

CODICES ON STONE: THE GENESIS OF WRITING IN ANCIENT OAXACA

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Introduction

On the eve of the Spanish conquest, writing in Mixtec style had a wide geographical distribution in Oaxaca. Used on portable objects, like those found in tombs at Monte Alban and Zaachila, and in fixed architectural decoration, like the painted lintels from Mitla, it is predominant in painted screenfold books. These are mainly annals read in boustrophedon fashion (Smith, *Picture Writing* 217, fig. 1), which record the deeds of prominent individuals (Caso, *Código Bodley*, *Código Selden*, *Código Colombino*). Mixtec script shares some structural features with Zapotec and Nuiñe scripts, writing systems that temporally preceded it. What I intend to do here is to outline the evolution of writing in Oaxaca and trace some antecedents of Mixtec script, focusing on inscriptions that have a historical character. While continuities between the three scripts are discernible, not only in regard to specific aspects of the graphic systems but also in terms of underlying ideological principles that have pervaded through millennia, there are also marked differences between the earlier scripts and the later scribal tradition, differences that were most likely brought about by particular socio-political factors.

Zapotec writing

On present evidence, writing in Oaxaca had its initial locus in the Central Valleys. There, the incipient elites of the Formative period began leaving a scriptural record on stone monuments by at least 400 B.C. (Caso, "Calendario"). It has been claimed, on the basis of a single carved monolith from the ancient settlement of San José Mogote, that the origins of Zapotec writing can be dated as early as 600 B.C. (Marcus; Marcus and Flannery), but the chronological assignment of the stone is much debated (Whittaker; Piña Chan; Cahn and Winter). Although the monolith itself was resting on a prepared surface of shards from the Rosario phase, its was found between two structures, one of which was continuously modified until circa 200 A.D. (Flannery and Marcus 41-42). The associated ceramic material certainly indicates that the monument cannot be earlier than 600 B.C., but the adjacent context of multiple architectural modifications does not eliminate the possibility that the stone is of later manufacture and that—while found in situ—it could be in a non-primary setting. When viewed in a broader perspective, early writing in Oaxaca seems to be part of a general phenomenon encompassing the Gulf Coast, the Isthmian lowlands, and the Highlands of Guatemala. The early scripts that developed in these areas shared a number of characteristics, including columnar arrangements of glyphs, right to left reading direction, and the use of bar and dot numeration (Justeson and Mathews; Stross).

With the foundation of Monte Alban, the seat of a polity that through more than a thousand years had control or influence over large portions of southwestern Mesoamerica, this ancient capital became the most important intellectual center for scribes, and it is there that the largest amount of Zapotec inscriptions have been found. The maximum geographical extent of the script remains unknown, but inscriptions attributable to the same style have been documented as far away as the Pacific Coast of Oaxaca and Guerrero (Urcid, "Pacific Coast"; Urcid and Joyce) in the mountainous region to the west of the Isthmus of Tehuantepec, in the northern Sierra of Oaxaca (Oudijk and Urcid), and in the Mixteca Alta (Caso, "El Calendario") (Fig. 1 see figs. on pp. 14-16). Its western extent is seemingly more diffused because the Nuiñe script from the Mixteca Baja shares many traits with the Zapotec script, making it difficult to distinguish clear-cut boundaries (Urcid, "Nuiñe," "¿Zapotec o Nuiñe?" "Recent Research"). Such a geographical extent fluctuated in relation to the

political and cultural domination that Monte Alban must have exerted in all these regions, but with the gradual dissolution of its political system and the eventual abandonment of the urban center around the 8th century A.D., Zapotec writing fell slowly into disuse.¹

