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A Tentative Classification of Non-Maya Inscriptions in Mesoamerica^{*}

En Mesoamérica se conoce, hasta el momento, solamente una cantidad muy limitada de inscripciones precortesianas que no pertenecen a la escritura Maya. Para establecer una clasificación provisional de los diferentes sistemas de escritura, se aplican en el presente artículo criterios que no requieren un conocimiento detallado de los sistemas o un amplio material básico. - Según la clasificación elaborada en el artículo se distinguen los siguientes sistemas de escritura: Escritura de Monte Albán - Escritura Zapoteca - Escritura Intermediaria (o Istmicá) - Escritura Istmicá tardía - Horizonte de Escritura Centro-Mexicana - Estilo Postclásico de Manuscritos.

The present article deals with those writing systems (1) of pre-Columbian Mesoamerica of which only a few inscriptions have become known and which are not assignable to the classic Maya writing system. Their dissimilarity to the Maya writing system is for the time being the only incontestable common feature. It results therefore the necessity to find a negative definition to be applied as long as no independent definition of these inscriptions is available.

It cannot be the target of this article to impose a ready grouping and classification of the inscriptions. The aim is rather to develop criteria which may lead to a classification and to examine their efficacy. It is, however, also intended to direct the attention of those who are not primarily interested in the study of writing systems to the problems set forth here, contributing thus perhaps to increased search of inscription material which would enlarge the basis for further work (2).

The most intensive research for non-Maya writing systems was hitherto achieved by Alfonso Caso. Starting from the study of the stone inscriptions of Oaxaca then known (Caso 1928), he followed up the traces of the Mesoamerican calendar and writing systems over the entire Mexican highland, using data from ethnohistory and archaeology. Termination and climax of his work is the collection of his dispersed articles in two volumes. His re-

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cent death, however, permitted only the edition of the first volume (Caso 1967); the revision, intended on the occasion of a new edition, of his work particularly important for the subject-matter of the present article, and the announced publication of a study concerning the "Olmec" calendar had to remain undone.

Thus, where the results of Caso's work are being critically judged, it has always to be taken into account that this work lies back years, often decades, and that in the meantime he himself might have disavowed it in certain aspects.

A study like this must avoid as much as possible prejudices and viewpoints that may be misleading. They have played a part in Caso's work centering upon Oaxaca. Also the danger of vicious circles present in analogical interpretation must be recognized and avoided. Therefore, when studying writing systems of which only little documentation is known, criteria must be chosen which can be applied and may help to succeed even without comprehensive knowledge of the writing system to be studied and with a minimum of source material.

Criteria of that kind have been used in the following study:

- 1) Temporal-local criteria basing on the place of discovery and the presumable time of origin. Iconographic contexts and parallels may be used for spatio-temporal delimitation.
- 2) Formal criteria estimating exterior features of the writing system, independent of attempts at interpretation.

Structural and functional criteria can be efficiently used only where relatively large source material is available and where there is substantial familiarity with the writing system.

1. TEMPORAL-LOCAL CLASSIFICATION OF THE WRITING SYSTEMS UNDER REVIEW (3)

Pre-Classic

According to the chronology of pre-Classic Oaxaca - based on a few radio-carbon dates - the inscriptions assigned to the Monte Albán I phase are the oldest found to date in Mesoamerica.

In period I of Monte Albán exist two clearly distinct groups of inscriptions: the stelae which show only a long inscription but no pictorial representation, and the so-called "danzantes", i.e. representations of human figures in various positions and movements which are associated - if at all - with short sequences of hieroglyphic blocks or with single hieroglyphs. The corpus of preserved blocks is very small: "danzantes" show about 45, stelae nos. 12, 13, 14, 15 (4) and 17 further 30 blocks arranged in sequences of approx. five each (5).

As to stone material and mode of treatment, stelae and "danzantes" do not differ from each other; both, figures and blocks, are slightly elevated over the stone surface. The inscriptions going with the "danzantes" are, however, often carved into the surface in a shallow manner in thin lines. Mainly for stylistic reasons the "danzantes can be placed within the Olmec world" (Bernal 1969:154). Danzante-like representations are considered by Bernal (1969:155), certainly with good reasons, as a leading fossil for the Olmec sphere of influence and are chronologically ascribed to the Olmec II period.

A rather great number of inscriptions on the so-called "lápidas" of Building J of Monte Albán belong to the Monte Albán II period. There are a series of distinct differences as compared with the previous period: the blocks are no longer raised above the surface in a flat relief but are carved in thicker lines. The tracing is a little less animated and less firm than in Monte Albán I. The inscriptions consist of vertical columns arranged around an oversized compound of probably two or three hieroglyphs. Here, too, the inventory known is rather negligible, since the total of hieroglyphs preserved amounts to about 65 only, most of them coming from short sequences of not more than 3 blocks. This number does, however, not include the constant and the changing parts of the central compound (6).

To the Monte Albán II period are further ascribed single blocks found at other sites of Oaxaca: two blocks on the lápidas of the central building of Dainzú (the lápidas show mainly human figures) and a smaller number of blocks on the balustrades of the stairway of the central mound of Huamelulpan (7).

To the pre-Classic period belong further a number of inscriptions, the places of find forming almost a chain from the Tuxtla Mountains across the Isthmus, continuing in a south-eastern direction to the north-western corner of El Salvador. The inscriptions are not very uniform in their outward appearance; the same holds good of the mode of execution (flat-relief, engraved contours, often even in one monument side by side). All monuments bearing inscriptions are imperfectly preserved or heavily weathered, so that it is difficult or even impossible to perceive the design precisely and completely.

