititl festival, decapitation signals a transformation into a male persona, an event that may be linked with the disappearance of the moon during conjunction. Gender changes after the sacrifice of a lunar deity are also seen in Ochpaniztli and Hueypachtli, probably as a reflection of the moon changing gender as it goes through its phases (Milbrath 1995a:56, 59, 83, Note 20).

Linking the annual decapitation of the lunar impersonator to a specific lunar phase may not seem possible, because the Aztec festivals (*veintenas*) were only 20 days long, falling short of the lunar month (29.5 days). Nonetheless, some *veintenas* or months formed sets of 40 days through paired names, such as Tozoztontli and Hueytozoztli (“small vigil” and “great vigil”), and Pachtonitli and Hueypachtli (“small *pachtli*” and “great *pachtli*”; Nicholson 1971: Table 4). Furthermore, the ceremonies from one month often extended into the next month (Graulich 1990:436–437; Sahagún 1950–1982:II:46, 60, 150). Stewart (1984) concludes that paired months formed a luni-solar calendar. In his scheme, Tititl is paired with Izcalli, providing a 40-day period of related events. Thus the decapitation events involving Cihuacoatl and her affiliates may

have been timed by the disappearance of the moon, when there was the threat of a solar eclipse at the new moon. Possibly there were 12 or 13 lunar deities, each representing a lunar month in the solar year. Indeed, if we consider the 4 lunar phases and a maximum of 13 lunar months in the solar year, we have a total of 52 possibilities—a supercharged number in terms of Mesoamerican calendrics.

The lunar goddesses in the Cihuacoatl complex have a modern counterpart. Based on ethnohistorical evidence, Nicholson (1971: 420–421) identifies Tonan, Cihuacoatl, Ilamatecuhtli, and Quilaztli as variants of the same earth-mother goddess with lunar connections. Their closest modern counterpart is Tonantsi (Tonan), who is the moon within a cave on earth according to Nahuatl-speaking people from Puebla (Milbrath 1995a:66; Sandstrom and Sandstrom 1986:76, 129). This evokes parallels with the Yucatec Maya, who say that the moon in conjunction comes down to a cave (*ch'en*) on earth (Thompson 1971:111, 238). Most Nahuatl villages identify the moon as Metstli, but they also associate the moon with Tonantsi (“our sacred mother”), linking her with the



Figure 11. Cihuacoatl with her weaving batten, shield, and shell skirt in the Tititl festival (from *Codex Magliabechiano* [45r]; Boone 1983).

Virgin of Guadalupe (Sandstrom and Sandstrom 1986:76, 129, 292). During the early Colonial period, the Aztecs linked Tonantzin (Tonan) with the Virgin, who was identified with the moon shortly after the Conquest (Broda 1991:90; Nutini 1988:109; Sahagún

1969:III:352). Although nowhere explicitly stated, Tonan and her modern counterpart, Tonantsi, apparently symbolize the moon during conjunction—the invisible moon within the earth. The close association with imagery of the earth reflects the fact that the moon seems to disappear into the earth for two to three days around the new moon.

Cihuacoatl's link with the darkness of the interior of the earth is evident in her temple, called Tlillan ("blackness"), the house of darkness, where her image was always kept in darkness (Durán 1964:179, 1971:211, 1994:297). González Torres (1995:50) suggests that this dark temple also symbolizes the interior of the womb. In ancient Mesoamerican art, cosmic wombs and caves are closely linked (Milbrath 1988:159–160). Thus Cihuacoatl's house of blackness could symbolize the cave dwelling of the new moon.

Cihuacoatl ("woman serpent") has a frightening aspect in her relationship with the *tzitzimime*. Klein (1988:243, 248–249, Figure 14a) believes that the Tzitzimil is an aspect of Cihuacoatl. The Tzitzimil is one of the *tzitzimime*, demonic females linked specifically to solar eclipses. Broda et al. (1987:169) define *tzitzimime* as female deities representing "astral bodies that shine in the night." Thompson (1934:231) notes that the *tzitzimime* were "stars, constellations or planets in the heavens, who were sometimes considered to be baneful. During eclipses . . . they became visible through the darkness of the heavens." He follows Seler in linking the *tzitzimime* to sky bearers and to deities with lunar connections,



Figure 12. Cihuacoatl with her weaving batten, shield, and shell skirt in the Tititl festival (from *Codex Borbonicus* [36]; Seler 1960–1961:IV:78, Abb. 53).

such as Tlazolteotl and Xochiquetzal. Although he does not identify Cihuacoatl as a *tzitzimime*, this association is evident in Torquemada (1943:I:80–81), who records a legend that says that Quilaztli (an aspect of Cihuacoatl), was also called Tzitzimincihuatl (“infernal woman”).