One way of determining the nature of the script is by the size of the signary employed by the scribes. Setting aside the problems of a rather small sample of inscriptions, scribal changes through time, and (in many cases) the lack of chronological control, the repertoire known so far exceeds 100 signs. This implies that each glyph has a semantic value and its associated lexical label. However, unless the information conveyed by the inscriptions was laconic, formulaic, or confined to a few themes, it is quite possible that certain signs represent syllabic sounds, a possibility reinforced by the way scribes composed glyphic compounds (cf. Urcid, "La Escritura" 45, fig. 4a). The signs in the repertoire are pictographic, but while the semantic usages could have been understood by speakers of other languages, the logographic and syllabic components presuppose knowledge of the Zapotec language. The few known texts reflect the syntax of the Zapotec language spoken today, and even though it is not possible to read them yet, it is feasible to identify grammatical functions in terms of subject, verb, object (Urcid, "Zapotec Hieroglyphic" 295-308). The most common reading order was in a vertical fashion, from top to bottom and left to right, but other reading orders go from bottom to top, or follow a horizontal sequence that could be either linear or agglutinated. Such a diverse presentation of inscriptions indicates that writing was an art. The scribes were masters that strove to play visually with glyphs, resorting to the principle of *pars pro toto*, to conflation, substitution and inversion. The specific use of the surface to be inscribed, and the particular way of organizing the composition of the inscriptions, were apparently a means of adding further semantic layers. Thus, some inscriptions were carved along the right half of a slab's frame to signal information relating exclusively to the personages depicted on that same side, or two surfaces were carved in reverse relation to one another when they were set as lintels to enhance a kinetic reading, or the lateral and top surfaces of some monuments were inscribed to render secondary or parenthetical information. We might also assume, based on features in other Mesoamerican scripts, that scribes made use of metaphors, metonyms and visual puns.

With a current sample of approximately 700 signs accompanied by coefficients, two long-standing problems concerning the Zapotec calendar have been solved. The first has to do with the way Zapotecs reckoned the cycles of 365 days and the Calendar Round of 52 years. The second problem has to do with the glyphic reconstruction of the 20-day name list that formed the core of the divinatory calendar of 260 days (Fig. 2). The sign employed by the scribes to denote the solar cycle is that of a royal headband that has a quadripartite diadem and a motif in the shape of a trapeze. This sign was rendered in both profile and frontal views (Fig. 3). It has now been proved conclusively that the Zapotecs named their years by combining the numerals 1 to 13—expressed by means of bars and dots—with the day names Lightning (*Laa*), Deer (*China*), Soap brush (*Piya*) and Earthquake (*Xoo*), names that occupy positions 2-7-12-17 in the 20-day name list (Caso, "Las Estelas"; Urcid, "Zapotec Hieroglyphic"). Earthquake was the senior year bearer, since it marked the end and the beginning of the Calendar Round. However, it remains to be determined if it did so with coefficient 1 or 13.² By recognizing the form of time-reckoning diagrammed in Fig. 3 one can establish the relative temporal framework that is sometimes specified in the inscriptions (Urcid, "Zapotec Hieroglyphic," La Tumba 5, "La Escritura"; Urcid, Winter y Matadamas).

The other problem, the one concerning the reconstruction of the 20 day-name list of the calendar, was solved by correlating the meaning of the Zapotec day names documented by Friar Juan de Córdova in the XVI century with the pictography of the signs accompanied by coefficients (Urcid, "Zapotec Hieroglyphic") (Fig. 2). Such a reconstruction has several implications. One is that the script unequivocally encodes the Zapotec language since some

of the day names are unique to that tradition. For example, the tenth day in the Zapotec calendar, "tella" meant "knot" and was depicted as such, while in the Mixtec and Nahuatl calendars that day was represented by the pictography of a "Dog." By establishing a relation between a sign and a word in Zapotec, additional logographic readings can be accomplished because the day signs were also used in the script without numerals and in non-calendrical contexts. A third implication is that, since the Zapotecs named people according to the day on which they were born, one can identify with greater accuracy the identity of individuals named in the inscriptions. For example, based on the use of jaguar symbolism in the iconic aspect of the script and on a seriation of the inscriptions, a partial and relative succession of some of the rulers from Monte Alban can now be derived (Urcid and Winter). Through the proper identification of historical figures, it might be feasible eventually to trace alliances and schisms among noble lineages and to make inferences about the political geography and its changes through time.

