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## A SLETCH OF MAYAN LANGUAGES

David F. Oltrogge

1. Introduction.
2. Some historical and comparative notes.
3. Some phonological features.
4. Some syntactic features.
5. Some aspects of verb morphology.
6. Bibliography.

1. The purpose of this paper is to present some of the principal features of Mayan languages. It will also touch on genetic relationships among the major members of the Mayan language family, as well as sketch some inferences regarding past migrations and inter-group contacts.

A study of this nature is necessarily limited: only a few aspects of the languages are handled, and then only in a broad way. Nevertheless, a reading of this introductory work should provide a beginning point for further study, especially for the student who may be contemplating doing field work in a Mayan language.

Further study would naturally require an examination of the existing literature regarding the particular language or languages the student wishes to explore. For this purpose, the reader is directed to the bibliographies in such volumes as the Handbook of Middle American Indians, or Current Trends in Linguistics, as well as to the indices of the many linguistic journals in circulation.

2. The Mayan language family is composed of around twenty-five languages that are spoken by approximately three million people in Guatemala and southern Mexico. The striking similarities shared by these languages lead to the conclusion that they are all descendants of a common ancestor. This language, Proto-Mayan, was spoken around 4,600 years ago by a group of people that lived somewhere in the highlands of what is now western Guatemala. On the basis of such considerations as degrees of linguistic divergence among, and geographic distribution of, the modern languages, McQuown (1964:69-72) traces a tentative history of the Mayan peoples as follows (my translation from Spanish):

No more than 46 centuries ago, that is, around the year 2600 B.C. a small group of American Indians, the Mayans, who spoke a highly uniform language, and whose relatively close linguistic relatives (Totonacans and Mixeans) were found in another part of Mesoamerica, settled in the proximity of the high Cuchumatanes, in the northwestern region of what we now call 'los

Altos' (the highlands) of Guatemala. 800 years later, or approximately 1800 B.C., a small portion of this original group, the Huastecs, separated from among the Aguacatecs and the Uspantecs and emigrated towards the north and west (perhaps returning to the lower and warmer altitudes from whence the entire group had migrated earlier?). This group, nevertheless, did not go far, but settled in the lowlands immediately to the north where, 200 years later, another small portion of the original group, the Yucatecs, who had separated themselves from among the Uspantecs and the Pokomchis, joined them. The Yucatecs, new neighbors of the Huastecs, in around 1400 B.C. had already separated into two groups: a principal group that afterwards moved towards the north and later towards the east (eventually to inhabit the Peten and the Yucatan peninsula), and a small group, the Lacandons, that went to live in the jungle and broke contact with the Huastecs some 200 years before the Yucatecs did. The Huastecs, around 1200 B.C., broke contact with the Yucatecs, while the latter continued to maintain lines of communication with their brothers, the Lacandons; all the while none of these groups lost contact with the parent group in 'los Altos'. Some 300 years later, around 900 B.C., the Chontalans, leaving the vicinity of the Uspantecs, united with the Yucatecs and the Lacandons and lived in very close contact with them during a millenium or more. The Yucatecan contact with Chol was somewhat more intimate than with Chontal--its northern neighbor--, or with the Chorti--its southern neighbor. A little later, around 750 B.C., the Tzeltalans, separating from among the Jacaltecs and the Ixils, followed the Chontalans, moved towards the north, and established a contact somewhat closer with the Chontalans than with the Lacandon-Yucatecos. Next, the Tojolabals, approximately 400 years before Christ, moved towards the north, from a point midway between the Jacaltecs and the Motocintlecs, and established closer relations with the Chontalans than with the Yucatecans, although all continued living in quite close proximity with each other in the lowlands along the northern slopes of the Cuchumatanes. The Chuj separated next, from between the Jacaltecs and the Motocintlecs on one side, and from the Ixils and Aguacatecs on the other, and from a very close association with the Pokomchis and Uspantecs, in approximately 200 B.C. However, it did not break its contacts with its neighbors entirely, particularly the Tojolabals, from whom its divergence did not begin until some

800 to 900 years later. The intimacy with its other neighbors to the north broke in different times from around 200 B.C. to 200 A.D. In the south, Chuj maintained its close contacts with the Jacaltecs and Motocintlecs until around 500 years after Christ.