In the following the monuments are presented in a north-south succession:

- Tres Zapotes, Stela C (only a fragment preserved, no sequences, 5 numerals, 2 blocks)
- La Venta, Monument 13 (The monument which is perfectly preserved cannot be dated unequivocally. 4 blocks, obviously not standing in sequence, no details recognizable. The blocks are placed at both sides of a human figure)
- Tuxtla Statuette (perfectly preserved small sculpture. Numerals and blocks in 9 vertical columns. In addition to 6 numerals about 51 blocks are recognizable) (8)

- Chiapa de Corzo, potsherd fragment from Mound 5b fill (2 vertical columns with altogether about 7 blocks are scratched into the fragment. Traces of a further parallel column are recognizable)
- Chiapa de Corzo, Stela 2 (only one fragment is preserved; 4 numerals and one block are recognizable)
- Abaj Takalik, Stela 2, also known by the name San Isidro Piedra Parada or Piedra Schlubach (The monument is heavily damaged. Originally two figurative representations seem to have framed a column of glyphs. Of the column only the first block and one numeral are preserved. - Early Classic ?)
- Abaj Takalik, Stela 1 (column of approx. 4 blocks, heavily weathered. Presumable early Classic)
- El Baúl, Stela 1 (Beside two vertical panels, each of them bearing two columns of glyphs, a human figure is standing. The text portion is heavily damaged. Apart from the numerals, the inscription seems to have had a length of more than 40 blocks)
- Kaminaljuyú, Stela 10 (fragment of a large slab with dominating figurative representations, large isolated blocks in half-relief and 2 panels with 4 columns of blocks each. The total number of blocks on the preserved surface is estimated at about 60. The design of the blocks is, however, carved only in thin lines into the surface which makes recognition very difficult)
- Chalchuapa, stela from El Trapiche site (several vertical columns with a computed number of more than 30 blocks. The surface of the fragment is badly weathered)

It should be added that several jade celts coming from the Isthmian region carry graphic elements which cannot be interpreted as writing but represent perhaps a kind of crystallization phase in which forms of a narrative pictography tend to make themselves independent of pictorial representations (cf. Coe 1965:756).

Whereas nearly all inscriptions from the pre-Classic Oaxaca come from one dominating site, the remaining inscriptions are dispersed over a large space of about 800 kms. The places of discovery are often sites of merely local importance.

Classic

At the beginning of the Classic period Maya writing comes to light fully developed. No direct precursor of the Maya writing system is known. The present study does not include Maya writing.

A few inscriptions, however, lying outside the space occupied by the classic Maya writing but probably connected with it are dated back to the Early Classic: the Stela of Tonalá (railway station), Kaminaljuyú Altar 1, one or both of the already mentioned stelae of Abaj Takalik. The earplug flare of Kaminaljuyú, tomb Bx, belongs probably also in this category. The inscriptions are, except the last-named, too badly destroyed to be examined.

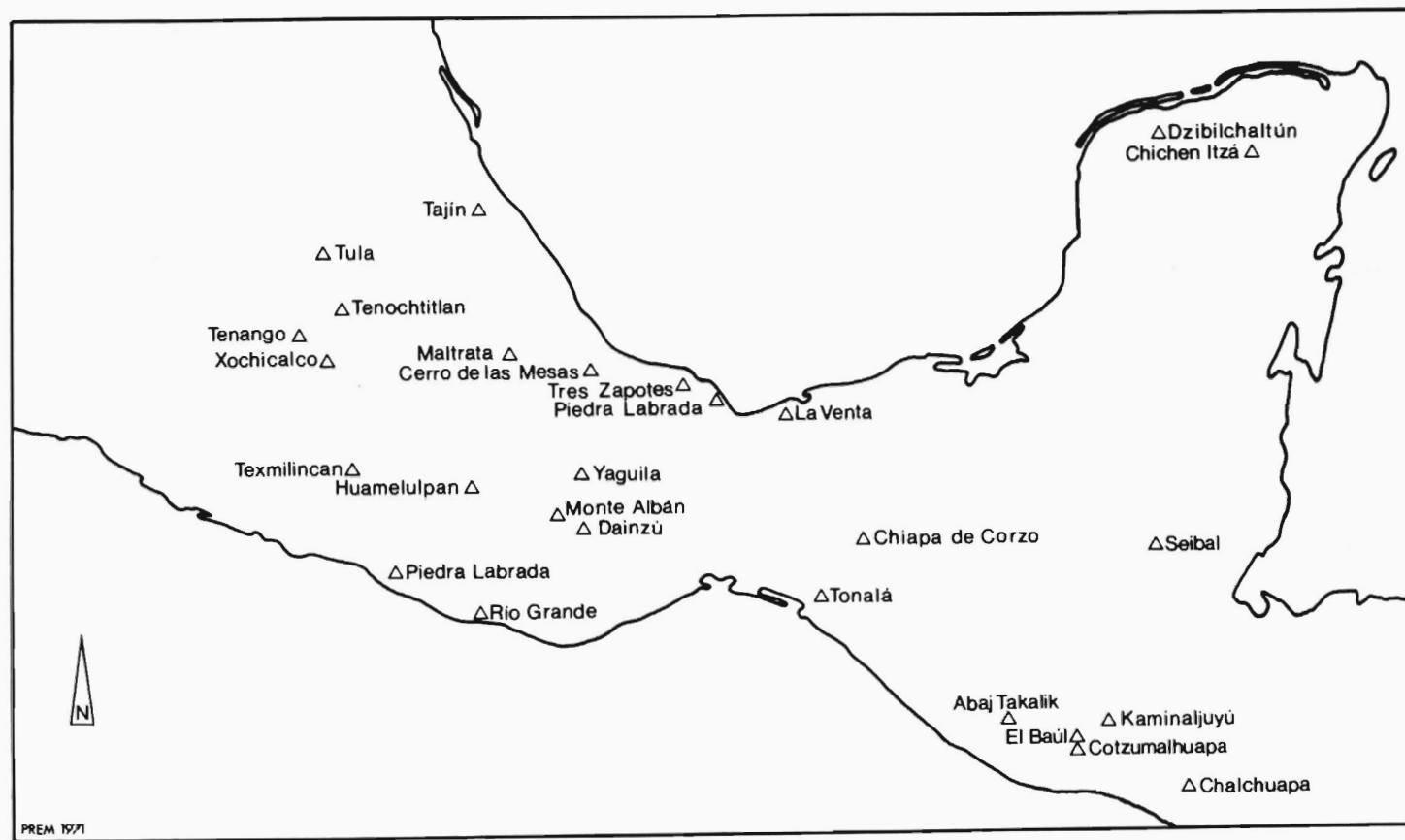


Fig. 1

Six stelae from Cerro de las Mesas and the near vicinity (9) are also ascribed to the Early Classic. The heavily weathered inscriptions are arranged in one or two columns. Beside them, a human figure is represented, one hand of which is pointing at the column. The number of blocks can no more be established with certainty but might be estimated at about 10 to 15 each column.