During a solar eclipse the Aztecs feared that the *tzitzimime* (“demons of darkness”) would descend to devour people and the darkness would be eternal, bringing an end to the Aztec world (Sahagún 1950–1982:VII:2, 38). Seler (1963:I:139) suggests that the *tzitzimime* were the stars that became visible during a solar eclipse. Since Tezozómoc (1975a:486) describes the *tzitzimime* as signs (constellations) and planets, they may represent all the astral bodies that suddenly became visible during a solar eclipse. Most probably, the new moon was one of the eclipse monsters, a *tzitzimime* attacking the sun in the same way that the new moon attacks the sun in the solar eclipse image of the *Primeros memoriales* (Sahagún 1950–1982:VII:Plate 21, No. 3). As we will see in the discussion of the Bilimek Vessel, Cihuacoatl was transformed into a *tzitzimime* when the new moon attacked the sun during a solar eclipse.

Cihuacoatl and the Tzitzimiltl share a number of iconographic features. The Tzitzimiltl on *Codex Magliabechiano* (76r) has a skeletal face, a crown of banners, and skirt fringed with shells, like Cihuacoatl in the *Codex Borbonicus* (Figures 12 and 13). A rattlesnake dangles between the figure’s legs, possibly a link with Cihuacoatl’s serpent persona. The splayed posture, monstrous joints, knife tongue, and tightly curled hair also recall relief representations of Cihuacoatl (Figures 14 and 15). On the other hand, the Tzitzimiltl lacks a weaving implement, an attribute often associated with Cihuacoatl (see Figures 11 and 12). Furthermore, the Tzitzimiltl on *Codex Magliabechiano* (76r) is apparently a male figure, because he is said to be a painted “like a dead man” (Boone 1983:214). In the *Codex Ríos* (2v), the Tzitzimiltl is also male, identified as the “lord of the underworld.” Apparently, Cihuacoatl also had a male aspect. Describing Cihuacoatl, Sahagún (1950–1982:I:69) says: “They worshipped a devil in the guise of a woman, named Cihuacoatl. When he appeared before men, it was as a woman that he appeared. She terrified men, she frightened.” This indicates a gender ambiguity and a terrifying quality also shared by the Tzitzimiltl.

Cihuacoatl also has a political persona as a deity associated with the southern cities conquered by the Aztecs. Cihuacoatl is recognized as a goddess of the southern cities in the Basin of Mexico conquered by the Aztecs, especially Xochimilco, Iztapalapan, and Colhuacan (Klein 1988:245–246; Nicholson 1988:81–85). A hymn to Cihuacoatl suggests that the Mexica took her cult from Colhuacan, a city important to them because the descendants of the Toltec nobility resided there (Klein 1988:239; Sahagún 1950–1982:II:236). Durán (1971:210) says: “though she was the special goddess of Xochimilco, she was revered and greatly exalted in Mexico, Tetzaco, and all the land.” Her statue was captured from one those cities and brought to Tenochtitlan, where it was “imprisoned” as an embodiment of the enemy and appeased by offerings of sacrificed war captives (Klein 1994:126). No such efforts to placate Coyolxauhqui are recorded, but Cihuacoatl retained great power, even as a conquered woman.

Cihuacoatl was the title bestowed on the principal political advisor to the Aztec ruler. Tlacaoel, the half brother of Itzcoatl, was the first Aztec official to adopt the dress and title of Cihuacoatl. Klein (1986:152, 1994:132) points out that title was previously held by the high priest of Cihuacoatl’s cult in the city of Colhuacan. By transferring the title to Tlacaoel, the Aztecs placed



Figure 13. Tzitzimiltl as a demonic male deity closely related to Cihuacoatl (from *Codex Magliabechiano* [76r]; Boone 1983).

