NEW BLOOD FROM AN OLD STONE

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In this paper I am reconsidering a great "stone of the sun", the featured monument type in the 1581 Historia de las Indias de Nueva España by Fray Diego Durán, the Dominican chronicler.¹ The monument is the sacrificial stone known to modern scholars as the Stone of Tizoc (Fig. 1). Durán actually saw it when it was unearthed in the third quarter of the sixteenth century from the Plaza Mayor of the new colonial capital of New Spain, beneath which it had been interred since the destruction of the Aztec city of Tenochtitlan in the 1520s. Durán subsequently matched the monument to a passage in the Nahuatl history he was using as the basis for his own chronicle -a passage describing a sacrificial stone commissioned by Motecuhzoma Ilhuicamina (Motecuhzoma I) for the immolation of prisoners from the Mixtec area (Durán 1994: 186-88). In reality, the described monument must have been the Motecuhzoma I Stone, the first of the type with conquest scenes, which was unearthed from the patio of the Ex-Arzobispado Palace in 1988 (Pérez Castro et al. 1989; Solís 1992), whereas the very similar Tizoc Stone was carved some twenty years later.

It is the discovery of the new monument that draws attention back to the Tizoc Stone. Well-known since its second resurrection from the Plaza Mayor in 1791 (León y Gama 1832: 46-73; Orozco y Berra 1877; Seler 1960-61, 2: 791-810; Saville 1929: 44-50), the Tizoc Stone has been taken somewhat for granted in recent decades. Constantly reproduced but rarely seen anew, it is used most often to answer the same two questions: (1) What victories are represented by the hieroglyphs on it? And (2), what evidences are there of incipient phoneticism in these glyphs? The two most recent approaches of length contributing new views are those of Charles Wicke

¹ On the stones of the sun, see Durán (1994): 169ff, 186ff, 272, 276-77, 338, and 477ff. Also consult the Spanish edition (Durán 1967, 2 vols.). Parallel passages are found in Alvarado Tezozomoc's chronicle of 1598 (1980).



(1976) and Richard Townsend (1979: 43-49). Wicke reidentified the conquests and the conquered figures as deities specific to the places, and demonstrated that these were intended to represent the Aztec domain in general, not the specific victories of Tizoc. Townsend looked rather at the monument's form, considering it as a cosmogram in which Aztec territory corresponded to the expanse of sacred space. Enlightening as these two studies are, interpretive possibilities remain unexhausted. Even some rather basic research and observations are still to be done.

The Tizoc Stone was carved from a dark brown andesite, which was then polished. It may have remained unpainted or it was covered at one time with a thin coat of red (there are traces of red especially on one pair of figures). It probably was not polychromed and the original stone was probably also visible at times. The monument is in the form of a cylindrical solid and measures 2.60 meters in diameter by .88 meters in height. Featured on its upper surface is a huge image of the sun; around the sides are fifteen pairs of victor and captive figures between earth and sky bands. The most important is the pair with the victor identified by the "punctured leg" glyph of the ruler Tizoc and his captive identified by a "net" glyph as from the Matlatzinco area, that is, the modern Toluca Valley.

All victor figures wear archaic Toltec costumes (Figs. 2 and 3) of the type seen on the monumental atlantean figures at Tula, and the smoking mirror and "smoking leg stump" of Tezcatlipoca. Tezcatlipoca was the god who dominated the Valley of Mexico before the rise of Huitzilopochtli, the Aztec-Mexica tribal god. Subsequently, after Mexica hegemony, Tezcatlipoca seems to have become somewhat of a "cadet" to Huitzilopochtli. The fourteen figures here represent him probably as the war captains or provincial governors of the empire (Townsend 1979: 46). The Tizoc figure, in addition to the Toltec costume, wears the hummingbird headdress that identifies him as Huitzilopochtli, "hummingbird-left". In contrast to the victors, the captive figures wear non-Toltec costumes. The implication is that they have become "Chichimecs" upon capture, that is, without rights to dominion, while the Tenochca-Aztec victor figures are the inheritors of "Toltec" superiority (Umberger n.d.: 136-37; 1996).