Several other stelae from Cerro de las Mesas, showing no columns but only one or two blocks each, are, probably exclusively for stylistic reasons, mostly but not unanimously considered to be of late date (10).

Monuments from Oaxaca bearing inscriptions mostly belong to the early Classic phase Monte Albán III A, a smaller part of them to the late Classic phase III B. This applies to the stelae coming from Monte Albán proper, to the lápidas and murals of the tombs, as well as to the stone inscriptions from the entire Valley of Oaxaca. This includes also inscriptions from the Pacific coast of Oaxaca and from the adjoining Guerrero (Río Grande and Piedra Labrada), further from the highland bordering the Valley of Oaxaca in the north (Yucuñudahui and Yaguila near Ixtlán). The chronological attribution, however, must be considered with caution, as it is mostly based on stylistic comparisons of representations but also of hieroglyphic forms, as the greater part of the monuments was neither found in scientifically controlled excavations, nor was there - at least - any reliable stratigraphy (cf. Bernal 1965:803).

The inscriptions are generally associated with pictorial representations; they are done in very flat reliefs and suggest a certain vagueness of arrangement. The majority of inscriptions consists of a small number of blocks, clear sequences occur very seldom.

Late Classic - Early Post-Classic

A considerable amount of inscriptions scattered over the Mexican highlands seem to belong to an epoch at the close of the Classic and the beginning of the Post-Classic. The greatest part of these inscriptions (and presumably the earliest) come from the site of Xochicalco. They occur in the form of isolated signs and short sequences on the "Pirámide de las Serpientes Emplumadas" and on various stone slabs, so for instance on the "Piedra Seler", the "Piedra del Palacio" and the "Malinche". Longer sequences of hieroglyphs in vertical columns occur on the three stelae found a few years ago; they are dated by associated findings of ceramics (Saenz 1964:83). Owing to the excavations the number of inscriptions increases continually (11). The blocks and freely formed glyphs are executed in flat relief; the stelae show traces of former painting.

Isolated blocks of the tambours from the "Edificio de las Columnas" at Tajín Chico belong to the end of the Classic. There are about 16 blocks from three columns to be reconstructed; the blocks are embedded in a rich but very naturalistic narrative pictography. They are carried out in flat relief.

A smaller amount of inscriptions from the region of Sta. Lucía Cotzumalhuapa are attributed to the same period. Here, too, the blocks are standing amidst an elaborative narrative pictography.

Towards the very end of the Classic isolated hieroglyphs occur in the southern Maya region which do not belong to the classic Maya writing. They are parts of the inscriptions of Stelae 3 and 13 of Seibal and Stela 4 of Uucanal. It should be emphasized that on the same monuments the dominating inscriptions are in classic Maya writing.

From the transition to the Post-Classic period come a few blocks of Structure 96 at Dzibilchaltún. We have to do here with Maya hieroglyphs, though badly preserved, that bear unusual elements (reversed numerals) (Andrews 1965:309).

Single isolated blocks on stone slabs found at Tula (Acosta 1956-57) date presumably from the Post-Classic. It may be assumed that one block and a substantial number of freely shaped hieroglyphs occurring in the narrative pictography of the Toltec structures of Chichén Itzá belong also to this group.

Insufficiently dated Inscriptions

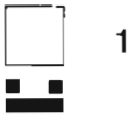
The inscriptions compiled in this group were not discovered under scientific control. They have no parallels at the places of their discovery and are therefore - in view of stylistic relationship - commonly ranked with other objects found often at very distant sites. For methodic reasons a dating achieved in this way cannot be used in this study (12).

Highland of Mexico:

- Tenango de Arista (formerly: Tenango del Valle), Monolith (also called Stone of the Solar Eclipse) (two blocks of hieroglyphs and one pictorial representation. Damaged)
- Tenango de Arista, Stela (generally called Monolith) (4 blocks in two sequences)
- Maltrata, Monolith (4 isolated blocks dispersed in pictorial representation)
- Texmilincan (Guerrero) 2 stone slabs (each with an indistinct block; pictorial representation in one case. Garcia Payón 1941:357)
- Tenochtitlan, identical snake heads (with one hieroglyphic block at the bottom side; found in the region of Palma and Cubas streets in the center of Mexico City)

Coastal plain of Veracruz:

- Piedra Labrada, Stela 1 (one or two blocks, Blom and La Farge 1926:41; the three times repeated abstract design of the lower part of the stela which is sometimes called "glyphlike" recurs on the so-called Tlaloc Stela of Horcones [Tonalá], [Lowe, pers. comm.], and on Stelae 1 and 2 of Xochicalco. Thus a dating might be established)



1



1A



2



2A



2R



5



7



8



9

Fig. 2

The numerous inscriptions of dates from Aztec context that have been found in the central highland of Mexico and adjacent regions are not explicitly indicated (among others: Chimalli stone of Cuernavaca, ballcourt rings from Tepoztlan, sculptures of Huaquechula, Stela from Castillo de Teayo, etc.). These inscriptions include numerous movable objects, especially stone boxes with inscriptions of dates. As their cultural assignation is beyond doubt, they are treated in a summary way in the classification.

2. FORMAL CRITERIA FOR CLASSIFICATION

In the following the formal criteria are applied in a hierarchic order, i.e. progressing from basic to more complex criteria.

Sequences

The first grouping deals with the distinction between inscriptions consisting merely of isolated blocks or of sequences (series of hieroglyphs which suggest interrelated subject-matters). This leads to the remarkable result that sequences occur on almost all Pre-Classic monuments. The longest sequences, apart from the Tuxtla Statuette, were found in the heavily damaged inscriptions of Kaminaljuyú and Chalchuapa. In contrast therewith, the sequences of the Oaxaca inscriptions are always shorter, often consisting of a few blocks only (Monte Albán: in the case of the "danzantes" as well as of the lápidas the length of the sequences varies from one inscription to the other), or even of isolated blocks (Dainzú and Huamelulpan).

In the Classic sequences occur - apart from the inscriptions of classic Maya writing - in Cerro de las Mesas, Xochicalco and in the inscriptions belonging to the Monte Albán III A phase. On other monuments several blocks occur but not in a sequence-like order. In the Post-Classic period sequences are never found.