Colhuacan in a subordinate position, symbolizing the town’s subjugation. Klein (1988:245, 1994:132) concludes that Cihuacoatl’s cult was forcibly appropriated as a sign of victory over the southern cities. The power of Cihuacoatl apparently was not diminished by this appropriation, for the goddess was much feared, and the official bearing this title was the ruler’s chief advisor. In the political arena, her fearful nature was derived from her association with the powerful neighboring cities conquered by the Aztecs, probably a potential threat because of their proximity and their more ancient heritage in the Basin of Mexico. By incorporating Cihuacoatl in the fabric of their religion and politics, the Aztecs hoped to control her demonic power. She represented both the political threat from the southern cities and the power of the *tzitzimime* to destroy the Aztec world, bringing the Fifth Era to a close.

Relief Figures of Cihuacoatl

Relief images of Cihuacoatl further define her iconography, showing her close association with imagery of the earth, the darkness



Figure 14. Underside of a stone vessel representing Cihuacoatl fused with the Earth Monster (from Seler 1960–1961:II:8II, Abb. 13).



Figure 15. Cihuacoatl in the underworld on the base of a feathered serpent sculpture (from Klein 1988:Figure 6b).

of the underworld, and the night sky. The Hackmack Box depicts Ilamatecuhtli-Cihuacoatl with a skeletal face and twin knives in her headdress, recalling her image in the *Codex Magliabechiano* (see Figures 9 and 11; Seler 1960–1961:II:742, 1991–1993:III:100; Taube 1993:13, Figure 14b). On the Hackmack Box, Cihuacoatl's skeletal face surrounded by a circle of stars may represent the moon in darkness during the new moon phase. The fact that the Hackmack relief represents only the head suggests that it is an image of decapitation linked with Cihuacoatl as a deity decapitated in the month of Tititl.

The underside of a stone vessel in the National Museum of Anthropology in Mexico City represents Cihuacoatl in her earth aspect, an image of the moon hidden in a cave within the earth (see Figure 14). Baquedano (1989:187, Figure 2) identifies the relief figure as Tlaltecuhltli ("earth lord") with the face of Cihuacoatl, a merged image of the two beings. Like the Earth Monster, Cihuacoatl-Tlaltecuhltli has disheveled hair, a knife tongue, skulls tied to her waist and limbs, and a *citlalcueitl* formed by a braided panel with shell rattles (Nicholson and Quiñones Keber 1983:65, No. 15, underside; Seler 1963:I:137). Her arms and lower jaw are rendered with low-relief lines representing the striped body paint used for images of sacrificial victims and astronomical deities (*Codex Borgia* [32, 47, 53–54]). She has a skeletal jaw and a *tlaxapochtli* on her cheeks like codical images of Cihuacoatl (see Figure 11). Although she lacks weaving implements, the spider on her brow may refer to



Figure 16. Female with her head thrown back after decapitation (from *Codex Nuttall* [3]; Seler 1960–1961:II:945, Abb. 50).

nature's weaver. Her head is thrown back in the manner of a decapitated figure (compare Figure 16; Klein 1988:243).

A relief figure on the base of a feathered serpent sculpture again shows Cihuacoatl merged with the Earth Monster (see Figure 15). The serpent embodies the sky, whereas Cihuacoatl-Tlaltecuhlti represents the earth and underworld. Again we see the skeletal jaw and *tlaxapochtli* characteristic of Cihuacoatl, and the disheveled hair, clawed hands and feet, and monstrous joints typical of the Earth Monster. The figure's hair compares with a relief of Cihuacoatl-Tlaltecuhlti from the Templo Mayor excavations, which also has bunched strands of disheveled hair with *malinalli* grass and tight hair curls arranged around the brow (Nicholson and Quiñones Keber 1983:61, No. 13). Underworld and nocturnal symbolism is indicated by goddesses in the *Codex Borgia* (31, center) with disheveled hairstyles covered with stars, their heads thrown back as if decapitated, in the manner of Cihuacoatl-Tlaltecuhlti. Klein (1988:243, 248) points out that Cihuacoatl has a pose very similar to the Earth Monster, a splayed posture seen from the dorsal view, with the head thrown back in the manner of a decapitated figure. Although not noted by Klein, the relief figure also has a weaving batten, an important feature of Cihuacoatl; however, rather than being held in the hand, the batten appears as a protruding tongue. The figure has a braided *citlalcueitl* attached at the back of the belt, like other representations of Cihuacoatl-Tlaltecuhlti, a feature derived from the imagery of the Earth Monster. The name of this garment refers to stars, evoking the stars on the underside of the earth (the underworld), the abode of Cihuacoatl-Tlaltecuhlti. Indeed one legend says that the sky was formed in the heart of the Earth Monster (*Historia de México* 1973:105).