Originally, the Tizoc Stone must have been located on the 1487 Templo Mayor platform (see below); presumably it was moved later to a less prominent spot, when a new sacrificial stone was created to replace it, as was also true in the case of the Motecuhzoma I



2. Tizoc as Tenochca Huitzilopochtli in archaic Toltec garb and conquering Matlatzincatl, also called Tlamatzincatl (the god Coltzin) on the Tizoc Stone. Drawing by Emily Umberger



3. Conquest of Tlatelolcatl (Tlatelolca Huitzilopochtli) on the Tizoc Stone. Drawing by Emily Umberger Stone (see Pérez Castro et al. 1989: 148-49; Alvarado Tezozómoc 1980: 398). Seemingly the monument was not buried as an offering or encased within a rebuilt structure in preconquest times. Like other sacrificial stones, it was probably near the surface when it was excavated during the building of the Mexico City cathedral, begun in 1563 (Durán 1994: 187). Felipe Solís _(personal communication 1997) believes it was found fairly close to its final preconquest location.

To begin our reconsideration, the Tizoc Stone would benefit from a thorough physical examination, not only stylistic but also technical and scientific. Although not the subject of this short paper, several observations can be made. First is the use of a dense polished, presumably unpainted, stone. In contrast, the two great datable state monuments created before it -the Motecuhzoma I Stone of about 1455-65 and the Great Covolxauhoui Stone of about 1465-75— are of unpolished volcanic stones that were subsequently painted. Why is the Tizoc Stone made of a different material? In this respect, it is like the monumental greenstone sculptures that were made at the same time for the 1487 Templo Mayor rebuilding -the great Coyolxauhqui Head and the Dedication Stone. It might be asked whether a different team of artists was employed-a team of lapidary artists who used the cylindrical drills and saws whose distinctive marks are still visible on them. Although important lapidary works were created throughout imperial times, it seems that only in the 1480s were the most important images of state made of such dense, polished stones.

Questions also arise as to the different sources of stone used for Aztec sculptures. In a polity that demanded the materials for monument manufacture and labor from prospective enemies, the materials themselves might be significant. Worn and destroyed parts of the monument should be considered too: not just the canal cut across the top, which is much discussed, but also the wearing of the upper surface and the consistently mutilated faces of all figures. This last is seen also in the Motecuhzoma I Stone, but the faces are nicked and most are not seriously damaged. This then might be a preconquest mutilation, but for what purpose? The wearing of the upper surface is interesting, in that the polished layer is totally gone; the stone looks almost "peeled" in places. Could this be the result of ordinary weathering or did it take a stronger chemical to dissolve the stone, like sacrificial blood?]

The Tizoc Stone has long been connected to the short reign of the ill-fated Tizoc, who died only five years after he came to the throne, accomplishing nothing much beyond the beginning of a new phase of the Templo Mayor. It is still to be matched more exactly to the historical events of its time. This is not difficult to do using the evidence of Durán's *Historia*, the *Codex Telleriano-Remensis*, and short passages in other sources. The hieroglyph of Tizoc dates the monument between 1481 and 1486; while the "Lista de los reyes de Tenochtitlan" puts a *temalacatl* ("round stone") more exactly in the third year of Tizoc's reign, presumably 1484 (*Anales de Tlatelolco* 1980: 17). Interestingly, the *Codex Telleriano-Remensis* (Keber 1995: f. 38v) also dates the sacrifice of victims from Tzinacantepec in the Matlatzinco area, the featured conquest on the Tizoc Stone, to this year (Fig. 4).

This folio and the one following (39r) give us the probable order in which monuments were created in the 1480s. The narrative begins with Tizoc's accession to the throne in 2 House 1481, upon the death of Axayacatl. Two years later in 4 Reed 1483, Tizoc ordered the foundation laid for a new phase of the Templo Mayor, and according to the illustration, a captive was sacrificed on the occasion. Tizoc was following the pattern set by his three predecessors, who all rebuilt the Templo Mayor, that is, the mythic site of Coatepec, Serpent Mountain, where Huitzilopochtli was born like the rising sun and defeated his enemy sister Coyolxauhqui and innumerable brothers. Tizoc's last two predecessors, in addition, had had new sun stones and Coyolxauhqui images carved. Consulting both history and divinatory books, Tizoc no doubt looked for an appropriate date to commemorate with his construction. He must have chosen 4 Reed 1483 because it was the anniversary of the foundation 52 years earlier in 1431 of the Triple Alliance empire which Tenochtitlan now dominated. From Tizoc's perspective, no similarly important date was to occur for many years.²