Direction of the Sequences

The sequences are always arranged in vertical columns. The reading-direction from top to bottom can be established in most cases. The reading procedure in vertical columns of horizontal pairs of blocks, typical of Maya writing, cannot be proved outside the classic Maya writing. This would be possible solely for the inscriptions in Guatemala and Chalchuapa. The distinctive value of this criterion turns out to be negligible.

Classes of Signs

A special class of signs in a great many inscriptions attracts attention on the first look. These signs consist solely of dots and bars (often with varying ornaments) which can occur in at most 19 configurations of varying number. By analogy with the better known Maya writing these signs may be safely defined as numeral signs of a vigesimal numerical system. The established term "bar and dot numerals" will be used for their designation. They are found in all inscriptions of the Pre-Classic period (except in Chalchuapa

and Chiapa de Corzo potsherd fragment), as well as in the most inscriptions of the Classic. Their internal differentiation will be dealt with below.

A further group is characterized by a strict observance of a square or rectangular space of fixed dimensions. The inside design varies. It reaches from abstract forms to naturalistic or at least recognizable representations of real objects. A frame drawn along the contour is called cartouche (see below).

In some inscriptions hieroglyphs whose outlines are solely a function of the contours of the represented matter and thus do not submit to the rules of a spatio-economic system, are used. The distinction between this group and the hieroglyphs with fixed contours is flowing.

Connected with this latter group are smaller elements placed at the sides of the rectangle forming the contour. In this respect they show a certain similarity of position with the bar and dot numerals. It appears justified to see here, too, an analogy with the affixes of Maya writing. The suffix-position seems to be the most frequent, more seldom occurs that of a superfix. There exist forms which may perhaps be defined as a circumfix, whereas pre- and postfixes do not appear to occur. The occurrences may be summarized as follows:

Rectangular frame or shape	All inscriptions of Pre-Classic Classic: Cerro de las Mesas Monte Albán III A (in part) Xochicalco (in part)
Rectangular frame or shape only associated with bar and dot numerals	Tula Tenango Maltrata Chichén Itzá } No hieroglyphs that are not associated with numerals
Free shape	Monte Albán III A (in part) and III B Xochicalco (in part) Chichén Itzá
Affigations	Tuxtla Statuette Chiapa de Corzo potsherd fragment perhaps: Kaminaljuyú

Cartouches

Cartouches are rectangular frames with rounded-off corners surrounding certain signs of the inventory. The frame follows the outline committing for the system; the relation of sides is therefore the same (generally varying from 1:1 to 1:√2).

As a rule the cartouche is not facultative for a sign. Since further interdependency between cartouches and numerals appears to exist in many sys-

Bar and dot forms	Late Pre-Classic	Early Classic	Late Classic Early Post-Classic
Form 1	Monte Albán I (Stelae) (1) Monte Albán II (Lápidas) (1) Dainzú Huamelulpan	<Monte Albán III B>	Tajín
Form 1 A			Dzibilchaltún
Form 2	Tres Zapotes Stela C (1) Tuxtla Statuette (1) Chiapa de Corzo Stela 3 Abaj Takalik Stela 2 El Baúl Stela 1 (1) Kaminaljuyú Stela 10	Classic Maya (1) Cerro de las Mesas (1) Monte Albán III A Monte Albán III B (whole Oaxaca)	Xochicalco (2) Tenango (2) Maltrata Texmilincan Tenochtitlan (Cabeza de serpiente) (4) Tula Piedra Labrada (Ver.) Chichén Itzá (Templo de los Tigres) Cotzumalhuapa (El Castillo, Stela 1) (3)

FORMS OF BAR AND DOT NUMERALS IN MESOAMERICA

- (1) Numerical values 14-19 expressed
- (2) Also numeral-form 7
- (3) Also numeral-form 5
- (4) Dominant numeral-form 8

Fig. 3

tems, it must be assumed that the cartouche is a definitory element within a series of signs of related thematical or functional factors.

The following list demonstrates this relationship; a number of uncertainties must, however, be put up with:

	Cartouches	Cartouche-like raised basis
Isolated		La Venta, Mon.13
Combined with numerals: Interdependence	Dainzú Huamelulpan Chiapa de Corzo (Stela) Cerro de las Mesas (late) Tula Maltrata	El Baúl, Stela 1 ?
Cartouche dependent on numerals	Xochicalco (Stelae)	
Numerals dependent on cartouche	Monte Albán I-III A Kaminaljuyú	
No cartouches	Monte Albán ("danzantes", III B) Tajín (with numerals) Tuxtla Statuette Chiapa de Corzo (potsherd)	

Cartouches with other than bar and dot numerals are found in the Aztec codices and inscriptions. They represent, however, a very different kind of cartouches: they have sharp corners and surround the numeral signs as well as the signs counted (see fig. 2, Form 8).

Bar and Dot Numerals

The orientation of the bars and dots towards the reading direction and towards the associated hieroglyph is clearly recognizable in almost all inscriptions. The various kinds of numerical signs are listed schematically on fig. 2. For the present, only the forms marked 1 and 1A, 2, 2A and 2R, i.e. the bar and dot numerals, are of interest. The occurrence of the various forms may be seen from fig. 3. It shows that in the Pre-Classic Form 1 was restricted to the then most important sites in Oaxaca; during the phases Monte Albán III it occurs only here and there beside Form 2R, at the transition Classic-Post-Classic it reappears in Tajín although in a less precise way and perhaps not exclusively in this orientation.

Form 2 and its equivalent 2 A (shifted by 90°) occur in the Pre-Classic at the sites of Guatemala, at Chalchuapa, Chiapa de Corzo and on the Tuxtla Statuette; during the Classic in Cerro de las Mesas and in classic Maya writing. The occurrences mentioned are the only ones in which the numerical values exceeding 13 are expressed by bar and dot numerals.

Form 2R is found in Oaxaca during the early Classic period and continues up to the end of Monte Albán. The other occurrences are mostly situated in the Mexican highland: Xochicalco, Tenango (in both sites also Form 7 is found), Texmilincan, Maltrata, Tenochtitlan, Tula, and in even more distant areas as, for instance, in southern Veracruz (Piedra Labrada) and Chi-chén Itzá. In addition to Form 9 a numeral 2R is also found on Stela 1 of El Castillo near Cotzumalhuapa.

