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The Languages of Native America:

HISTORICAL AND COMPARATIVE ASSESSMENT

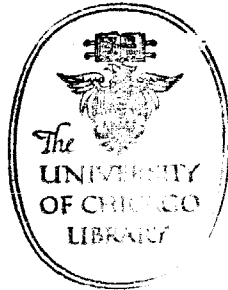
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Middle American Languages

Lyle Campbell

0. Introduction

Discussions of North American Indian languages often stop at the Mexican border, though there are good reasons for including the languages of Mexico and Central America. For one, the genetic relationships among the languages do not stop at the border. As Sapir (1929:140) put it:

Middle America, in spite of its special cultural position, is distinctly a part of the whole North American linguistic complex and is connected with North America by innumerable threads.

Another good reason is the strong historical precedent for including Middle America (henceforth MA). Sapir's (1929) famous classification, which has been the starting point of most subsequent discussions of American Indian language classifications, was titled "Central and North American languages". Sapir's historical work involved several Middle American languages, including his "Southern Paiute and Nahuatl: a study of Uto-Aztecan" (1913-1919), which was one of the first detailed applications of the comparative method to an American Indian language family. His other works were Sapir 1920, and 1925.

The very first article of the first issue of the International Journal of American Linguistics (IJAL) was Boas' (1917) on Pochutec of Oaxaca. Boas' other work in the area should not go unmentioned (1912, 1913, 1917, 1930; Boas and Arreola 1920). This historical precedent is indeed impressive when the various works on Middle American languages by other early well-known American Indianists are taken into account. See, for example, Brinton (1884a, 1884b, 1886, 1887, 1888, 1891, 1892a, 1892b, 1892c, 1895), Kroeber (1915, 1931, 1934, 1939, 1940, 1943, 1944), Radin (1916, 1924, 1925, 1929, 1930, 1933a, 1935, 1943-4, 1944, 1946), Whorf (1935, 1937, 1943, 1946 etc.), and Swadesh, Mason, McQuown, Newman, and others.

The case for including Middle America in a survey of North American languages is strong. However, the area is not parallel to other areas covered in this book; rather, the linguistic diversity of Middle America rivals that of the rest of North America taken as a whole. Though numbers of languages and families may be of little ultimate significance (given the tenuousness of many classifications), they do give some idea of the linguistic complexity to be dealt with in this paper. Compare Sapir's (1929) six stocks for North America with his fifteen for Central America (which does not include the three stocks of North America and the two South

American stocks which have outliers in MA). Even Kaufman's (1974a, 1974b) recent synthesis, which is by far the most accurate to date, has 21 major families (fifteen independent stocks). The number of individual languages is truly great: McQuown (1955:544-7) has 351 languages in Mexico and Central America; Longacre's (1967) map has 200 languages in Meso-america. There is also great typological diversity, as well:

In one small portion of the area, in Mexico just north of the Isthmus of Tehuantepec, one finds a diversity of linguistic type hard to match on an entire continent in the Old World. (McQuown 1955:501).

In face of this diversity, I cannot pretend to present a synthesis of MA comparable to that presented in this book for other areas and language families of North America. Nevertheless, the flurry of recent and on-going research in MA makes for an exciting survey and for a much more complete picture than possible just a few years ago. I will try to present an account which is, if not exhaustive, at least accurate and representative.

It will be helpful to begin this survey with a list of prior works which have treated MA languages in a general way, all of which are useful in different ways: Hervas y Panduro 1800, Adelung and Vater 1806-17, Orozco y Berra 1864, Pimentel

1874, Brinton 1891, León 1903a, Thomas and Swanton 1911, Lehmann 1920, Rivet 1924, Schmidt 1926, Sapir 1929, Mendizábal and Jiménez Moreno 1937, 1939, 1944, Mason 1940, Radin 1944, Rivet, Stresser-Pean, and Loukotka 1952, McQuown 1955, 1960a, 1960b, 1967, 1975, Greenberg 1956, Swadesh 1959, 1967, Tax 1960, Longacre 1967, 1968, McClaran 1973, Kaufman 1973, 1974a, 1974b, Arana de Swadesh 1975, Escalante, Pérez 1975, etc.

I will focus on five areas of discussion: 1) linguistic families, 2) the MA linguistic area (Sprachbund), 3) hypotheses of distant genetic relationship, 4) linguistic prehistory (the cultural implications of MA historical linguistic work), and 5) needs and directions for future research.