DECAPITATED GODDESSES AND SOLAR ECLIPSE ON THE BILIMEK VESSEL

The Bilimek Vessel is characterized by eclipse imagery and allusions to the end of the world (see Figure 10). The vessel depicts

the solar eclipse with a sun disk partially covered by darkness and stars (Figure 17; Taube 1993:1–2, Figure 3a). The eclipsed sun bears the date 4 Ollin, the name of the historic sun and the Fifth Era. This name refers to the way the present world would be destroyed, just as the previous world ages depicted in the *Codex Ríos* (4v–7r) bear calendar names related to the form of their destruction. The Fifth Era would be destroyed by Ollin (“movement”) indicating cataclysmic earthquakes (Nicholson 1971:398; Seler 1960–1961:II:921, 1990–1993:II:204). The front of the Bilimek Vessel depicts a head with *malinalli* (grass) hair and skeletal features, both attributes seen in images of Cihuacoatl-Tlaltecuhlti (see Figure 15). Contrary to previous interpretations by other scholars, I believe the Bilimek Vessel depicts the severed head of Cihuacoatl, recalling the imagery of the Hackmack Box.

A number of scholars have suggested that the skeletal head on the Bilimek Vessel is the day sign Malinalli, normally represented as a head with skeletal features and grass hair. Nicholson and Quiñones Keber (1983:62) describe the head as the day sign Malinalli combined with a portrait of the macabre aspect of the pulque god, identified by the square ear plates. Seler (1960–1961:II:917–923, 1991–1993:III:203–205) says that the head is the pulque god with a *malinalli* mask. Klein (1980:159–162) rejects a link with the pulque deities, because none is represented with fleshless jaws. She notes that the head may be related to Malinalxochitl, an early aspect of Ilamatecuhtli-Cihuacoatl, a variant of the old earth goddess. She also proposes that the head is a personification of the Malinalli day sign. Other scholars support the identification with this day sign (Pasztor 1983:260; Taube 1993:13; Umberger 1981a:120). Taube even proposes that a numeral coefficient made of shell or metal was originally inlaid in a perforated area in the hair to create the date 1 Malinalli, but this interpretation seems unlikely because inlaid numeral coefficients are not characteristic of the Aztec sculptural style.

Details on the vessel indicate that the head is descending into the underworld. The Earth Monster wraps around from the underside of the vessel to the front, where its jaws open to receive the skeletal head (Figures 10a and 18). Generally, in scenes showing descent into the underworld, the whole figure is represented in the Earth Monster's jaws. Sometimes the form is a mummy bundle with the head left unwrapped, as on *Codex Borbonicus* (16). On the Bilimek Vessel only the head is represented, a significant de-

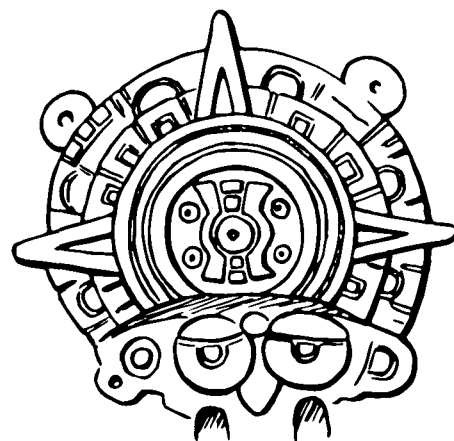


Figure 17. Eclipse symbol on Bilimek Vessel (from Tozzer 1957:Figure 280).