Form 1 A in Dzibilchaltún can at present be explained only as a degenerate mode of classic Maya writing. The spreading of these forms may be seen from the map (fig. 4).

Conformity of Inventories

Conformity of inscription inventories is the best and most reliable evidence of the assumption that the inscriptions of different places of discovery belong to one and the same system. But since for most of the sites only a small amount of inscriptions is known, the criterion is applicable in a limited way only. Conformity of the inventories might be assumed between the Tuxtla Statuette and the potsherd fragment of Chiapa de Corzo. This assumption bases on the similarity of the affixes used and of some of the hieroglyphs.

A common inventory has probably also existed for the inscriptions of the Monte Albán III A phase. Considering the present knowledge of the matter, however, it is impossible to make more comprehensive statements. Nevertheless, the author thinks that the criteria mentioned may serve as a basis for a preliminary classification of the non-Maya writing systems of Mesoamerica. Intentionally, rather too large than too small groupings will be made in order to avoid the danger of assigning an independent writing system to almost every preserved monument.

3. CLASSIFICATION OF WRITING SYSTEMS

Monte Albán Writing System

Period : Late Pre-Classic

Area of distribution : Center : Monte Albán. - Peripheral area : Valle de Oaxaca and parts of the Mixteca Alta

Characteristics : At first sight the inscriptions on the stone slabs of the "danzantes", the stelae and the lápidas of Building J of Monte Albán appear different. It shows, however, that these differences are rather based on the variety of the thematic content. All inscriptions have in common : the reading direction, very probably in vertical single columns from top to bottom.

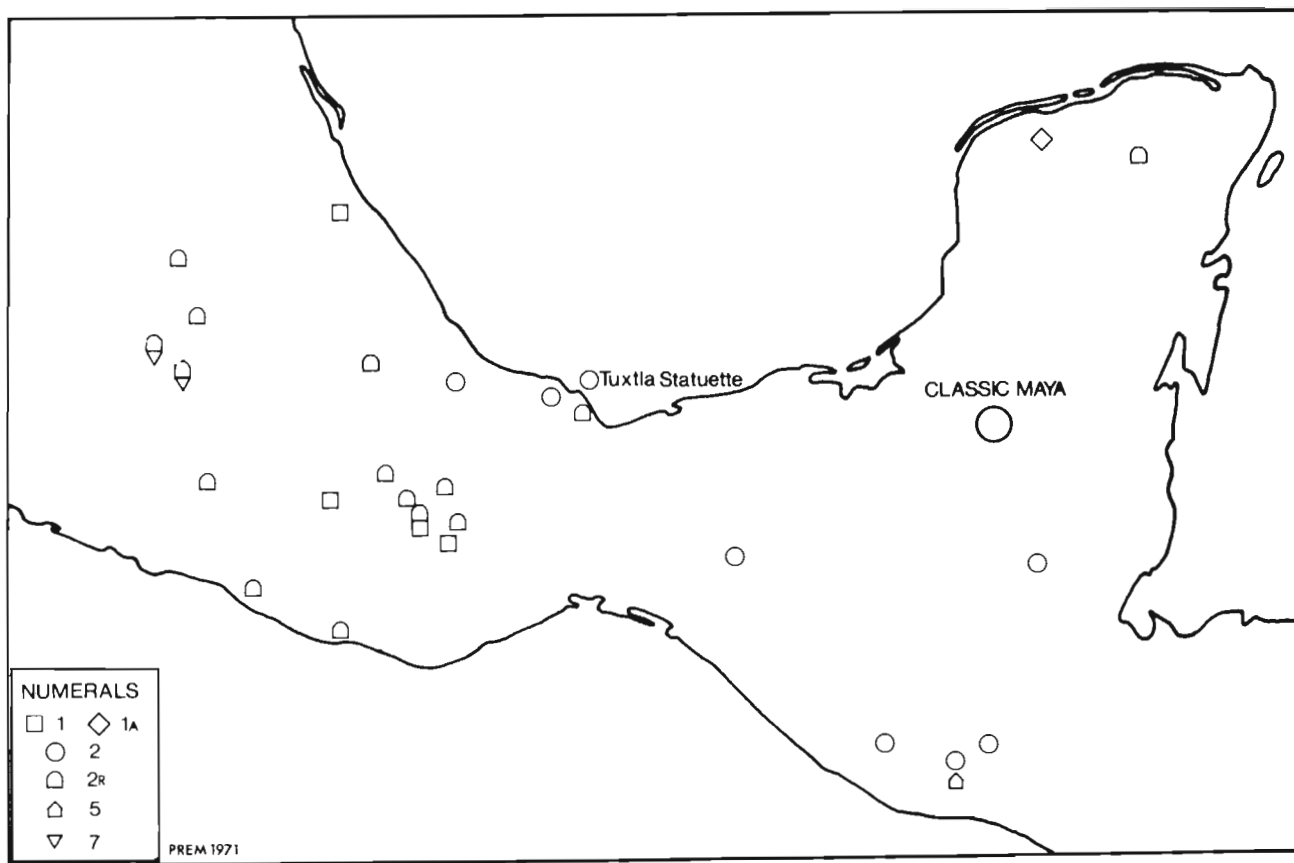


Fig. 4

The blocks are distinctly separated from each other by interspaces; they have a rectangular contour, often carried out as cartouches (there are however, no cartouches in the case of the "danzantes").

A particular feature occurs in Monte Albán II phase which Caso (1947:135) - probably with good reasons - defined as a recording of names of localities. These signs are of very elaborate form and occupy a dominating position on the lápidas of Building J of Monte Albán. Caso's assumption that here also phonetic ways of writing have been used, is based on a conclusion by analogy with the Aztec writing and is by no means sufficiently substantiated.

The total of the inventory is not known but has probably reached a three-value figure. It may be assumed that, to a limited extent, the writing was suited for the recording of verbal texts.

Bar and dot numerals occur in Form I, numerical values from 1 to 19 have been expressed. There is no indication of the existence of a place-value system.