1. MA language families

The classification of MA families presented here is generally accepted and not considered very controversial. Below I take up the major proposals of remote relationships with their inherent controversies. The glottochronological dates in this paper are for the most part reported from Swadesh 1967 and Kaufman 1974b; I personally have no confidence at all in glottochronology, and so report these dates here (reluctantly, but in true MA tradition) only for the purpose of giving a rough idea of the nature of relationships.

1.1. Uto-Aztecan (UA)

Only aspects of UA not covered directly by Steele (this volume) involving UA languages of MA are considered here.

1.1.1. Proto-Aztecan. When Pochutec (see Boas 1917) is compared with other varieties of Aztec (Nahuatl) a rather different picture of Proto-Aztecan emerges than formerly thought. Campbell and Langacker (1978) present these correspondences and reconstructions for vowels:

PUA	PCH	PA	CN	Pi	Po
**i	*i	*i	i	i	i
**i:	*i:	*i:	i:	i:	i
**a	*a	*a	a	a	e
**a:	*a:	*a:	a:	a:	a
**o	*u	*o	o	u	o
**o:	*u:	*o:	o:	u:	u
**ɨ	*e	*ə	e	e	o/∅
**ɨ:	*e:	*e:	e:	e:	e

PUA - Proto-Uto-Aztecan

CN - Classical Nahuatl

PA - Proto-Aztecan

Pi - Pipil

PCH - Proto-Cora-Huichol

Po - Pochutec

The arguments for these reconstructions strongly support the reconstruction of PUA **ɨ(:) instead of **e(:), hopefully resolving this long-time controversy.

Two controversial aspects of Aztec historical phonology were also, hopefully, resolved. One is the origin of /tɬ/. Campbell and Langacker (1978) show that tɬ came from PUA **t before **a (just as in Whorf 1937), but this happened already in PA times. Later, the so-called t-dialects changed marked tɬ back to unmarked t. Though this is supported by a number of facts, basically the evidence comes from the residue of tɬ's existence in the t-dialects, and from cases of tɬ in which the requisite a that triggered the t to tɬ change existed only in PA times but suffered mutations away from **a in later dialects. The second controversy surrounds initial p- in Aztec from PUA **p-. Campbell and Langacker (1978) show that the sound change **p > **h > ∅ in initial position was regular and that remaining Aztec initial p's are found only in either identified loan words from other MA languages, or in verb roots (where necessary prefixes prevented the p's occurrence initially in words) and kinship terms (which are inalienably possessed so that they always occur with a prefix, keeping p from occurring initially). The development of initial **p- in Aztec had nothing to do with the famous UA lenition processes, although medial p- bears more study.

1.1.2. Subgrouping. The findings for PA bear important implications for UA subgrouping. The Aztec-Cora-Huichol sub-

group (AC) is supported by the following shared innovations (Campbell and Langacker 1977):

- 1) h > ∅
- 2) w > h / ___o
- 3) p > h / #___
- 4) u(:) > ±(:)
- 5) lexical, morphological

Evidence for a Southern-Uto-Aztecan subgroup including Aztecan and the so-called "Sonoran" languages (i.e., AC, Piman, and Taracahitic) is presented in Heath 1977, Kaufman 1974b, Campbell and Langacker 1978).

1.1.3. Pipil. Pipil of El Salvador is a quite moribund Aztecan language. Ethnohistorical accounts show that the Pipiles migrated to Central America from central Mexico about 900 A.D., which corresponds well to the glottochronological date of 11 minimum centuries (henceforth m.c.). Pipil is extinct in Guatemala and Nicaragua. There are from one to a dozen surviving speakers in each of ten towns in El Salvador, while Cuisnahuat and Santo Domingo de Guzmán may have as many as 50. Recent work includes a dialect survey (Campbell 1975a), a dictionary for Cuisnahuat and Santo Domingo de Guzmán, folkloric texts, and a grammatical sketch (Campbell ms.).

Each town has dialect variation. Some examples are:

- 1) individual variation in the preservation of vowel contrasts;

2) Chiltiupan $\acute{e} > s$ ($\acute{e}u:\acute{e}ukul > susukul$ "jug"); 3) Ataco $i, u > \emptyset$ between stop and semivowel ($kuwat > kwat$ "snake", $-altiya > altyá$ "to bathe"); 4) Teotepeque $l > \underline{l}$ (voiceless) in all positions, not just finally as in other dialects; 5) Jicalapa $\underline{l} > l^y$ (pre-palatalized finally, $-\underline{y}\underline{l}$ ($pe\dot{l}Yu$ "dog", $kuma^y\underline{l}$ "griddle"); 6) Teotepeque $\acute{s} > \acute{s}$, which varies with \check{r} ($\acute{s}u\check{c}it \sim \check{r}u\check{c}it$ "flower"); 7) Santo Domingo de Guzmán $k > g$ / ___ V ($gagawat$ "cacao"); 8) Cuisnahuat $k > g$ / V: ___ V ($tu:gay$ "name", $tukat$ "spider"); etc.