It has become increasingly clear, particularly at Monte Alban, that most if not all monumental inscriptions once formed part of narrative programs that decorated the facades, entablatures, jambs, lintels and other architectural features of public buildings. These programs constituted veritable codices on stone. However, continued and incessant building activity eventually obliterated most of these narratives. The constituent elements were reused as construction material and were relocated in other buildings without any apparent pattern or placed as dedicatory offerings to mark sacred space. The convergence of a number of factors has made it possible to recreate some of the original narrative programs. For example, the partial excavations of one of the earliest structures at Monte Alban—building L—yielded the remnants of a decorated facade composed of four rows of carved stones showing human figures in vertical and horizontal positions (Batres, plate V). The figures on the third row face towards the south and those on the first row face north. Some of the personages are accompanied by short glyphic inscriptions, and the southeastern corner of the wall had monoliths with columnar texts only. There is actually enough data to outline the architectural history of building L (Caso, *Las Exploraciones*). Originally, circa 400 BC, the structure was a rectangular platform with a narrow staircase on the east side. Only the southern portion of the facade was decorated with the narrative program. During a second construction episode, a broad staircase was added at the base of the previous one, hiding a small portion of the narrative. Eventually, as part of a third construction episode, the structure was drastically modified. The southern portion of the original edifice was mostly dismantled, and many of the carved blocks decorating the facade were used either to raise the level of the Plaza in front of the building or as construction material in other architectural projects. Thus, several carved stones from this narrative program ended up being widely dispersed throughout the Main Plaza. The size of the blocks and the patterned postures of the human figures has guided an almost complete, albeit hypothetical, reconstruction of the narrative. Given the facing orientation of the figures, it is conceivable that the narrative was read in a boustrophedon fashion. By viewing the carved blocks as a program, it appears that the narrative has to do with ancestor veneration, blood-letting from the genitals, alter-ego (*nahual*) transformation, warfare, and human sacrifice. Similar hypothetical reconstructions of other narrative programs have disclosed unexpected features of the script and revealed important events that shaped the history of Monte Alban (Urcid, "Zapotec Hieroglyphic"; "La Escritura").

Throughout its 1000 years of use, Zapotec script exhibited an astonishing continuity in some aspects and conspicuous discontinuities in others. Writing was rendered in contexts other than monumental buildings and in diverse media, but the paucity of archaeological explorations, the continued reuse of monuments in antiquity, and the passage of time have left us with a narrow view of what must have been a rich literary and historical tradition.

Ñuiñe writing

Between the 2nd and the 9th centuries A.D., Ñuiñe writing was used in what are today parts of the modern states of Oaxaca and Puebla (Fig. 1). Inscribed examples without context from northwestern Oaxaca suggest that writing in this region could be pushed back earlier, but these findings resemble epigraphic conventions from Monte Alban and do not have a distinctive character. From the currently available inscriptions in Ñuiñe style, which amount to almost 200 examples, it is clear that writing was produced in several media including stone, ceramics, bone, and mural paintings.

As to the nature of the script, there are some 80 known signs in the graphic repertoire, including both calendrical and non-calendrical glyphs. Most of these signs undoubtedly represent logograms, but some of them seem to have been used in certain contexts for their phonetic value rather than for what they represent pictographically. The way some graphic elements are combined also suggests a limited use of a syllabary. Although columnar texts reflecting a syntax are as yet unknown, short recurrent agglutinated formats have been detected. All these traits suggest that Ñuiñe writing might constitute, like Zapotec, a mixed logo-syllabic script.

Regarding graphic conventions, the Ñuiñe script shares more of its signs with Zapotec than with Mixtec style writing. Yet, despite the closer affinities with the Zapotec tradition, the scribes from communities in northwestern Oaxaca employed the graphic elements in novel ways. One of the most distinctive traits is the representation of elaborate day signs encased or supported by a theriomorphic image (Fig. 4A). Sometimes this convention is shown as an effect of multiple embedded reflections (B). Images can appear compounded so as to provide simultaneously several layers of meaning. For instance, two numeral bars depicted as arrows convey both the number 10 and the action of conquest (C). In contrast to Zapotec conventions, Ñuiñe compositions are occasionally characterized by asymmetry of details along a vertical imaginary axis (D).