Figure 18. Earth Monster bearing an earthquake sign and the day 1 Rabbit on the base of Bilimek Vessel (from Seler 1960–1961:II:95f, Abb. 53).

tail that may allude to decapitation. The Earth Monster devours the head as it descends into the underworld. The position of the head recalls that of a figure in the *Codex Ríos* (2v) labeled as “Miquitlantecotli, the lord of the underworld. Tzitzimtl, the same as Lucifer” (Corona Núñez 1964–1967:Plate 3). As noted above, the Tzitzimtl is one of the *tzitzimime* associated with solar eclipses. Closs (1989:395) points out that Venus is called the devil and is said to be responsible for eclipses among the Tzotzil; after extensive analysis, he concludes that Venus takes the role of a *tzitzimime* responsible for eclipses in pre-Columbian Maya cosmology. On the side of the Bilimek Vessel, the Venus god Tlahuizcalpantecuhtli appears as a *tzitzimime* in a context suggesting a direct link with solar eclipse imagery (Taube 1993:8, Figure 12). I believe that the decapitated head on the Bilimek Vessel is also a *tzitzimime*, in this case representing the new moon as an eclipse monster visible during a solar eclipse (Milbrath 1995b). This identification explains why the eclipse sign is seen so close to the head and why the head is poised over the mouth of the Earth Monster, like the Tzitzimtl in the *Codex Ríos*, an iconographic detail not explained in Taube’s analysis.

In a previous study, I identified the figure on the rear of the Bilimek Vessel as a decapitated image of Mayahuel, a lunar goddess representing the maguey plant with its top cut off to produce *aguamiel* (see Figure 7; Milbrath 1995b:489–490). Mayahuel’s breast milk (*aguamiel*) pours into the pulque vessel between her feet. On the rim of the vessel, the calendar name of maguey, 8 Tecpatl (knife), refers to Mayahuel as the embodiment of maguey (Caso 1967:198). Mayahuel’s decapitation may reflect beliefs about cutting the maguey plant in accord with specific lunar phases, a belief still preserved today in Mesoamerica (González Torres 1975:94).

The imagery on the Bilimek Vessel suggests the pairing of the maguey goddess with a goddess of *malinalli*. This same pairing occurs on *Codex Borgia* (31), where the goddess of *malinalli* appears with the maguey goddess, Mayahuel, on *Codex Borgia* (31) (Figure 19; Seler 1963:II:14). Both of the codical goddesses have skeletal jaws and disheveled hair, like the pair on the Bilimek Vessel. One reason for this pairing in the *Codex Borgia* may be that Mayahuel rules the *trecena* beginning with the day 1 Malinalli (*Codex Borgia* [68]; *Codex Ríos* [21v]). Another conceptual framework for their pairing is evident in the fact that both maguey and grass (*malinalli*) were used in bloodletting rites (Peterson 1983:120). At the time of a solar eclipse, both maguey spines and straws were used to draw blood (Sahagún 1950–1982:VII:21, 36–38).

The decapitated head on the front of the Bilimek Vessel depicts the new moon made visible during a solar eclipse, when the moon appears like a dark disk surrounded by yellow rays. The corona of solar rays evokes the imagery of *malinalli* hair, golden in color like solar rays. The Bilimek head partially covers the solar eclipse sign overhead, just as the moon symbol partially covers the eclipsed sun in Colonial-period images (*Codex Telleriano-Remensis* [42r]; Taube 1993:Figure 3b). The eclipse on the vessel may have occurred near the horizon, because the eclipsed sun and the personified new moon are just above the gaping mouth of the Earth Monster.