Calendar: Objections must be raised (Prem 1971:119-120) against Caso's opinion (lastly 1965:932) that there had existed "the tonalpohualli, the year, the four bearers, and probably the division of the year into units of twenty or 'months' " - an opinion which is at least premature. Solely a modest internal probability (cumulation of numerical values within the figures 1 to 13) speaks - beside the analogy with later Mesoamerican calendars - in favour of the assumption that the cartouche-lined signs which are always combined with bar and dot numerals represent days of a tonalpohualli-like calendric system.

Related writing systems: Nothing is known about any precursor of Monte Albán writing. We have here the earliest authentic occurrence of a writing system in Mesoamerica. A relationship to the "Olmec" area, firmly believed in respect of the Monte Albán I and II culture (Bernal 1969:158, 166) can be seen only insofar as in both areas the principle of recording the common Mesoamerican vigesimal numerical system through bar and dot numerals and the facultative marking of calendric signs by a cartouche appears. Particularly the written documentation from the Olmec heartland is too meager to allow more comprehensive statements. The development of the two writings which proceed fast in different directions may render difficult the identification of a quite possible but at the present time purely hypothetical ancestor.

Bibliography (13): Caso 1928, 1947, 1965; Prem 1971.

Intermediate Writing

Period : Late Pre-Classic and transition to the Classic

Area of distribution : Central depression of Chiapas, northern Isthmian region (= Northern Group). Southern highlands of Guatemala and Pacific slope (= Southern Group)

Characteristics : Common features of the two groups: reading direction in single, or pairs of, vertical columns. The signs are arranged in symmetrical blocks of frequently uniform size. The cartouche for calendric signs sometimes shows an almost baroque design (Kaminaljuyú). The bar and dot numerals have the Form 2 or 2 A and are also used in a place-value system. The existence of a common sign inventory is, however, not probable.

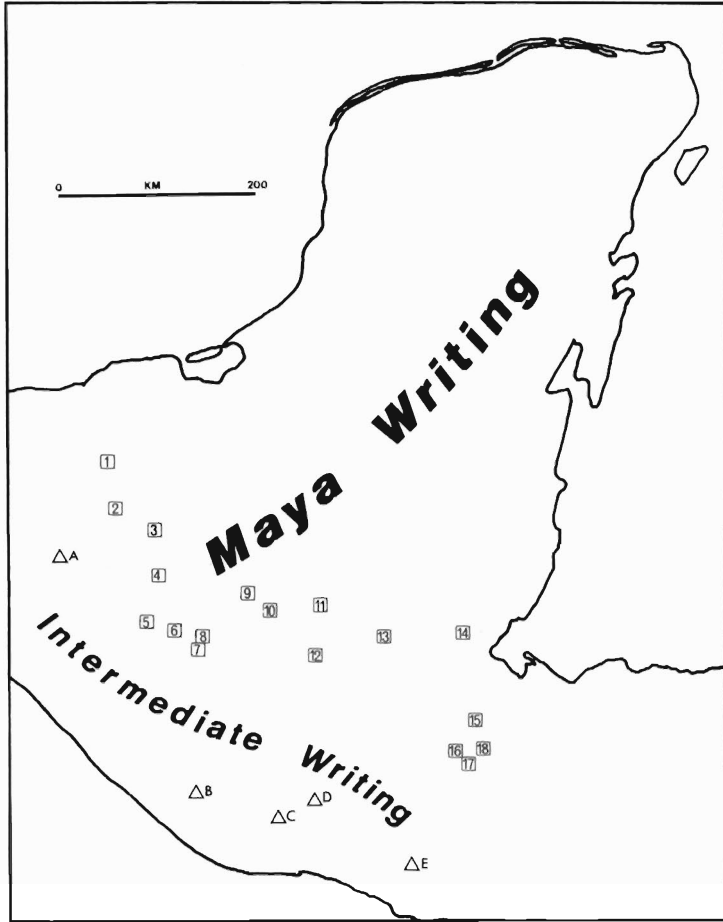
Northern Group: There exists very probably a common inventory for the monuments bearing sequences of hieroglyphs, i.e. the potsherd fragment from Chiapa de Corzo and the Tuxtla Statuette. The similarity, including the frequent use of affixes - occurring otherwise only in classic Maya writing - , is so marked that perhaps even a common local origin might be taken into consideration. If it is possible to draw conclusions from the Tuxtla Statuette, a high degree of textual faculty may be expected of the northern group.

Southern Group : The few clearly recognizable hieroglyphs do not appear to belong to the inventory of the northern group. Because of the poorly preserved inscriptions further statements cannot be made yet.

Calendar : Dates expressed by five digits of a place value system and further evidence suggest the existence of a system which is - at least in principle - identical with the Maya Long Count. It seemed doubtful whether also the starting date was the same; to-day this appears, however, to be a fact (Coe 1957, Graham 1964, Prem 1971). The existence of a Long Count in the form of the Intermediate Systems proves at the same time the presence of a Tonalpohualli. There is, however, no indication of the existence of more extensive calendric systems, so, for instance, of the division by month of the vague-year.

Related writing systems : It seems very probable that there is a relationship between the southern group of the Intermediate Writing Systems and the classic Maya writing (Heath-Jones, pers. comm.); the hieroglyphs on Stela 10 of Kaminaljuyú are even termed "clearly Maya" (Thompson 1965: 651).

If the southern group of the Intermediate Writing is considered as different from classic Maya writing, it will show that there is no spatial overlapping of the two writing systems (see map fig. 5); this may, however, be the result of fragmentary investigation. This seems possible in view of the fact that isolated discoveries of Maya-like inscriptions were made in mostly uncontrolled investigations in Chiapas (Tonalá, stela at railway station,



□ Southernmost archaeological sites with inscriptions in Classic Maya Writing (Thompson 1950)

- | | |
|-----------------|--------------------------------|
| 1 El Tortuguero | 10 Tzendales |
| 2 Tila | 11 El Pabellón |
| 3 Toniná | 12 Salinas de los nueve Cerros |
| 4 Poco Uinic | 13 Cancuén |
| 5 Comitán | 14 Pusilhá |
| 6 Tenam | 15 Quiriguá |
| 7 Chinkultic | 16 Hacienda Grande |
| 8 Quen Santo | 17 Copán |
| 9 Oxlahuntún | 18 Rio Amarillo |

△ Archaeological sites with inscriptions in Intermediate Writing

- | | |
|-------------------|---------------|
| A Chiapa de Corzo | D Kaminaljuyú |
| B Abaj Takalik | E Chalchuapa |
| C El Baúl | |

Fig. 5

López Mateos). The Altar 1 from Kaminaljuyú (Early Classic) seems to belong still to the Intermediate Writing; the blocks are completely unrecognizable.