Around 200 B.C., the Quichean languages (except Uspantec) also began to separate from among the Aguacatec and the Motocintlec. Mam and Chuj are found about equidistant from Quichean, having begun their clear-cut divergence around 200 B.C. Jacaltec and Motocintlec are found at less a distance from Quichean, their divergencies having begun around 150 A.D. A little later than the Quichean, the Kekchian languages began to move out from among the Aguacatec and Ixil--about 100 B.C. Pokomchi, one of the three languages of this sub-family, took longer in reaching its manifest distance ('distancia manifiesta'). Mam is somewhat closer to Chuj than to Kekchian, while at the same time Chuj is closer to Jacaltec and Motocintlec. Within Quichean, Uspantec did not break clearly from Mam until around 700 A.D., about a thousand years after the date in which the entire group began to diverge. Motocintlec is found closer to Uspantec (with a separation of only 1,000 years) than to any other language outside the Quichean group. Aguacatec and Ixil are found about equally close to Uspantec. Pokomchi, a Kekchian language, is as close to Uspantec, a Quichean language, as it is to Pocomam, within its own group. It is closer to Cakchiquel than to Kekchi, and equidistant from Rabinal and Quiche. Although Quichean, with respect to its internal relationships, is a more compact group--in that it did not begin to differentiate notably until around 1200 A.D.--, and while the Kekchian differentiation began about a millenium earlier, the two groups as wholes are found closer to each other than any two Mamean groups (with the exception of a special relation that Mamean has with Uspantec on the one hand and Pokomchi on the other). It would appear that Kekchian moved towards the east and north, Quichean towards the east and south, Pokomchi later splitting off from the former and Uspantec from the latter. More remote, within each of the sub-families that have more than two members, are found Kekchi, Cakchiquel, Mam, Tzotzil and Chontal. Subsequent migrations, for which certain evidence exists, were the following: 1) that of the Motocintlec, around 1000 A.D., which moved from the foot of the

Cuchumatanes, where it had been in close contact with Pokomchi, Uspantec, Rabinal and Ixil (all these being closer to Yucatec than the other highland Guatemalan Mayan languages), to its final position established in the southeast of Chiapas on the northern slopes of the Pacific range;

2) that of the Chicomuceltec around 1000 A.D., that moved from close contact with Huastec--supposedly on the Mexican gulf coast--to the south bank of the Grijalva river in the southeast of Chiapas;

3) that of the Uspantec, around 900 A.D., that moved towards the east from a position close to the Aguacatec, to its present location;

4) that of Pokomchi, about 900 A.D., that moved towards the east from the vicinity of the Uspantec, to its present location;

5) that of the Tzeltalan, still without internal differentiation, around 400 A.D., that moved from a situation of very close contact with the Chol and Chorti, to the highlands of Chiapas where Tzotzil separated at a relatively later date (perhaps not until 1300 A.D.) and Tzeltal, in a more intimate relationship with Tojolabal, reduced its distance from the latter;

6) that of the Chorti, around 900 A.D., still in very close association with the Tzeltalan, Yucatec and Chuj (all three being found outside its immediate family, viz. Chontal and Chol), and still bearing marks of a larger proximity to Jacaltec, Motocintlec, Ixil, Uspantec, Pokomchi, Rabinal and Cakchiquel, that moved towards the east and south to its present location on the Guatemala-Honduras border.

Groupings of the contemporary languages into sub-families have been propounded by scholars for many years. The oldest available to me for this study was that done by Stoll in 1884 that posited six such sub-groupings (see Chart 1). A more recent classification by Kaufman (1964:85-6), done on the bases of more adequate data and a more refined methodology, establishes eleven groups (see Chart 2). It is interesting to note that in spite of the eighty year advantage afforded Kaufman, the two schemes are very much alike. The Huastec, Yucatec, Mamean, and Quichean groupings are quite similar, though Kaufman adds Chicomuceltec, Lacandon and Achi, and--strangely--omits Uspantec. The major differences lie in the area of the Cholan-Tzeltalan differentiation that Kaufman sets up, as well as in his addition of Chuj, Kanjobalan and Motocintlec--all as principal groups.<sup>1</sup> Outlines of this type generally reflect something of a continuum of degree of similarity among languages, so that languages that appear in sequence share a greater number of features than two languages that are separated. Another, more precise way to represent such similarities, is through a chart showing

CHART 1

## CLASSIFICATION OF THE MAYAN LANGUAGES--STOLL, 1884\*

- A. Huastec
- B. 1. Yucatec
  - 2. (Mopan)
- C. 1. Chontal
  - 2. Tzeltal
  - 3. Tzotzil
  - 4. Toholabal
  - 5. Chol
- D. 1. Kekchi
  - 2. a. Pokonchi
    - b. (1) Pokomam
    - (2) Chorti
- E. 1. a. Cakchiquel
  - b. Tzutuhil
  - 2. a. Quiche
    - b. Uspantec
- F. 1. Ixil
  - 2. a. Mam
    - b. Aguacatec

\*From McQuown, 1956. Variant spellings are preserved from the source. Parentheses are not explained.