Ñuiñe calendrical notations, like Zapotec, made use of the bar and dot numeration system. Except for one example of a numeral 14, coefficients in the known Ñuiñe inscriptions do not exceed the value of 13. Therefore, the glyphs accompanied by numerals must be a direct or indirect reflection of the calendar, depending on whether the signs have a chronological or a nominative function. Although the present data are equivocal, it appears that the local scribes employed two different signs to denote the year (Urcid, "Ñuiñe"; "Recent Research"; Rodríguez) (Fig. 3). One of these, probably earlier, is morphologically similar to the Zapotec year sign; the other, probably later, resembles the interlaced symbol characteristic of Mixtec style inscriptions. There are two sets of day-names that were possibly employed as year bearers. However, the glyphs G and N shown in Fig. 3 with an asterisk have not been attested in direct association with any of the two possible year signs, and the day glyphs from the second set that correspond to the 8th and the 18th positions in the day list, that is the pictographs of a Rabbit and a Flint Knife, are as yet unknown. These data suggest that sometime in the 3rd century AD, local astronomers might have implemented a calendrical change which required that the year bearers be shifted from set II to set III, that is from positions 2-7-12-17 to positions 3-8-13-18. The shift in year bearers might have occurred after the later form of the year sign was adopted in the scribal practices.

The affinities between Zapotec and Ñuiñe writing and calendrics are best exemplified by the graphic conventions employed in the representation of day names (Fig. 2). Almost all the calendrical signs in the Ñuiñe repertoire can be identified using the arbitrary classification that was generated in the study of Zapotec signs. The comparison shown in Fig. 2 also illustrates the discontinuities in graphic conventions, shown with a rectangle, between the Zapotec and Ñuiñe, on the one hand, and Mixtec on the other.

Most of the known Ñuiñe inscriptions are devoid of archaeological associations, and with the exception of two painted murals, those that have been found *in situ* happened to be

in non-primary contexts. This evidence hints at the possibility that many of the carved stones once formed composite architectural arrangements that told a story. Since the inscriptions include dates in the native calendrical reckoning, names of individuals, and toponyms, it appears that the content of these stories was historical. The frequent representation of shields, arrows, and individuals being clubbed down suggest that warfare in this region was pervasive. This in turn might imply that the political landscape in the Mixteca Baja was unstable, probably because of its frontier status between polarizing political forces exerted by Teotihuacan and Monte Alban, capitals of two of the largest Mesoamerican polities between 300 and 600 AD.

The Nuiñe scribal tradition has been assumed to have been the forerunner or prototype of Mixtec style writing, tying it closely to Mixtec ethnicity and language (Moser; Winter *Oaxaca*, "Nuiñe," "The Mixteca"; Rodríguez). Yet, the region where Nuiñe hieroglyphs have been found is inhabited today by speakers of not only Mixtec, but Chocho, Popoloca, Ixcatec, and Mazatec as well. All these linguistic branches, together with Zapotec, form part of the Otomanguan family. Since the most distant relative to the Zapotec language is Mixtec,³ and given the similarities in epigraphic and calendrical conventions between Nuiñe and Zapotec writing, it seems plausible that peoples of Chocho/Popoloca/Ixcatec linguistic stock were responsible for many of the inscriptions found scattered today in the Mixteca Baja.

Conclusions

In tracing the development of scribal traditions in Oaxaca, one seemingly striking contrast between Zapotec, Nuiñe, and Mixtec scripts is the media of presentation. While most of the written record in Mixtec style is in the form of books, there is a conspicuous lack of monumental inscriptions. Zapotec and Nuiñe writing, on the other hand, have a monumental component, and no pre-Hispanic screenfolds attributable to these scripts are known. Such a difference is most likely due to the perishable quality of books and to archaeological sampling bias. We know for instance that in the sixteenth century, Friar Juan de Córdova recorded the Zapotec divinatory calendar in the Tlacolula arm of the Valley of Oaxaca while looking at a codex that was painted in Mixtec style (Seler, Whitecotton, Urcid "Zapotec Hieroglyphic"). As to the lack of monumental inscriptions in Mixtec style, perhaps the fragmented political landscape of Oaxaca during the Late Postclassic rendered economically and socially burdensome for a single polity to engage in the procurement, carving and mobilization of monumental inscriptions.

The cultural history of Pre-Columbian Oaxaca is known mostly from the roles that Zapotec and Mixtec peoples played in the development of civilization, so much so that scripts have been equated with ethnicity. Yet, as other regions within southwestern Mesoamerica are studied, a mosaic picture involving the participation of varied linguistic and ethnic groups begins to emerge. The widespread distribution of Zapotec script, which partially coincides with today's distribution of the Zapotecan languages, suggests that in some regions the script and the language it encodes could have been imposed by Monte Alban's hegemony on populations of diverse backgrounds. The lack of columnar texts in the Mixtec style script and its heavy reliance on semantic modes might have been an adaptive response to the need of communication between ethnically and linguistically diverse polities that were characterized by lesser degrees of centralization, that engaged in much competition to gain regional control, and that strove constantly to establish political alliances among themselves (Pohl; Monaghan).