In the following year, 5 Flint 1484 (Fig. 4), upon the completion of the pyramid base, the sacrifice of the Tzinacantepec captives must have taken place on the Tizoc Stone. Next to the victim are the words *piedra sangrada* ("bloodied stone"). Given that the blood is pouring down the stairways of the pictured pyramid, the stone

² The next date celebrated by the creation of a series of monuments seems to have been 12 Reed 1491. These monuments include a colossal head, the great "Coatlicue" and other members of the same set, a set of four *cihuateteo*, an archaizing *cihuateotl*, and possibly a bone with an engraving of Ahuitzotl on it. The date 12 Reed inscribed on some of these, if commemorative of an historical event, would correspond to 1491, given the late style of the sculptures. The event celebrated might have been an anniversary of a mythological event, the descent of the *tzitzimime* before the birth of the fifth sun, as suggested by Elizabeth Boone in her recent reconsideration of the "Coatlicue" as one of these *tzitzimime* (Boone n.d.).



 Codex Telleriano-Remensis, folios 38v-39r, depicting sequence of events in building of Templo Mayor between 1484-87 (Keber 1995). Courtesy of the Bibliothèque Nationale, Paris



5. Tribal name glyphs (?) on Tizoc Stone (redrawn after Dibble 1971: fig. 2) was presumably on the temple platform. A female victim is also depicted, indicating her dispatch in the same year. Her nude and displayed position is reminiscent of images of the defeated Coyolxauhqui, and thus may date the Coyolxauhqui sculpted for this temple phase to 1484 also. This might have been the greenstone Coyolxauhqui Head mentioned above, which would have been placed on the platform too rather than below (Pasztory 1983: 153).

In 7 Rabbit 1486 Tizoc died and was succeeded by his brother Ahuitzotl, who finished the temple the following year, 8 Reed 1487. Ahuitzotl's initiation of the temple is illustrated in *Telleriano-Remensis* with the depiction of sacrificial victims and the sign of a new fire lighting. The sacrificial victims derived from Ahuitzotl's own battles against Çzicoac, Cuetlaxtlan, and Tezapotitlan in Veracruz or Teozapotlan (Zaachila) in Oaxaca (Keber 1995: 80-81, 273, 335; *Anales de Tlatelolco* 1980: 60). The lighting of a new fire was another action appropriate for the completion of a new building (these did not occur just at cycle beginnings).

The Tizoc Stone must have remained on the platform for use again during the great sacrificial ceremony of 1487 —assuming that Ahuitzotl had not yet had another sacrificial stone carved.³ Durán (1994: ch. XLIV) tells us that at the 1487 ceremony, the four sacrificers-the Tenochca, Texcocan, and Tlacopan *tlatoanis* and the Tenochca *cihuacoatl* Tlacaelel-were located at different sites on the platform of the temple. Ahuitzotl was in front of the image of Huitzilopochtli and Tlacaelel was at the Sun Stone-that is presumably, the Tizoc Stone. Carved only three years earlier, it must originally have been intended for this purpose, and its imagery of generalized conquest is appropriate for such a celebration of the empire. In short, the stone commemorates an important victory of Tizoc's (in the Matlatzinca area), but among previous victories that encompassed the important provinces of the empire, as Wicke has pointed out. During the ceremony, the victims from all parts of the empire were lined up along the four causeways to be sacrificed at the temple at the "crossroads" of the cosmos, the meeting place of the above and below as well as the four directions. On the Tizoc Stone the container for blood is in the center of the sun, while the groundline representing the empire's expanse has around its perimeter four flintknife-lined mouths, entryways to the underworld at the four quarters (Townsend 1979: 46). Thus the stone's

³ No *temalacatl* is mentioned as having been installed again until twelve years later in 6 Rabbit 1498 (Chimalpahin 1965: 225).

iconography anticipates the ceremony in which Tizoc intended to participate when he had the monument carved. As suggested in the past, the channel to allow for the flow of blood from the central bowl may have been hollowed out during the sacrifices because of the great amount of blood.⁴

Ahuitzotl, in turn, used the occasion for a type of second coronation ceremony (Klein 1987: 323-24), his first not having been satisfactory, although his specific conquests and their victims are not recorded on the sun stone used. He also chose to emphasize the actual year of the celebration, 8 Reed, which previously had no strong historical or mythical connotations, in preference to Tizoc's chosen date of 4 Reed, which afterall was not in Ahuitzotl's reign. As such, 8 Reed is the featured date on the so-called Dedication Stone of the new temple.