CHART 2

## CLASSIFICATION OF THE MAYAN LANGUAGES--KAUFMAN, 1964

- |                    |                     |
|--------------------|---------------------|
| I. Huastecan       | VII. Kanjobalan     |
| A. Huastec         | A. Kanjobal         |
| (B). Chicomuceltec | B. Jacaltec         |
| II. Yucatecan      | (VIII). Motocintlec |
| A. Yucatec         | IX. Mamean          |
| B. Mopan           | A. Ixil             |
| C. Lacandon        | B. Aguacatec        |
| III. Cholan        | C. Mam              |
| A. Chontal         | X. Quichean         |
| B. Chol            | A. Quiche           |
| C. Chorti          | B. Cakchiquel       |
| IV. Tzeltalan      | C. Tzutujil         |
| A. Tzeltal         | D. Achi (=Rabinal)  |
| B. Tzotzil         | XI. Kekchian        |
| V. Tojolabal       | A. Pokomam          |
| VI. Chuj           | B. Pokomchi         |
|                    | C. Kekchi           |

percentages of common retentions and separation in time, as done by Mayers (1966:385) for most of the Guatemalan Mayan languages (see Chart 3).<sup>2</sup>

In summary, the Mayan languages of today probably trace to a common ancestor of something over four thousand years ago. The similarities that exist in the modern languages suggest a complex history of development, and provide criteria for the establishment of various sub-groupings within the family.

3. As is to be expected, the Mayan languages demonstrate a high degree of phonological similarity. These similarities make it possible (through the application of the comparative method to cognate lexical sets across the languages) to reconstruct the phonemes of Proto-Mayan. These phonemes, as reconstructed by McQuown (1964:57), appear in Chart 4.

On the basis of the literature that was consulted, a number of generalizations regarding the phonologies of the modern Mayan languages may be drawn (see Chart 5):  
1) By means of phoneme lists from five Mexican and eleven Guatemalan Mayan languages, the following phonemes were found to occur in all: /p/, /t/, /k/, /ʔ/, /tʔ/, /kʔ/, /ɬ/, /č/, /ɬʔ/, /čʔ/, /š/, /m/, /n/, /y/, and /l/ of the consonants; and /a/, /e/, /i/, /o/, and /u/ of the vowels. These may rightly be considered as Mayan universals (though there could possibly be some languages that weren't researched that lack one or more of the foregoing).

It is also likely that a bilabial semivowel /w/ and a velar fricative /x/ should be listed here as universals. Possible skewing of the information caused by different orthographic conventions and lack of phonetic data, however, make it difficult to determine if h and w in some languages correspond with j (derived from Spanish) and v, respectively, in others. Nevertheless, all the languages have at least one phoneme of each basic type, and in Kekchi /x/ and /h/ contrast.

2) The following phonemes occur in fourteen to fifteen of the languages examined, and may be considered near universals: /bʔ/ 14, /s/ 15, and /r/ 15. The /bʔ/ is unique in that in all but a few of the languages it represents an implosive that is usually voiced--an asymmetrical feature of an otherwise uniform system.