Archaeological and epigraphic discoveries in the last three decades in northwestern Oaxaca have evinced the Nuiñe phenomenon as a distinctive cultural and scribal tradition (Paddock, "Oaxaca," "A Beginning," "More Nuiñe Materials," "Concepción"; Rincón; Winter "Excavations," "The Mixteca"). The uniqueness of this tradition forces us to reevaluate the role played by the Mixteca Baja in the interaction between two major urban

centers, Teotihuacan and Monte Alban, to reassess the genealogical relationships between the three writing systems from Oaxaca, and to reconsider the impact that the Ñuiñe graphic conventions had on the scribal traditions of highland Mesoamerica, particularly those of Teotihuacan and Xochicalco.

NOTES

1. After the discontinuation of some of its most distinctive traits in the 8th century AD, Zapotec writing gave way to several regional styles that differed from Mixtec style writing. Late examples of those regional styles include for instance the Lienzo de Guevea, the Lienzos from Tiltepec and Tabaa in the Northern Sierra, or the genealogies from Macuilxochitl and Etla (Whitcotton).

2. The solution to this seemingly inconsequential detail will eventually be critical to tackle the problem of synchronizing different regional calendars in Oaxaca.

3. Swadesh commented that because of differences in weak-strong contrast among obstruents (types of consonants) "Mixtec and Zapotec languages were not in geographic contiguity before Proto-Zapotec times but have since had a long period of close contact" (221).