The eclipse imagery on the Bilimek Vessel may refer to an actual event that can be dated. *Codex Telleriano-Remensis* (37r, 40v, 42r, 42v) records pre-Columbian solar eclipses in the years 1476, 1496, 1507, and 1510, which apparently correlate with actual eclipse events on February 13, 1477; August 8, 1496; January 2, 1508;

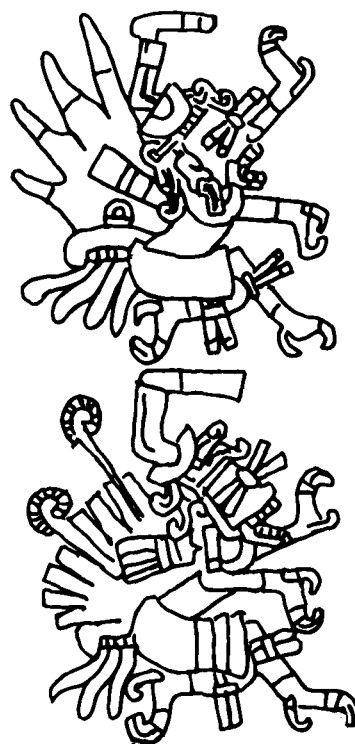


Figure 19. Skeletal goddess of maguey paired with the skeletal goddess of *malinalli* (after *Codex Borgia* [31]).

and November 1, 1510 (Aveni 1992; Quiñones Keber 1994:223–231).

Taube (1993:14) relates the Bilimek Vessel to 2 Reed, when the last New Fire Ceremony was performed. During the New Fire Ceremony, the Fire Serpent was brought down from the temple and 52 reeds were bound into a bundle and burned. Taube (1993:8) points out that the burning reeds are shown as part of the *atl-tlachinolli* symbol on the rear of the Bilimek Vessel, with a burning reed bundle in place of the fire band. The burning Fire Serpents and reed bundles link the ceremony with the festival of Panquetzalitzli, when the last New Fire Ceremony was performed in 1507 (*Codex Borbonicus* [34]; Sahagún 1950–1982:II:147; Taube 1993:4, 8, 13–14).

Taube does not explore the relationship between the New Fire Ceremony and the solar eclipse event, but in fact the imagery on the vessel seems to refer to actual events in the year 2 Reed. Because the Aztec calendar began in February, the 2 Reed eclipse, designated as 1507 in the *Codex Telleriano-Remensis*, actually took place in 1508, at 8:30 a.m. on January 2, when 31% of the sun was covered (Aguilera and Galindo Trejo 1991:65). Another argument in favor of identifying the Bilimek Vessel with the 2 Reed eclipse is the fact that the underside of the vessel seems to record an earthquake (see Figure 18). The Ollin sign appears without a solar disk or a numeral coefficient, and it is positioned on an image of the earth; it clearly conforms to representations of earthquakes depicted by Ollin glyphs on earth bands in the codices. The *Codex Telleriano-Remensis* (42r) and *Codex Ríos* (85r) both indicate that in 2 Reed, the year of the last New Fire Ceremony, a solar eclipse took place in the same year as an earthquake, a pair of catastrophes not repeated together in any other year recorded in the pictorial annals.

The star gods on the side of the vessel are associated with constellations, as noted by Taube (1993:13, Figure 16). They probably represent the stars and planets visible at the time of the solar eclipse of January 2, 1508. The dawn eclipse would be appropriate to the imagery of an eclipse monster (the new moon) in the mouth of the Earth Monster, for the new moon eclipsed the rising sun as it emerged above the horizon. Furthermore, the eclipse took place with Scorpius above the eastern horizon, a constellation I identify as the Fire Serpent in the New Fire Ceremony. Most significantly, the timing of the eclipse in January indicates that the decapitated head on the Bilimek Vessel is an image of the new moon as Cihuacoatl, for in January the moon took on the guise of Cihuacoatl during the decapitation festival in Tititl (1/3/1508–1/23/1508 O.S.; 12/31/1519–1/19/1520; Caso 1971:Table 4).

After the New Fire Ceremony, remains of the burned year bundles or stone effigies of the bundles were buried in Tititl on the day 2 Reed, the last day of the year and the day that gave the year its name (Caso 1967:134–138, 1971:Table 4; Taube 1993:13). Because the front of the vessel represents an eclipse during Tititl, more than a month after the New Fire Ceremony, it commemorates completion of the century with the burial of the year bundle. The rear of the vessel seems to refer to the New Fire Ceremony in November, with the burning Fire Serpent, just as Scorpius was covered by the solar fire during conjunction with the sun at this time of year. The emphasis on pulque imagery on the rear of the vessel is highly appropriate, for pulque consumption was an important part of the Panquetzalitzli ritual, the month of the New Fire Ceremony in 1507 (Sahagún 1950–1982:II:148). The monstrous aspect of Mayahuel and her decapitation suggests a link with the new moon, perhaps indicating she is identified with the new moon at the time of the New Fire Ceremony.