3) Phonemes that occur in from seven to ten languages



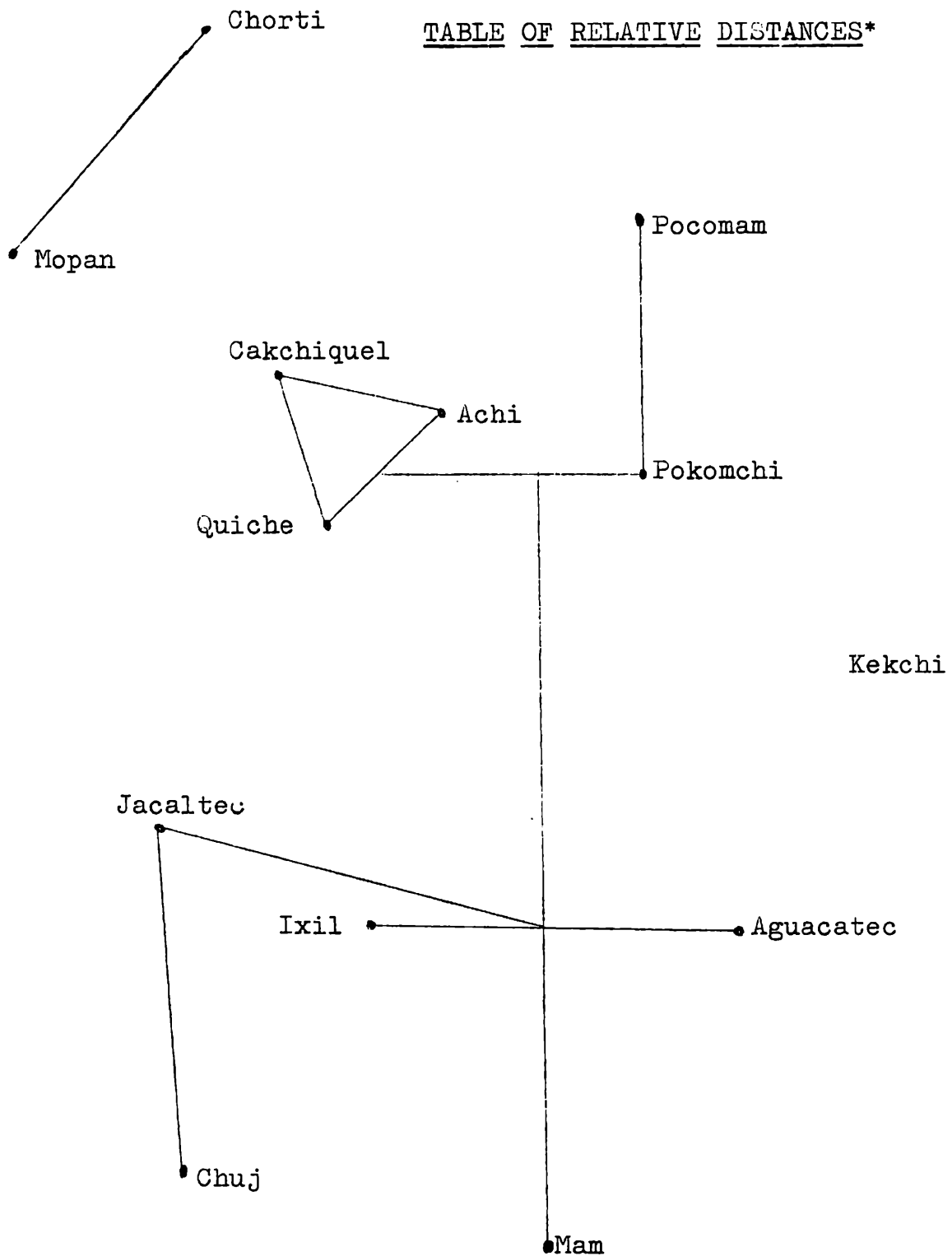
CHART 3  
HISTORICAL RELATIONS\*

Time (approximate) in centuries.

	Qu	Ac	Ca	Pi	Pm	Ke	Ag	Ix	Ma	Ja	Ch	Mo	Cho
Quiche	3	4	8	13	15	15	15	14	11	17	18	17	
Achi	90	5	9	11	16	14	14	13	12	13	19	18	
Cakchiquel	87	86	11	11	18	14	15	14	12	16	19	16	
Pokomchi	76	74	69	6	13	15	15	16	14	16	20	21	
Pocomam	67	70	69	83	16	19	20	18	18	19	22	22	
Kekchi	63	60	58	67	61	13	14	16	15	19	23	18	
<hr/>													
Aguacatec	62	64	64	63	55	66	8	10	12	15	19	21	
Ixil	63	64	62	63	54	64	78	11	11	14	19	22	
Mam	64	61	64	61	58	61	72	71	11	16	16	20	
Jacaltepec	69	68	68	65	57	62	68	69	69	11	17	17	
Chuj	59	67	60	60	55	56	63	65	61	71	16	19	
Mopan	57	56	56	54	51	49	55	56	60	59	61	7	
Chorti	59	57	60	53	51	55	52	50	54	59	57	79	

Percentage of common retentions

\*From Mayers, 1966

CHART 3aTABLE OF RELATIVE DISTANCES\*

\*From Mayers, 1966. 1/4" = approximately 100 years.  
 Languages less than 1200 years distant are connected.

CHART 4PHONEMES OF PROTO-MAYA\*

p	t	ts	k	ḱ	
pʔ	tʔ	tsʔ	kʔ	ḱʔ	ʔ
	s	š		x	h
m	n		ŋ		
w		y			
	l				
	r				
			i	ë	u
			e	a	o
			ii	ëë	uu.
			ee	aa	oo
			´(high tone)	´(low tone)	
			kw, etc.		
			ky, etc.		

\*From McQuown, 1964

CHART 5  
TYPICAL MAYAN PHONEMES

p	t	k	ḳ	ʔ
bʔ	tʔ	kʔ	ḳʔ	
	č			
	čʔ			
	s	š	x ← or → h	
m	n			
w		y		
	l			
	r			
		i		u
		e	a	o

are: /k/ 9, and /kʔ/ 7. The post-velar stops seem to occur only in Guatemalan languages.

4) Phonemes that occur in fewer than seven languages are not considered typical. They are: /a·/ 6, /i·/ 5, /e·/ 5, /u·/ 5, /o·/ 4, /pʔ/ 4, /č/ 4, /čʔ/ 4, /š/ 4, /d/ 3, /ŋ/ 3, /ə/ 3, /kʷ/ 2, /kʷʔ/ 2, /b/ 2, /v/ 2, and only one of /g/, /θ/, /l/, /ε/, /u/, and /ɛ̃/. The occurrence of the long vowels throughout the sixteen languages examined does not seem to present a genetic or geographical distribution pattern. The retroflexed alveo-palatals occur in four languages that are both genetically and geographically proximate: Ixil, Aguacatec, Mam and Jacaltec. The velar nasal occurs in languages that are somewhat proximate genetically, though separate (largely) geographically: Chuj, Jacaltec and Mopan. /ə/ seems to occur in languages that are rather distant (geographically and genetically): Quiche, Aguacatec and Chontal.

5) Stress and syllable shapes are harder to typify for lack of readily available data. Stress seems generally to occur on word final syllables, hence is non-contrastive (with some exceptions). A typical syllable formula would be (C)CV(C). There are, of course, co-occurrence restrictions on the CC clusters of syllable onsets. CCC-patterns also occur. There are no vowel clusters.