Finally, in this reconsideration of the Tizoc Stone, I would like to throw into question some of the basic premises about the captive figures and their hieroglyphs (as first suggested in Umberger n.d.: 136-38). Seemingly simple in composition, perhaps the strong resemblance of the Tizoc Stone's motifs to Mixtec art (Pasztory 1983: 147-48) has deceived us into not considering the possibilities of different, more complex readings from a Mexica perspective.⁵ I refer specifically to the identification of the hieroglyphs as place glyphs (Fig. 5). The fact that they do not have locative endings suggests another possibility—that they might be tribal name glyphs of a type that are also found in Aztec manuscripts like the *Codex Boturini* (e.g. 1944: 2) and *Codex Mendoza* (Fig. 6).

In addition, considering these codex illustrations, it could be suggested that the glyphs do not function alone, that together with the figures they refer to a generalized concept known from other Aztec accounts. This is the concept of the citizen of a town or area used to designate, simultaneously, the polity's ruler, deity, and generic warrior citizen. In other words, we do not need to choose between these possibilities (*cf.* Wicke 1976: 217). The term referen-

⁴ Two alternatives have been suggested—that it was made to lower the level of blood in the container, or that it was a later effort to cut up the stone in colonial times. Duran mentions that the Mexicans wanted to make it into a baptismal basin (1995: 187). Eduardo Douglas (personal communication 1997), however, has pointed out to me another Aztec blood sacrifice vessel with a similar cut (in the Sala Mexica of the Museo Nacional de Antropología).

⁵ The Mixtee aspects are in the forms of the earth and sky band, the solar dise, and the use of hieroglyphs naming figures, although in the Mixteea these would be calendrical names. Within this Mixtee framework the Mexica artists clothed the warriors in costume parts that night also be seen in the Mixteea, but the consistent contrast between Toltee and non-Toltee garb is purely Mexica.



6. Drawing of tribal name glyphs in *Codex Mendoza* folios 2v and 42r (Berdan and Anawalt 1992, 4: 10 and 89). Courtesy of the University of California Press



7. Paynal and Tezcatlipoca as depicted in the "Primeros Memoriales" (Sahagún 1993: f. 261). Courtesy of the University of Oklahoma Press

ced, which is used especially in contexts of warfare, is formed by the place name (usually without locative ending) plus the suffix —*catl* ("person") (Andrews 1975: 332-33). Examples of the varied usages of this term for rulers and deities as well as generic warriors are found in the *Anales de Tlatelolco* (1980: 57), the *Codex Chimalpopoca* (1992: 113-14), the *Codex Magliabechiano* (fs. 50v-57r, in Boone 1983: 203-04), and a modern dialogue collected in Tepoztlan (Karttunen and Wara Céspedes 1982).⁶

Thus, I suggest the following identities for the captive figures on the Tizoc Stone, beginning with Tizoc's captive and proceeding to the right (Fig. 5): (1) Matlatzincatl (Matlatzinco area of which Tollocan was the capital) (Fig. 2), (2) Tochcatl (Tochpan province in northern Veracruz), (3) Ahuilizapanecatl (Ahuilizapan province in central Veracruz), (4) unknown (tree with water streams),⁷ (5) Culhuacatl (Culhuacan), (6) Tenayucatl (Tenayucan),⁸ (7) Xochimilcatl (Xochimilco, which had possessions in Morelos), (8) Chalcatl (Chalco province), (9) Azcapotzalcatl (Azcapotzalco) (?),⁹ (10) Acolhuacatl (Acolhua province), (11) Tepanecatl (Tepanec province),¹⁰ (12) Tlatelolcatl (Tlatelolco) (Fig. 3), (13) unknown (sun on mountain), (14) Mixtecatl (Mixtec province of which Coaixtlahuacan was the capital),¹¹ and (15) Cuetlaxtecatl (Cuextlaxtlan province in central Veracruz).¹² If these are generally correct, those that are identified form two blocks on the monument, Valley of Mexico polities in glyphs 5 through 12 (including extensive traditional

⁶ Such province-specific or tribal terms may have served also as titles of Aztec governors. The *Codex Mendoza*, for instance, refers to the Petlacalcatl of Petlacalco (Berdan and Anawalt 1992: f 20r) and Durán (1994: 180-81) refers to the Aztec governor of the Pinome as Pinoul.