1.1.4. Extinct UA languages of Mexico. The following languages are thought to be extinct and are usually identified as UA. These need much more work. Alternate names for the same language should be identified. Additional information should be sought from both governmental archives and private collections in Mexico, the United States, and Europe. Philological studies of all available information are needed, including the study of toponyms, onomastics, extant vocabularies, grammars, texts, etc. They should be classified and subgrouped where available data permit. The list I present here is compiled from secondary sources and is far from exhaustive; it is presented here with a plea for more investigation. For the location of these languages and available linguistic material concerning them, see the references at the end of this list. The tentative affinities and alternate

names are those presented in these sources and should be re-studied in detail.

Acaxee (Aiage) - closely related to Tahue, in the Cahitic group (with Tebaca and Sabaibo). Perhaps some speakers still exist in Tamazula, Durango.

Cazcan (sometimes equated with Zacateca) - closely related to Nahua

Baciroa close to Tepahue, Taracahitic

Basopa

Batuc (an Opata dialect?)

Cahuimeto, Cahuameto (perhaps belongs with Oguera and Nio)

Chicorato

Chínipa (either close to Ocoroni, or a local name for a variety of Varihio) (said to be mutually intelligible with Ocoroni)

Coca

Colotlan (Piman, closely related to Tepehuan or Teul and Tepecano)

Comanito (close to Tahue, Taracahitic)

Concho (Chinarra and Chizo were subdivisions of Concho) (Taracahitic?)

Conicari (close to Tepahue, probably belongs to the Taracahitic group)

Guisca, Coisca (Nahua)

Eudeve (a division of Opata, with dialects Heve (Egue) and Dohema)

Guachichil (a variety of Huichol?)

Guasave (with dialects Comopori, Ahome, Vacoregue, Achire - Taracahitic group)

Guazapar, Guasapar (either a dialect of Tarahumara, or with Varihio and Chínipa) (perhaps Guazapar, Tubar, Jova, Varihio, Pachera, and Juhine are all Tarahumara dialects)

Hio (Taracahitic?)

Huite (close to Ocoroni, Taracahitic group)

Irritila (a Lagunero band)

Jova (Jobal, Ova) Some give Jova as a Tarahumara dialect, most link it with Opata.

Jumano (Humano, Jumano, Jumana, Xumana, Chouman (French), Zumana, Zuma, Suma, Yuma) (Suma is said to be the same language) (Possible UA).

Lagunero (like Nahua)

Macoyahui (presumed to be related to Cahita)

Meztitlaneca (a Nahua dialect?)

Mocorito (a Tahue language, Taracahitic group)

Nacosura (Opata dialect)

Nio (nothing is known about this language) (perhaps close to Ocoroni)

Ocoroni (Chínipa was mutually intelligible; it is said to be similar to Oyata, Huite and Nio are also perhaps close to Ocoroni, Taracahitic)

Oguera, Ohuera

Oyata (Teguima another name) (Eudeve is also said to be Opatan languages) (Batuc and Nacosura are Oyata dialects) (Taracahitic or piman)

Sayultec (Aztecan, maybe a Nahua dialect)

Suma (same language as Jumano)

Tahue (Tahue languages may include Comanito, Mocorito, Tubar(?), and Zoe; Tahue is definitely not Aztec, perhaps Taracahitic)

Tecuexe (a "Mexican" (i.e. Aztec) colony?)

Teco-Tecoquin (Aztecan)

Temori (Taracahitic?)

Tecual (like Huichol) ("Xamaca, by another name called Hueitzolme ((Huichol)), all of whom speak the Thequalme language, though they differ in some vowels" (Sauer 1934:14). Recent reports indicate that some Tecual speakers survive to this day.

Tepahue (Macoyahui, Conicari, Baciroa are said to be close to Tepahue; presumably Taracahitic)

Tepanec (Aztecan)

Teul (Teul-Chichimeca) (Piman, perhaps with Tepecano?)

Topia (maybe this is Xixime)

Topiame (Taracahitic?)

Tubar (a Tarahumara dialect?) -- perhaps a few speakers still survive to this day (Sauer 1934:28).

Xixime (Jijime) (Hine and Hume subdivisions; have a problematic classification; its links with Acaxee are not certain; perhaps Taracahitic).

Zacateca (often equated with Cazcan; see Harvey 1972: 300).

Zoe (probably affiliated with Comanito, Baimena was a subdivision; perhaps Taracahitic) etc.