4. The discussion of syntactic features of Mayan languages will follow the approach taken by Greenberg (1963: 73-113) in which languages are typologically classified according to the following criteria: 1) predominant order of subject (S), verb (V), and object (O) in the clause; 2) employment of prepositional (Pr) or postpositional (Po) elements for "...concepts expressed by prepositions in English"; 3) expression of possession by the genitive preceding (GN) or following (NG) the noun; and 4) attributive expressions with adjectives preceding (AN) or following (NA) the noun they modify. In applying these criteria to 'Maya', he proposes the following scheme: II/Pr/NG/AN (where II = SVO). It should be noted that Greenberg does not state what he means by the term 'Maya'. The word is often used as a label for Yucatec. Whether he employs it this way, or whether he means the entire family, is not clear.

In searching through the materials that were available to me<sup>2</sup> for confirmation of Greenberg's formula, the following patterns seemed to emerge (see Chart 6):

1) Predominant order of clause elements was VSO, with five of the fourteen languages checked manifesting this order: Achi (though a late personal communication from John Brawand indicates SVO as being more usual--at least in the Rabinal dialect area of Achi), Jacaltec, Aguacatec, Ixil and Mam, the last three being both geographically and genetically proximate. Although Jacaltec borders Mam geographically, it is genetically somewhat distant. Achi is considerably removed, both geographically and genetically, from the others; though this particular incongruity is lost if Brawand's report reflects a genuine dominant pattern. Three languages were SVO: Cakchiquel, Quiche and Chorti. While the first two are both genetically and geographically close, the latter is quite distant in both ways. Mopan and Tzotzil, geographically and genetically distant, were VOS. Information on this feature was not readily available for the remaining four languages.<sup>4</sup> It would appear, therefore, especially in view of the above mentioned communication from Brawand, that either VSO or SVO may be typically Mayan. Further research would possibly show one or the other as predominant; it might even reveal a statistical ambivalence that would make a both-and statement preferable to an either-or statement on this question.

2) A search through a number of texts with keyed literal translations (Shaw, 1971), showed Greenberg to be correct in classifying Mayan languages as prepositional. Of the fourteen languages surveyed in this section, nine--Achi, Aguacatec, Cakchiquel, Chuj, Ixil, Jacaltec, Kekchi, Mopan, and Quiche--were included in the above cited source, all of which clearly demonstrated prepositional structure.

3) Greenberg states that the genitive follows the noun (NG). This was somewhat difficult to confirm in that most of the possessive forms described in my sources were in the form of bound pronominals. Since these were all prefixes, the tendency would be to posit a GN universal for Mayan, rather than NG. However, of the three free forms I found, Cakchiquel and Quiche (both geographically and genetically very close) were NG, and Jacaltec (considerably distant from the other two in both ways) was GN. On discussing this feature with Brawand, he reports that, in free forms, Achi is NG. Thus, it might be proper to think in terms of an NG pattern as being more predominant. More research on the free forms would be necessary before a definitive statement on this feature could be made.

4) Finally, Greenberg states that in Mayan languages adjectives typically precede the nouns they modify.

CHART 6  
SYNTACTIC FEATURES

Achi*	VSO	Pre	GN (Prefix)	NA
Aguacatec	VSO	Pre	GN (Prefix)	AN
Cakchiquel	SVO	Pre	NG	AN
Chorti	SVO	?	GN (Prefix)	AN
Chuj	?	Pre	GN (Prefix)	AN
Ixil	VSO	Pre	GN (Prefix)	AN
Jacaltec	VSO	Pre	GN	NA
Kekchi	?	Pre	GN (Prefix)	AN
Mam	VSO	?	GN (Prefix)	AN
Mopan	VOS	Pre	?	?
Pokomchi	?	?	GN (Prefix)	AN
Quiche	SVO	Pre	NG	AN
Yucatec	?	?	GN (Prefix)	AN
Tzotzil	VOS	?	GN (Prefix)	AN

\*See text for alternate patterns for Achi.

My research generally bore this out, in that ten languages--Aguacatec, Cakchiquel, Chorti, Chuj, Ixil, Kekchi, Mam, Pokomchi, Quiche and Yucatec (representing a wide geographic and genetic spread)--manifest this pattern; whereas two, Achi and Jacaltec (geographically and genetically distant from each other) are NA (though, again, Brawand, in personal communication, advises me that Achi is AN).

Greenberg (1963:110-3) has formulated forty-five grammatical universals based on studies in some thirty languages from all parts of the world. A more detailed examination of the Mayan languages, for the purpose of proving or disproving these universals within the Mayan framework would be a profitable and interesting undertaking. Some of these universals include the following: 1) "All languages with dominant VSO order have SVO as an alternative or as the only alternative basic order." 2) "In languages with dominant order VSO, an inflected auxiliary always precedes the main verb. In languages with dominant order SOV, an inflected auxiliary always follows the main verb." 3) "When the descriptive adjective precedes the noun, the demonstrative and the numeral, with overwhelmingly more than chance frequency, do likewise."