⁷ Could it be Cuauhnahuacatl as in Fig. 6? The tree form is of the right type, but the codex version has roots below, not water, and a speech scroll to refer to *nahua(tl)*, "good speech" (Berdan and Anawalt 1992, 1: 201). One would not expect the speech scroll on the sculpted version, but the presence of water is puzzling.

⁸ As suggested by Nicholson (1973: 5).

⁹ This is a new suggestion. Azcapotzalco means "on the ant hill". The glyph represents a hill with a "lid" tipped to the side (an ant hill?). The animal does not look particularly ant-like, having four legs rather than six, but in this it resembles the ant in the Azcapotzalco glyph in the *Codex Xolotl* (1980, 2: plancha 6 E3). It does not have a spider's spinneret, as suggested by Wicke (1976: 215).

¹⁰ Dibble (1971: 327) sees the glyph as representing a "rock bridge", thus the place name Tepanoayan, but the newly found sacrificial stone of Moteculizoma I represents the same figure next to a grouping of stones (*tetl*) and stone knives (*tecpatl*), not aligned in a bridge-like form. The *tetl* glyph is used for the tribal name Tepanec in the *Codex Boturini* (1944: 2), and the deity costume is easily recognized as that of the Tepanec god Otontecuhtli (for which see Brown 1988; Wicke 1976).

¹¹ As suggested by Wicke (1976).

¹² Compare these identifications with the place names in Dibble (1971: 326-28), Nicholson (1973: 4-5), and Wicke (1976).

holdings outside the Valley) and foreign provinces in the Toluca area, Oaxaca, and Veracruz (14 through 3). Most are the tribal designations of extensive provinces, but a few are important towns: Culhuacan and Tenayucan, ancestral Toltec and Chichimec towns that are the first two, foundation conquests in the *Codex Mendoza* (frontispiece), and Azcapotzalco, the Tepanec capital defeated by the Triple Alliance cities in 1428.

In addition to the glyphs, also problematical are the deity identifications and, at the same time, how this core issue in Mesoamerican iconography is generally treated. Wicke used timehonored procedures when he identified these figures by what are considered "diagnostic" traits depicted in deity representations in the Primeros Memoriales (Sahagún 1993) and Durán (1977). Thus, he (Wicke 1976: 220) calls deities 1 and 12 on the Tizoc Stone (Figs. 2 and 3) Tezcatlipoca and Paynal, respectively, because of the facial stripes and staff (resembling a *tlachieloni* or "instrument with which to see") of one and the "starry sky" mask of the other (compare them to Fig. 7). However, what happens if we reverse the procedure, and identify the deities from their tribal glyphs? We know from Durán's (1994: 261, 269) accounts of these particular conquests that the conquered Tlatelolco god was another version of Huitzilopochtli, since the Tlatelolca shared the Tenochca's Mexica heritage, and the Matlatzinca god was called Coltzin, as well as Tlamatzincatl, an inversion of Matlatzincatl (for references, see Umberger 1996: 92).

If the glyphs and figures are interpreted as suggested above, the results are interesting. If seen as tribal names, some glyphs represent more politically important places and broader areas than the sometimes obscure towns that scholars have tried to match them with. For instance, figure 10, if identified as the Acolhuacatl, represents the entire Acolhua area, rather than the towns of Acolhuacan or Acolman. Likewise, if the line of stones represented next to figure 11 identify him as the Tepanecatl, he represents the Tepanec area encompassing equally vast areas inside and outside the Valley, rather than Tepanoayan or Tecaxic. Some of the above identifications are more hypothetical than others and two figures remain unidentified, but the general principle is sound.