The date 1 Rabbit appears near the base on the front of the vessel (see Figure 18). Although Taube (1993:14) identifies it as a year sign, it may be a day sign, for it lacks the diagnostic cartouche. Umberger (1981b:11) notes that sometimes the Aztecs did not distinguish between dates in the 260-day cycle and those pertaining to the 52-year cycle. The date could be both a day sign and a year sign, because in 1 Rabbit years the day 1 Rabbit invariably fell at the end of year in the month Tititl, giving the year its name (Caso 1971). Such was the case in 1506; and 260 days (13 festivals) later, the date recurred in the year 1507. In the year 2 Reed (1507), 1 Rabbit fell in Teotleco, rather than in Tititl. The date on the Bilimek Vessel more likely refers to 1 Rabbit as the calendar name of the earth. The day 1 Rabbit also appears on the base of the Coatlicue sculpture and in imagery of Tlaloc merged with the Earth Monster on the underside of monuments (Pasztory 1983:158, Plate 113). Not only is 1 Rabbit the year the earth was created, but it also leads off the last *trecena* of the set of 65 days in the 260-day *tonalpohualli* associated with the Earth Monster's gaping jaws and descent into the underworld on *Codex Fajervary Mayer* (1).

The Bilimek Vessel may have celebrated the passage through the year of the perilous New Fire Ceremony, made doubly dangerous by an earthquake and a solar eclipse. The Aztecs feared that if the solar eclipse was eternal, the *tzitzimime* would descend to devour men and the darkness would be complete (Sahagún 1950–1982:VII:2, 38). The same fears were expressed at the time of the New Fire Ceremony. If the fire could not be drawn, the sun would be destroyed and the “demons of darkness” (*tzitzimime*) would descend to eat men (Sahagún 1950–1982:VII:27). Apparently the final darkening of the sun at the end of the era would be the result of an eternal eclipse when the *tzitzimime* would descend to the earth. Earthquakes were also predicted as signs of the end of the Aztec world. In light of these predictions, it is a remarkable coincidence that in 2 Reed, the year of the New Fire Ceremony, there was both a solar eclipse and an earthquake. After the 1507 New Fire Ceremony, the Aztec empire lasted only another 12 years. They never again celebrated the New Fire Ceremony as a public ceremony (Sahagún 1950–1982:IV:144).

CONCLUDING REMARKS

Images of the decapitated Moon Goddess are an important aspect of Aztec iconography, holding the key to understanding lunar cycles in Aztec cosmology. These images take different forms depending on whether the representations depict the moon in conjunction with the sun, solar eclipses or lunar eclipses. Not all decapitated goddesses are the moon, for Durán (1971:226) notes that the decapitation of Chicomecoatl's impersonator symbolized the harvest of maize. But even here, we may ask whether the maize deity is not in some sense merged with the moon, as occurs in Maya iconography (Milbrath 1995a:81). Indeed, among the Maya today, the maize harvest is timed by watching the moon (Milbrath 1998).

Decapitation of different goddesses in the festival calendar may relate to lunar conjunction events that were enacted during paired festivals running over a 40-day period. The lunar symbolism of decapitation links the new moon to the seasonal cycles of the festival calendar, reflecting a luni-solar calendar. The new moon and full moon following a major solar event may have been a pivotal point in the ceremonial calendar. In a similar fashion, a combination of celestial observations regulates the Pueblo calendar, with

the full moon after the winter solstice being of paramount importance (McCluskey 1989).

New moon events seem to be especially significant in the Aztec calendar. Cihuacoatl's decapitation in January (Tititl) may be linked with the first new moon after the winter solstice. The first new moon after the fall equinox can be correlated with Teteoinnan-Toci's decapitation in Ochpaniztli (9/2–9/21 O.S.), performed in September (Milbrath 1995a:57). These ceremonies seem to have a luni-solar significance, and a similar pattern is evident in Panquetzaliztli.