For the relationship between the northern group and Monte Albán writing see above.

Bibliography : Coe 1957, Graham 1964, Miles 1965, Prem 1971.

Late Isthmian Writing

Period : Early Classic

Area of distribution : Cerro de las Mesas

Characteristics : The writing clearly succeeds to the northern group of the Intermediate Writing Systems. The texts of the inscriptions are associated with figurative representations; to judge from the position both are of the same importance. The reading direction in the single vertical columns is probably from top to bottom. No details can be given of the inventory as most inscriptions are very poorly preserved. It must be assumed that the textual possibilities are limited. The bar and dot numerals have Form 2.

Calendar : Most inscriptions carry dates corresponding to the structural schema of the Maya Long Count. A conversion basing on the starting point of the Maya calendar leads to convincing dates which can be internally checked.

Related writing systems : Apart from the above mentioned succession to the Intermediate Writing System, no other relationship is known. Prior to the middle of the Classic the system disappears, making way for a simpler kind of notation, limited to isolated dates.

Bibliography : Stirling 1943.

Classic Zapotec Writing

Period : Classic (Monte Albán III A and B)

Area of distribution : Valle de Oaxaca and Mixteca (the majority of finds come from a wider range around Monte Albán)

Characteristics : The following features apply to phase III A: Hieroglyphs associate with narrative pictography. They are placed in vertical columns which are frequently inexact and not specifically marked; the reading direction is probably from top to bottom. Cartouches occur only rarely. The outline of the hieroglyphs is no longer the rounded-off rectangle. The inventory is a partial adoption of the Monte Albán phases I and II.

The bar and dot numerals have the Form 2R, in some cases also Form 1. They are limited to the denotation of the figure values 1 to 13.

Towards the end of the Classic these features disappear gradually. The hieroglyphs are no longer arranged in columns but are dotted over the areas left uncovered by the scenic representations. Because of the arrangement which often deserves the epithet "confused" the reading direction is not ascertainable; the thematic sequence is vaguely indicated by the pictographic representations. Cartouches disappear completely.

Calendar : The existence of the tonalpohualli is secured. The interpretation of a sign - already occurring in Monte Albán I - as year bearer indicator sign cannot yet be accepted as unequivocally proved. Further calendric mechanisms were obviously not recorded. The limitation of the bar and dot numerals to the values 1 to 13 indicates a thematic depletion.

Related writing systems : The ancestry of the Monte Albán writing (phase I and II) is incontestable. There is nevertheless a distinct break (14) between them, documented by an unsteady representation of the signs, the replacing of a remarkable portion of the sign inventory by other signs and the suppression of various possibilities of manifestation.

Bibliography : Caso 1928.

Central Mexican Writing Horizon

Period : Late Classic - transition to Post-Classic

Area of distribution : Central Mexican Highland. Radiation to Yucatan and Coastal Guatemala. - Center: perhaps Xochicalco.

Characteristics : The Central Mexican Writing Horizon is marked by the simultaneity of different elements that are contrary in principle. This includes forms of the Zapotec writing as well as new forms showing conformities with the later forms of the Aztec writing. The same phenomenon shows also in the writing of figures, the Zapotec form of the bar and dot numerals (2R) occurring immediately beside the pure dot forms (7 and modifications). Mixed forms occur also in the arrangement of the hieroglyphs, strict arrangement in columns and association with narrative pictography being observed. The calendric signs have cartouches.

At Tenango, Maltrata and, above all, at Xochicalco a sign indicating the year bearer occurs which is nowhere else ascertained. The Xochicalco area is marked by a cumulation of inscriptions, whereas in the more distant parts of the Mexican Highland the bar and dot system - considered as essential - occurs only rarely. Also sequences of hieroglyphs have only been secured in Xochicalco.

Related writing systems : One of the sources of the Central Mexican Writing Horizon is doubtless the Zapotec Writing which is at least partly contemporaneous. It is possible, in some cases even probable, that certain inscriptions found outside the Mexican highland also belong to that horizon or were strongly subject to its influence. Evidence of this emanation are the

stela of Piedra Labrada (Veracruz) and the hieroglyphs associated with the scenic representations of the Toltec period of Chichén Itzá (Templo de los Guerreros, Templo de los Tigres).

Bibliography : Caso 1962

Post-Classic Manuscript Style

Period : Late Post-Classic

Area of distribution : Mixteca, Aztec domain of influence. - Central area: Mixteca-Puebla

Characteristics : A marked narrative pictographic mode of representations prevails. It is mainly preserved in pictorial manuscripts but also in wall pictures and stone sculptures.

The hieroglyphic recording is limited to proper names of persons and localities and to calendric data. The system has no ability to express verbal texts but serves to complement the oral tradition represented by pictography.

Recording of figures was done in the Aztec area by Form 8, within the Mixtec area by Form 9. Besides that the bar and dot numerals are used in some cases for the recording of non-calendric quantity data.

The indication of the year bearer was achieved in the Mixtec area by the Mixtec Year Bearer Indicator Sign (15), in the Aztec area by the sharp-edged cartouche (Form 8), however not always unambiguously. The stone-inscriptions follow strictly the pattern of the manuscripts.

Calendar : Denomination of days following the tonalpohualli system and denomination of years following the Year Bearer system were recorded in writing. The days of the 20-day months were not written in pre-Columbian times, apart from one questionable monument (Tepozteco).

Related writing systems : In the way of recording personal names, parallels to the Toltec relief representations of Chichén Itzá can be seen.