Other problematic implications of these suggestions need to be either resolved or accepted as unresolvable at present. In the cases of most conquests outside the Valley we cannot name the tribal deity specifically, unless we know from a written source his or her local name (as in the case of Coltzin). In addition, if captive 12, the Tlatelolcatl (Fig. 3), is Huitzilopochtli, where is the "diagnostic" hummingbird headdress, worn by Tenochca Huitzilopochtli (in Fig. 2)? I suggest that Tlatelolca Huitzilopochtli lost it along with his rank upon conquest, although retaining the "starry sky" mask they both wear. This is not to say that it is impossible to identify deity figures by costume parts in Aztec art, but rather that in contexts of conquest, certain politically important gods, like Huitzilopochtli and Tezcatlipoca, can have quite varying images, lacking perhaps what we consider necessary accoutrements. It is already well-known that their actual sculptures were dressed and decorated differently depending on the ritual occasion. It needs to be acknowledged also that victorious gods took on the powerful traits of the defeated (Sahagún 1950-82, Book 3, 2nd ed., revised: 5), while the defeated lost these and gained humiliating paraphernalia. On the Tizoc Stone these include Chichimec rather than Toltec garb and the decorations of death and sacrifice, the aztaxelli arrangement of double feathers on all the captives' heads. The latter are also seen in both Codex Mendoza and Telleriano-Remensis depictions of sacrificial captives (Figs. 4 and 6).

The Tizoc Stone does not represent the captured gods as they were depicted in their home towns, but rather casts them into their new positions in Tenochca thought. In the end, Wicke may be correct in that Tlatelolca Huitzilopochtli and Matlatzinca Coltzin might have been recast as the "cadet" gods Paynal and Tezcatlipoca upon their exile in Tenochtitlan. Coltzin as Tlamatzincatl in Tenochtitlan was, in fact, identified as a type of Tezcatlipoca (Sahagún 1950-82, Book 2: 118). Yet, we come closer to Mexica thought, I believe, by reconstructing the complexities of the changing identities of these tribal personae, rather than merely trying to give them names. In other words, no god in late postclassic Mexico had a single, monolithic identity.¹⁸

References cited

ALVARADO TEZOZOMOC, Hernando

- 1980 Crónica mexicana, 3rd ed. Biblioteca Porrúa, Mexico.
- 1980 Anales de Tlatelolco y Códice de Tlatelolco. Prepared and annotated by Heinrich Berlin, with summary and interpretation by Robert H. Barlow, 2nd ed. R. Porrúa, Mexico.

¹⁵ These ideas are argued at greater length in a book in preparation.

- ANDREWS, J. Richard
 - 1975 Introduction to Classical Nahuatl. University of Texas Press, Austin.
- BERDAN, FRANCES F., and Patricia R. Anawalt
 - 1992 The Codex Mendoza, 4 vols. University of California Press, Berkeley.
- BOONE, Elizabeth Hill
 - n.d. The "Coatlicues" at the Templo Mayor, manuscript prepared in 1997.
 - 1983 The Codex Magliabechiano and the Lost Prototype of the Magliabechiano Group. With a reprint of the Zelia Nuttall facsimile of 1903. University of California Press, Berkeley.

BROWN, Betty Ann

1988 All Around the Xocotl Pole: Reexamination of an Aztec Sacrificial Ceremony. In Smoke and Mist: Mesoamerican Studies in Memory of Thelma D. Sullivan, edited by J. Kathryn Josserand and Karen Dakin: 173-89. British Archaeological Reports, Oxford.

CHIMALPAHIN CUAUHTLEHUANITZIN, Francisco de San Antón Muñon

1965 Relaciones originales de Chalco Amaquemecan, edited and translated by Silvia Rendón. Fondo de Cultura Económica, Mexico.

Codex Boturini

- 1944 Tira de la peregrinación. Echániz, Mexico.
- Codex Chimalpopoca
 - 1992 History and Mythology of the Aztecs: The Codex Chimalpopoca, translated from Nahuatl by John Bierhorst. University of Arizona Press, Tucson.
- DIBBLE, Charles
 - 1971 Writing in Central Mexico. In Handbook of Middle American Indians, edited by Robert Wauchope, Gordon F. Ekholm, and Ignacio Bernal, 10: 322-332. University of Texas Press, Austin.