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FIGURES

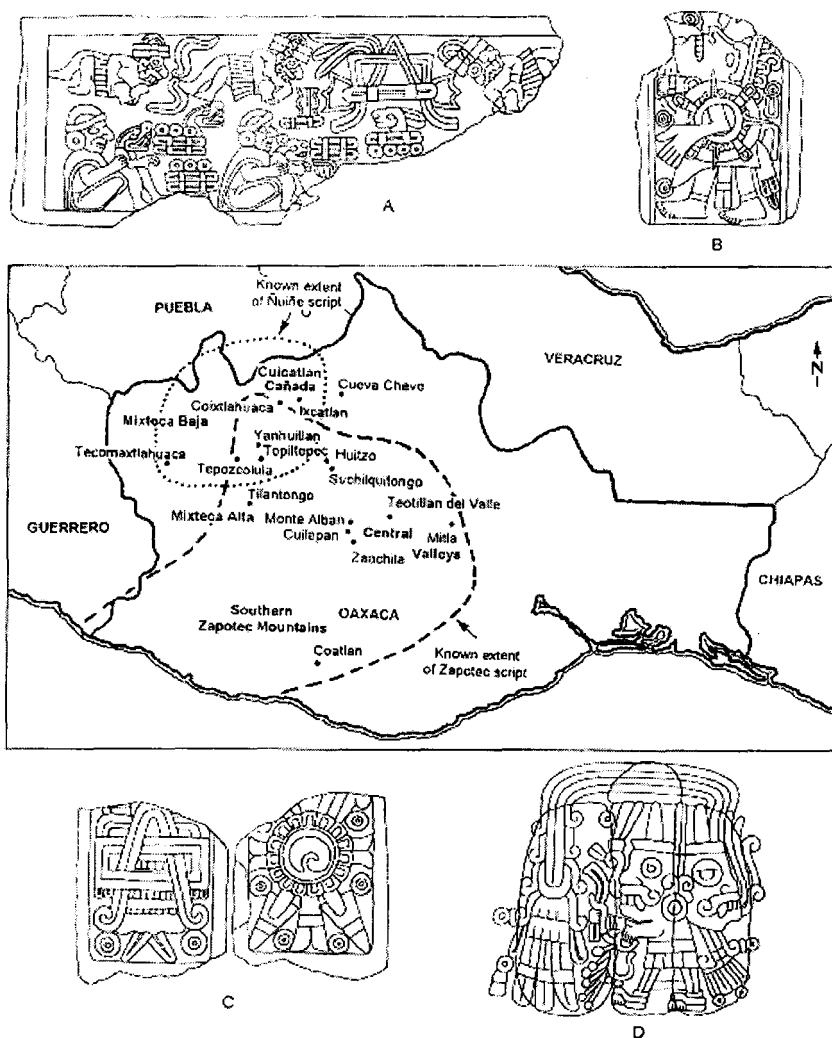


Figure 1 - Known extent of Zapotec and Nuuñe scripts, localities that have yielded Mixtec style inscriptions other than codices and lienzos, and some stone carvings in Mixtec style. (A) Slab of unknown provenience, Museo Amparo [early Mixtec style]; (B) Tecomaxtlahuaca stone 3, side a; (C) Tecomaxtlahuaca stone 2; (D) Boulder of unknown provenience, INAH storeroom in Cuicapan.

Day Name in 16 th century Zapotec	Zapotec Glyphs	Ñuiñe Glyphs	Day Name in 16 th century Mixtec	Mixtec Glyphs	
1 Chilla			Quevui		□
2 Laa	• •		Chi		□
3 Laala		•	Cuau	•	□
4 Lachi			Q(uc)		□
5 Zee			Yo		
6 Lana			Mahu(a)		
7 China	• •		Cuaa		
8 Lapa		•	Sayu	•	
9 Niça			Tula		□
10 Tella			Hua		□
11 Lób			Ñuu		
12 Piya	• •		Cuañe		□
13 Laa			Huyo	•	□
14 Lache			Huidzu		
15 Naa			Sa		□
16 Loo			Cuii		□
17 Xoo	• •		Qhi		□
18 Lopa		•	Cusi	•	□
19 Lape			Co		□
20 Loo			Huaco		□

Figure 2 - Glyphs for the 20 day names of the calendar in the Zapotec, Ñuiñe, and Mixtec scripts (dots mark the position of year bearers in the day lists; rectangles mark graphic discontinuities).

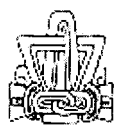
YEAR GLYPH	YEAR BEARERS			
ZAPOTEC 	 Glyph M (2 nd position)	 Glyph G (7 th position)	 Glyph N (12 th position)	 Glyph E (17 th position)
ÑUÑE  Early ?	 Glyph M (2 nd position)	 Glyph G* (7 th position)	 Glyph N* (12 th position)	 Glyph E (17 th position)
 Late ?	 Glyph F	?	 Glyph D	?
	 Glyph "House" (3 rd position)	(8 th position)	 Glyph "Reed" (13 th position)	(18 th position)
MIXTEC 	 Glyph "House" (3 rd position)	 Glyph "Rabbit" (8 th position)	 Glyph "Reed" (13 th position)	 Glyph "Flint" (18 th position)

Figure 3 - The year glyph and year bearers in Zapotec, Ñuñe, and Mixtec scribal traditions.

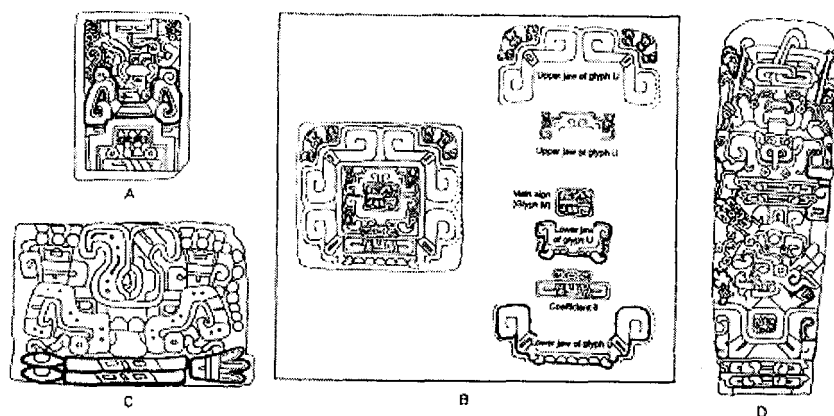


Figure 4 - Some conventions that distinguish Ñuñe from Zapotec writing. (A) Slab of unknown provenience, Frankfurt am Main Museum; (B) Slab of unknown provenience, Berlin Völkerkunde Museum; (C) Tequixtepec stone 3; (D) Stela 1, side b, Rosario Micaltepec.

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