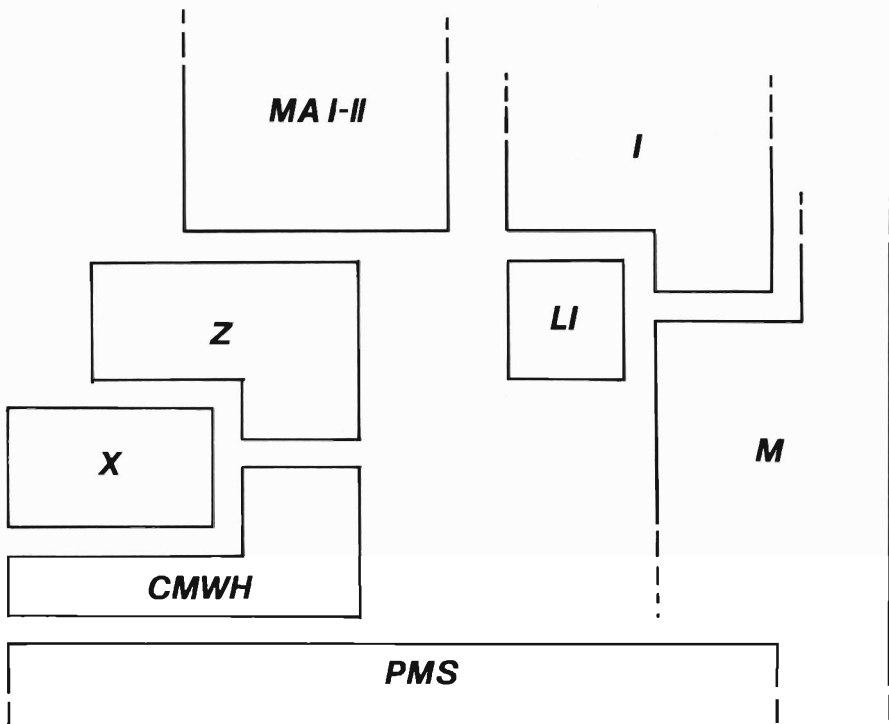
Bibliography : The publications on Mexican pictorial manuscripts and Aztec hieroglyphs are far too numerous to be stated here. The following authors have, among others, dealt with the subject-matter in a theoretical way: Aubin 1885, Dibble 1940, Nowotny 1959, Prem 1967, 1970.

Non-Assignables

It was not possible to classify the inscriptions of Santa Lucía Cotzumalhuapa and the non-Maya hieroglyphs of Seibal and Ucanal (16).

4. CONCLUSIONS

In Pre-Columbian Mesoamerica at least five different writing systems existed beside the Maya writing which was the dominating object of research (Late Isthmian may here be classified as a branch of Intermediate). In the last analysis they may all be looked upon as related in varying degrees, since, in spite of all differences, they have important features in common. It is nevertheless difficult to imagine a genetic pattern of the Mesoamerican writing systems. In perfect consciousness of its preliminary character the following hypothesis is being submitted for discussion.



MA I-II	Monte Albán Writing
Z	Zapotec Writing
I	Intermediate Writing
LI	Late Isthmian Writing
CMWH	Central Mexican Writing Horizon
X	Xochicalco branch of the Central Mexican Writing Horizon
PMS	Post-Classic Manuscript Style
M	Classic Maya Writing

NOTES

- (1) The essential characteristics of a writing system are: 1. The intended transmission of a message; 2. the coding of a message; 3. the graphic recording (Prem 1971:113-114; cf. Riese 1971:11-20).
- (2) The author is occupied with a more detailed study and a compilation of a corpus of non-Maya inscriptions.
- (3) See map, fig. 1.
- (4) Nomenclature of monuments according to Caso 1947.
- (5) By "blocks" is here to be understood separated segments of a hieroglyphic inscription. As a rule, they occupy a rectangular space and are separated from the neighbouring blocks by interspaces. They consist of one or several hieroglyphs, the thematic content of each forming a relevant unity (Riese 1971:156).
The total of the graphic features of a hieroglyph, that is: its ideal design, defines the "graphic sign". The sum of all signs of a writing system is called the inventory.
Since the criterion "content" cannot be applied in the case of the writing systems under review, the hieroglyphs can be isolated only according to their graphic design accepted as established. However, in the case of blocks consisting of several distinct elements, the scarcity of material does not allow unambiguous segmentation. For this reason the more comprehensive term "block" is generally preferred.
- (6) Many of the inscriptions were to date never published and can be reconstructed only from dispersed data given by Caso 1947.
- (7) At present about 10 blocks can be seen there of which none has ever been published.
- (8) The exact place of origin is unknown; the statuette is reported to have been bought at San Andrés Tuxtla. For reasons to be outlined later in the text, the author holds that the place of origin was probably in central Chiapas.
- (9) Cerro de las Mesas, stelae 2, 5, 6, 8, San Miguel Chapultepec (stela), Alvarado-Stela.
- (10) Cerro de las Mesas, stelae 4, 11, 15. Stela 4 is characterized by Stirling 1965:727 as late Classic, by Bernal 1969:146 as late Pre-Classic.
- (11) Piedra de los cuatro glifos, piedra del año 3 tochtli, piedra del fuego nuevo, estela de los dos glifos, a further slab without designation (Saenz 1966:33).
- (12) The present study uses the local-temporal classification of inscriptions and formal (thus also stylistic) viewpoints as separate arguments. They must therefore not be derived from one another.
- (13) Only studies are mentioned which deal thoroughly with the entire individual writing system.
- (14) Bernal 1965:802 emphasizes that from Monte Albán III A on the former southward orientation of Oaxaca now makes way for an orientation towards the north (Teotihuacan). In spite of numerous relevant attempts (Caso, compiled version 1967:143-165, Lizardi Ramos 1955, Séjourné 1962) the existence of a writing system of Teotihuacan cannot be proved (Prem 1971:124-126).

- (15) The sign mostly described as interlaced A and O can be followed up to the early Classic. It receives its significance as year bearer indicator not until the Post-Classic and only in the Mixteca-Puebla area.
- (16) The two identical signs on Stela 3 of Seibal, the hieroglyphs of Stela 13 of Seibal and Stela 4 of Ucanal, all inscribed to a rectangular, sharp-edged cartouche but associated with bar and dot numerals (Form 2) do not fit into the Maya inventory. Not only their style but (for the so-called cipactli-sign) also the actual form recur exactly on the Mexican highland (Building B at Tula). The same form is found in the celestial band on the decorated capstone of the Temple of the Owl at Chichén Itzá (Morley and Brainerd 1956:104 give a late Classic dating). The quoting of that sign at Seibal as evidence for an expansion of the hybrid Maya-Nahuatl people of the Chontal Maya (Thompson 1970:41-42) should therefore be considered with caution.

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