Kaufman (1973:475-6) has suggested that a number of other categories could also be researched with potential profit with respect to the Meso-American languages (including Mayan). The categories he has suggested are: Nominal categories:

Do nouns have cases? If so, are they prefixes or suffixes?

Do nouns have sub-classes according to the way they are possessed? If so, is the sub-categorization semantically motivated or not?

Are nouns sub-divided by 'gender' agreement that other word classes share with them?

Is there a definite article?

Is there an inclusive/exclusive contrast for 'we'?

What is the contrast system for deictics/demonstratives? two-way or three-way, or other?

How is the numeral system structured?

Are there numeral classifiers?

Are locative notions (parallel to English preposition) expressed by prefixes, suffixes, prepositions or postpositions, or other means? And if so, what?

Verbal categories:

Is there incorporation of noun objects (and intransitive subjects)? If so, preverbal or post verbal?



- Is the subject of a transitive verb prefixed, suffixed, or independent?  
 How is the object of a transitive verb marked?  
 How many morphologically marked verb classes are there?  
 Do verbs have instrumental prefixes?  
 How is tense/aspect marked?  
 How are direction and location of action (parallel to English adverbs and verb prefixes) indicated?

Other categories:

- Are there honorific or special respect forms that are morphologically marked?  
 Is reduplication found? If so, what function does it fill?  
 How is plurality marked on nouns? on pronouns? on verbs?  
 Is there consonantal or vocalic ablaut? If so, what does it indicate?

Of the foregoing, Kaufman listed the following as being definitely Mayan: 1) Vigesimal numbering system; 2) Numeral classifiers; 3) Locative notions expressed by relative nouns,<sup>5</sup> and 4) Aspect a primary category of the verb; tense is secondary or entirely unmarked.

5. Mayan verb morphology is rather complicated, being characterized by potentially long strings of prefixes and suffixes carrying such markers as tense-aspect, person, number, inclusive-exclusive, voice, mood, instrument, benefactive, etc. A classic example comes from Cakchiquel (Townsend, 1926): Xquebencamisabextaj-ka-na-can, 'With an instrument I will go to kill them rapidly--in reference to a downward movement, and in reference to something expected and finished by that act, I will leave.' Its analysis is as follows: 1) Xqu- --future time; 2) -e- --third person plural of substantive verb, indicating that the object is plural and third person; 3) -be- --the verb 'to go', indicating that the agent goes away in order to act; 4) -n- --abbreviation of the pronominal-possessive prefix nu indicating that the agent is singular and in first person; 5) -cam- --verb root signifying 'to die'; 6) -isa- --causative suffix; 7) -be- --instrumental suffix; 8) -xta- --rapidative suffix; 9) -j- --indicator of active voice; 10) -ka- --auxiliary verb indicating action in a downward direction; 11) -na- --auxiliary verb indicating necessary action; 12) -can --enclitic indication that the action is finished or left or abandoned. Verbs of this length are very rare in Cakchiquel speech and literature, naturally, but the

potential and complexity are nevertheless well illustrated here. Complexities of the type just examined lead Jacobs and Longacre (1967:326) to make the following statement: "...in many (if not all) Mayan languages, it does not seem profitable to distinguish word from phrase as grammatical levels. While there is a stem (or derivative level) there is but one further grammatical level between stem and clause. This intermediate level, which we here term the phrase is characterized by varying degrees of phonological cohesion correlating roughly with the distance of elements from the stem."

For a more detailed--though somewhat restricted--view of some Mayan verb morphology, Fox's material on Quiche (1966:87-124) provides a representative sample. According to Fox, there are four major verb classes in Quiche: 1) active, 2) passive, 3) middle and 4) intransitive. He does not state how many sub-classes each of these have, but he does list two for the active verb: 1) imperfect and 2) perfect.

He reports three types of imperfect active verbs, but describes only one, which may be formulated as follows (using Fox's notation): +Asp:asp +obj:pers<sub>2</sub> +as:pers<sub>1</sub> ±Ben:ben +avn:vs<sub>1</sub>/vs ±Ins:ins ±Rec:rec ±Im:im +Vo:avo<sub>1</sub>. The formula (without making terminological distinction for slot and filler) would read: obligatory aspect prefix, followed by obligatory object prefix, followed by obligatory active subject, followed by optional benefactive, followed by obligatory active verb stem (class 1 or class 2), followed by optional instrument suffix, followed by optional reciprocal suffix, followed by optional immediative suffix, followed by obligatory voice suffix. Fox does not show any co-occurrence restrictions or obligations, nor does he provide a carefully-labeled example.