Observations of the full moon may have been important in the month of Panquetzaliztli, for this was the celebration of Huitzilopochtli's triumph over the moon goddess, Coyolxauhqui, a goddess whose shining bells evoke imagery of the resplendent full moon. The Aztecs may have reenacted the annual ritual of Coyolxauhqui's conquest on the first full moon falling after the solar nadir in Quecholli or Panquetzaliztli.

The annual festival of Huitzilopochtli's birth in Panquetzaliztli corresponded to the New Fire Ceremony, celebrated in Panquetzaliztli in the year 1507, the year 2 Reed (*Codex Borbonicus* [34]). The midnight zenith of the Pleiades determined the timing of the New Fire Ceremony (Sahagún 1950–1982:IV:143–144). My research indicates that the New Fire Ceremony and the annual Panquetzaliztli festival both relate to the annual solar nadir at the time of the Conquest, marking the transition from the rainy season to the dry season (Milbrath 1980: 292–293, 1989:106). Subsequent research by other scholars has confirmed the relationship between the New Fire Ceremony, the solar nadir (anti-

zenith), and the midnight zenith of the Pleiades (Broda 1982:98; Krupp 1982, 1993). Krupp (1982) notes that the midnight zenith of the Pleiades in 1500 took place on November 14 (N.S., 11/4 O.S.) and the nadir or antizenith of the sun fell on November 18–19 (N.S.) at 19°20', the latitude of Cerro de Estrella, where the ceremony took place.

During the New Fire Ceremony, there was a perceived threat to the state, for the Aztec world could end in eternal darkness. Around the time of the festival, the Aztecs may have focused on observations of the day the moon disappeared, because the new moon could eclipse the sun. An eclipse at the time of the New Fire Ceremony could bring the downfall of the Aztec empire, for the delicate balance of the cosmos was threatened at the end of the calendric cycle. Indeed, Lebeuf and Iwaniszewski (1994) hypothesize that there was a long-standing link between eclipse cycles and the New Fire Ceremony.

Eclipse imagery linked with decapitated goddesses clearly reflects a political metaphor that requires further investigation. If the cult focusing on Cihuacoatl represents the southern cities in the Valley of Mexico, as proposed by Klein, the dangerous qualities ascribed to Cihuacoatl might imply that the Aztecs feared their downfall could come from political groups representing Cihuacoatl. Whereas Coyolxauhqui is a goddess who was easily vanquished by Huitzilopochtli, even in his form as a newborn child; Cihuacoatl seems to be a more powerful and terrifying force, one that threatened the Aztec state. An even greater threat was posed by Cihuacoatl-Tzitzimilitl, who would one day eclipse the sun and bring eternal darkness and an end of the Aztec world.

RESUMEN

Las imágenes aztecas de diosas decapitadas unen el simbolismo de la astronomía con la política y el ciclo de las estaciones. Los ritos de decapitación pueden referirse a eventos en el contexto de un calendario solar, dando muestra de un calendario luni-solar. Las imágenes de decapitación incluyen también metáforas que expresan la rivalidad entre cultos de la luna y el sol. La decapitación de Coyolxauhqui por Huitzilopochtli puede ser interpretada como un símbolo de conquista política del sol sobre la luna. Análisis de las imágenes de Coyolxauhqui y la mitología indican que ella representa la luna llena eclipsada por el sol. Detalles de la decapi-

tación tienen correlación específica con el cambio de estaciones y actos que ocurren al alba y a la medianoche. Otras diosas sin cabeza, las diosas terrestres con "aspectos lunares," pertenecen a un complejo de diosas lunares representando a la luna dentro de la tierra (la luna nueva). Cihuacoatl, una diosa de la luna nueva, adquiere una cualidad agresiva cuando toma la forma de un *tzitzimime* atacando al sol durante un eclipse solar. La demoníaca luna nueva era muy temida pues podría causar un eclipse eterno del sol que resultara en el fin del mundo azteca.

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