DURÁN, Fray Diego

1967 Historia de las Indias de Nueva España e Islas de la Tierra Firme,
2 vols., prepared by Ángel María Garibay K. Editorial Porrúa,
México.

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- 1971 Book of the Gods and Rites and the Ancient Calendar, translated and edited by Fernando Horcasitas and Doris Heyden. University of Oklahoma Press, Norman.
- 1994 History of the Indies of New Spain, translated and edited by Doris Heyden. University of Oklahoma Press, Norman.

KARTTUNEN, Frances, and GILKA Wara Céspedes

- 1982 The Dialogue of El Tepozteco and His Rivals, September, 1977. *Tlalocan* 9: 115-41.
- KEBER, Eloise Quiñones
 - 1995 Codex Telleriano-Remensis: Ritual, Divination, and History in a Pictorial Aztec Manuscript. With facsimile. University of Texas Press, Austin.
- KLEIN, Cecelia F.
 - 1987 The Ideology of Autosacrifice at the Templo Mayor. In *The Aztec Templo Mayor*, edited by Elizabeth Hill Boone: 293-370. Dumbarton Oaks, Washington.
- LEÓN Y GAMA, Antonio de
 - 1832 Descripción histórica y cronológica de las dos piedras..., 2nd ed. Ciudadano Alejandro Valdés, México.

NICHOLSON, H. B.

- 1973 Phoneticism in the Late Pre-Hispanic Central Mexican Writing System. In *Mesoamerican Writing Systems*, edited by Elizabeth P. Benson. Dumbarton Oaks, Washington.
- 1985 The New Tenochtitlan Templo Mayor Coyolxauhqui-Chantico Monument. Indiana, 10, Gedenkschrift Gerdt Kutscher, Teil 2: 77-98.
- OROZCO Y BERRA, Manuel
 - 1877 El cuauhxicalli de Tizoc. Anales del Museo Nacional de México 1: 3-39.
- PASZTORY, Esther
 - 1983 Aztec Art. Abrams, New York.
- PÉREZ CASTRO LIRA, Guillermo, Pedro Francisco Sánchez Nava, María Estéfan, Judith Padilla y Yedra, and Antonio Gudiño Garfias.
 - 1989 El cuauhxicalli de Moctezuma I. Arqueología 5: 131-51.

SAHAGÚN, Fray Bernardino de

Primeros memoriales. Facsimile edition. University of Oklahoma Press, Norman, in cooperation with the Patrimonio Nacional and the Real Academia de la Historia, Madrid.

- 1950-82 Florentine Codex: General History of the Things of New Spain, translated by Arthur J. O. Anderson and Charles E. Dibble, 11 vols. The School of American Research and the University of Utah, Santa Fe.
- SAVILLE, Marshall H.
 - 1929 Tizoc, Great Lord of the Aztecs. Contributions, Museum of the American Indian, Heye Foundation 7 (4).
- SELER, Eduard
 - 1960-61 (1902-23) Gesammelte Abhandlungen zur Amerikanischen Sprachund Alterthumskunde. 5 vols. Akademische Druck— und Verlagsanstalt, Graz.
- SOLÍS, Felipe
 - 1992 El temalacatl-cuauhxicalli de Moctezuma Ilhuicamina. In Azteca Mexica, Las culturas del México antíguo: 225-32. Lunwerg, Madrid.
- TOWNSEND, Richard F.
 - 1979 State and Cosmos in the Art of Tenochtitlan. Dumbarton Oaks, Washington.
- UMBERGER, Emily
 - n.d. Aztec Sculptures, Hieroglyphs, and History. Ph.D. dissertation, Columbia University, 1981.
 - 1987 Events Commemorated by Date Plaques at the Templo Mayor: Further Thoughts on the Solar Metaphor. In *The Aztec Templo Mayor*, edited by Elizabeth H. Boone: 411-49. Dumbarton Oaks, Washington.
 - 1996 Art and Imperial Strategy in Tenochtitlan. In Aztec Imperial Strategies, by Frances F. Berdan, Richard E. Blanton, Elizabeth H. Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger: 85-106. Dumbarton Oaks, Washington.
- WICKE, Charles
 - 1976 Once More Around the Tizoc Stone: A Reconsideration. Actas del 41 Congreso Internacional de Americanistas, 2: 209-22.