The formula for the perfect active verb (Fox makes no mention of any sub-types) is: +obj:pers<sub>2</sub> +as:pers<sub>1</sub> +avn:vs<sub>1</sub>/vs<sub>2</sub> ±Ins:ins ±Rec:rec ±Im:mom +Asp:pasp. The terms for the foregoing parallel those of the imperfect active verb above; no explanation is given for the different filler for the immediative suffix, however. The filler for the aspect suffix is different in order to indicate perfect aspect. Again, there are no limitations, maximal constructions, or examples given.

The verbal affixes may be listed as follows (for the above examples only; it may be assumed that the list is not complete):

46.

Prefixes:

Aspect (for 'certain'--Fox does not specify which-active, passive, middle and intransitive verbs):

k- Incomplete

š- Completive

č- Incohesive

m- Negative

x- Directional

Person:

Class 1. Manifests active subject tagmeme in active verbs.

	Occurs with consonant-initial verb stems:	Occurs with vowel-initial verb stems:
1st sg.	in-	w-
2nd sg.	a-	aw-
3rd sg.	u-	r-
1st pl.	ka-	k-
2nd pl.	i-	iw-
3rd pl.	ki-	k-

Class 2. Manifests object tagmeme in active verbs, and subject tagmeme in passive, middle and transitive verbs.

in- 1st sg.

at- 2nd sg.

∅- 3rd sg.

ux- 1st pl.

iš- 2nd pl.

e- 3rd pl. with consonant-initial verb stem

eb<sup>?</sup>- 3rd pl. with vowel-initial verb stem

Benefactive. Manifests benefactive tagmeme in im-

perfect active verbs:

- IV V varies in accordance with vowel of verb stem; it is not specified how.

Suffixes:

Instrumental. Manifests instrument tagmeme in active, passive, and middle verbs:

-b'e 'by means of'

Reciprocal. Manifests instrument tagmeme in active, passive and middle verbs:

-la? 'one to another', 'from one to the other'

Monementaneous. Manifests immediative tagmeme in active, passive and middle verbs:

-šta 'right now', 'soon'

Voice:

- x Active voice 1. Occurs with imperfect active verbs of sub-class 1.
- o Active voice 2. Occurs with imperfect active verbs of sub-class 2.
- š Passive voice 1. Occurs with imperfect passive verbs of sub-class 1.
- tax Passive voice 2. Occurs with perfect passive verbs.
- n- Middle voice. Occurs with middle verbs.

Mood:

- ik Indicative. Occurs with passive, middle, and intransitive verbs.
- V?ω-ampe? Imperative 1. Occurs with type 2 of imperfect active verbs. -V? is informal, the V changing in accordance with the stem vowel. -ampe? is formal.
- ok Imperative 2. Occurs with passive, middle, and intransitive verbs.

Perfect aspect:

-inaḵ Occurs with passive, middle, and intransitive verbs.

-om Occurs with active verbs.

Motion:

-kat Circular motion

-lobʔ Front-to-back or side-to-side motion.

Delgaty (1960) has described the verb structure of Tzotzil, a Mayan language spoken in Mexico. In brief, he posits five verb types: transitive, intransitive, positional, substantive, and descriptive; each with a number of sub-types (many of them parallel). A total of four prefix and eight suffix positions are shown, though naturally no one construction or type manifests them all. There are likewise a few co-occurrence obligations and restrictions. A condensation of the five verb types with affixes has been photocopied from the article in question (see Chart 7).

A few observations in connection with this condensation are in order. 1) Preposed items of series 5000 through 9000 inclusive are, according to Delgaty, particles--not prefixes--and do not enter into the verb word as such (cf. Jacobs and Longacre 1967, and above, page 18, on the problem of distinguishing verb from verb phrase). 2) It is not entirely clear as to why separate columns were established for the 3010-3020 prefix series, or for the 110-120, 310-320-330, and 810-820 suffix series, except, perhaps, to show co-occurrence restrictions. 3) An examination of the meaning labels suggests a number of semantically based co-occurrence restrictions; e.g., exclusive-inclusive (610 series) occurs only with first person (510--or 2010?--series) and plural (710 series); also a number of affixes are limited to certain verb types (which serves as an identifying-contrastive feature), e.g., the hortatory-imperative suffixes (310 series) occur only with the hortatory and imperative sub-types of transitive, intransitive, positional and substantive verb types. An interesting feature is the possible occurrence of either subject or object affixes in two positions (3010 and 510 series). This feature is not explained in detail in the text. Yet a third position for subject (2010 series) occurs as well.

In looking at the Quiche and Tzotzil data (and with a quick glance at Cakchiquel), a number of tentative generalizations may be attempted:

98p. SHOWING THE RELATIVE ORDERS OF (↓)

9010	9020	8010	7010	6010	5010	4010	3010
9011 ma interrogative	9021 ?atie conditional	8011 ha? emphatic	7011 muk negative	6011 ta here	5011 ta inceptive aspect	4011 k- present particular	3011 i- 1st person object

CHART 7

9012 bay where probable interrogative	9022 naka probable	8012 lah comple- tive aspect	7012 i- past particular 1st and 2nd person	6012 hi- past particular 3rd person	5012 -a- 2nd person subject or object	4012 -a- 3rd person subject or object	3012 -a- 1st person subject or object
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PARTICLES, PREFIXES, AND SUFFIXES AS THEY APPEAR IN THE TZOTZIL PREDICATE

	3020	2010	1000	Stem	110	120	210	310	320	330	410	510	610	710	810	820
3021 kak desiderative	2011 k- 1st person subject	1001 ka- transitive	111 -ban to do first or before doing something else	121 -bil perfect passive	211 -be relative	311 -ku- hortatory	321 -at passive with transitive stems	331 -ik- subjunctive with 1st person	411 -ik plural with 2nd person subject and 3rd subject and object	511 -un 1st person object or subject	611 -ku- exclusive 1st person plural	711 -tik plural with 1st person	811 -uk subjunctive with 3rd person	821 -kik exclamatory		
3022 auxiliary verb indicating direction	2012 av- 2nd person subject	1002 -to- transitive	112 -ulan to do repeatedly	122 -oh perfect on transitive stems	212 -em perfect on intransitive stems	312 -o imperative on transitive stems	322 -an subjunctive with 2nd person	412 -ot 2nd person object	512 -ot 2nd person object	612 -u- inclusive with 1st person plural	712 -uk plural with 2nd person suffix 512	812 - 3rd person	822 - 3rd person			
3023 y- 3rd person subject	2013 y- 3rd person subject	1003 -kan- positional	113 -kan- positional	123 -al stative	213 -al stative	313 -al stative	323 -al stative	413 -al stative	513 -al stative	613 -al stative	713 -al stative	813 -al stative	823 -al stative			

- 1) There are transitive-intransitive distinctions, with a number of other parameters also being manifested, whether as major type or as sub-type; e.g., passive, imperative, perfect.
- 2) Verbs are highly inflected, with up to four possible prefix positions and as many as eight suffix positions.
- 3) Pronominal prefixes have phonologically defined allomorphs, based on the phonological shape of the verb stem, and morphologically defined allomorphs based on the class (transitive vs. intransitive) of the verb stem.
- 4) Inclusive-exclusive distinctions exist (but may not always be a part of the verb word).
- 5) Typical prefixes include aspect (though this is in free form in Tzotzil), object, subject, beneficiary, directional.
- 6) Typical suffixes include immediative, repetitive, instrumental, voice, mood, number (singular-plural of subject or object).

#### NOTES

1. Similar groupings have been done by Gatschet (1895), Kroeber (1939), Halpern (1942), McQuown (1956 and 1964), and others. See McQuown 1956 and Campbell 1973.
2. Equivalent information of half of Chart 3 (though in different form) is shown in Chart 3a which correlates relative separation in time on a scale of 1/4" to approximately 100 years. Chart from Mayers, 1966:386.
3. The search for common syntactic features of Mayan languages was only partially successful because the primary source of information, Lenguas de Guatemala, includes grammatical sketches of eleven Mayan languages (all of Guatemala) only. In spite of its shortcomings, however, it proved to be superior to the sources of similar information on Mexican Mayan languages. For these, there was no one volume (as for Guatemala), and, the relevant material in the bibliography in the Handbook of Middle American Indians, Vol. 5, seemed to be either 1) of a very restricted nature, e.g., numeral classifiers, or 2) largely inaccessible because of having been published outside the U.S., or not having been published at all.

4. McQuown (1967:201-47) add nothing to this section, in that syntax is not handled.

5. Kaufman (1973:477) defines relative nouns as nouns that are "...morphologically always possessed--the possessing pronoun being what in English is the 'object', and the relational nouns can be translated as 'surface' (=on), 'interior' (=in), 'exterior' (=out of), 'back' (=behind), 'face' (=before), 'side' (=beside)."

6. Due to an oversight, Cowan, 1969 did not come to my attention in time to incorporate elements therefrom into this paper. It appears to treat Tzotzil grammar more extensively than Delgaty, 1960. It also looks like Delgaty's basic verb categories aren't changed very much in this.



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Prior to listing the sources used for this paper, it should be mentioned that the International Journal of American Linguistics is doubtless the best single journal for information on Mayan languages. Anthropological Linguistics is also a good source. The volume incorporating the most information brought together under one cover is Mayers, 1966: Lenguas de Guatemala (also published in English by Mouton under the title, Languages of Guatemala).

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The last volume came into my hands after work on this paper had been completed. It brings together all but one of the papers presented at a symposium on Mayan Ethnolinguistics held in New Orleans in November of 1969. None of these papers deals with the subject of a formal methodology for the study of Mayan semantics. Each one, rather, **focuses** on a narrow domain within the language in question, e.g. place names, plant names, honorifics. Although a background in semological analysis, ethnolinguistics and cognitive anthropology is assumed on the part of the reader, the beginner will nevertheless find much of worth and interest in this book, e.g. Marshall E. Durbin, "Sound symbolism in the Mayan language family", and Brian Stross, "Acquisition of botanical terminology by Tzeltal children".