Sources: Beals 1932, 1933, Dávila Garibi 1935, 1942, 1951, Escalante 1963, Harvey 1972, Jaquith 1970, Jiménez Moreno 1943, Johnson and Johnson 1954, Kroeber 1934, Lastra de Suárez 1973, Lombardo 1702, Lumholtz 1902, McQuown 1955, Mason 1936, Mendizábal and Jiménez Moreno 1943, Sauer 1934, Smith 1861a, 1861b, 1862; etc.

Since a few of these languages still exist, but are critically near extinction, it is important to do a linguistic survey of northern and western Mexico as soon as possible and to work on these moribund languages.

1.2. Otomanguean (OM).

The OM languages are rather different from most other American Indian languages, so different they have been accused of being "unamerican":

The classification of Central and South American languages set forth in ... this paper is provisional in some respects. The eight families listed are to be considered branches of a more inclusive stock which probably includes also all the remaining American languages except Na-Dene and Eskimauan. Among the groups listed here only Otomanguean ... is considered at all not likely to belong to this great family. (Greenberg 1956:791).

Some aspects of OM languages which give them their peculiar character are: 1) tone (all have from two to five level tones and most have gliding tones as well), 2) phonemic vowel nasalization, 3) open syllables (most OM languages have only CV syllables except for those closed with a glottal stop (CV?)), 4) syllable-initial consonant clusters are limited, usually to sibilant-C, C-y or C-w, nasal-C, and C-h or C-?, where C-? produces glottalized consonants in all OM families but Zapotecan; 5) lack of labial consonants (bilabial stops are lacking from most, though some have developed these from *k^w.) (Rensch 1976).

OM has seven families. Linguists of the Summer Institute of Linguistics (who are to be credited with a great portion of OM comparative work) feel that the reconstruction rivals that of Proto-Indo-European:

The publication of this study [Rensch 1966] will give us one language stock of the western hemisphere in which systemic reconstruction has been carried out on a scale somewhat comparable to the scope and depth of Indo-European studies.

(Longacre 1968:333).

Indeed Rensch's (1966, 1973, 1976, 1977) work is the most complete and accurate; Longacre's (1967, 1968) surveys are very good; and Hopkins' (1978) exhaustive OM bibliography is extremely useful.

The OM families and languages are:

1. Mixtecan (Mixn) (see Longacre 1957)
 - Mixtecan
 - Mixtec
 - Cuicatec
 - Trique
2. Popolocan (Pn) (see Gudschinsky 1959)
 - Mazatec (several dialects)
 - Popolocan
 - Popoloca
 - Chocho
 - Ixcatec

3. Chiapanec-Mangue (CM) (see Fernández de Miranda and Weitlaner 1961)

Chiapanec (Chiapas, extinct)
Mangue (Nicaragua, Costa Rica, extinct; Dirian, Nagranda, Chorotega, Orotiña are alternate names or varieties)

4. Otopamean (OP) (see Bartholomew 1965)

Otomian
Mazahua
Otomí
NW Otomí
NE Otomí
SW Otomí
Ixtenco Otomí
Matlatzincan
Matlatzincan (Pirinda)
Ocuilteco (Atzingo)
Pamean
N Pame
S Pame
Chichimec (Jonáz)

5. Zapotecan (Zapn) (see Suárez 1973)
Zapotec (a complex with estimates ranging from 6 to 56 languages)
Papabuco (Harvey 1968, see Rendón 1971, Suárez 1972)
Chatino

6. Chinantecan (various languages) (Chin) (see Rensch 1968)

7. Amuzgo (two varieties, Oaxaca and Guerrero) (Am)
(see Longacre 1966)

The following is Rensch's (1977:68) inventory of POM

sounds:

t	k	k ^w	?
s			
n	y	w	h
i		u	
e	a		(tones: 1, 2, 3, 4) (1= high)

The following are Rensch's reconstructions of clusters with their reflexes in the OM families.

POM	PMixn	PPn	Am	PCM	POP	PZapn	PChin
**nt	* ⁿ d	*nt	nt	* ⁿ d	*=t	*ç	*z
**nk	* ⁿ g	*nk	nk	* ⁿ g	*=k		*g
**nk ^w	* ⁿ g ^w		nk ^w	* ^m b	*=p		*g ^w
**ns	* ⁿ d	*c	c	* ⁿ d	*c	*ç	*z
**nn		*m	pn	*m			*m
**ny	*l	*l		*l	*ni	*L	*l
**nw	*m	*m	m	*m	*m	*k ^w	*m
**yt		*t ^y	t ^y			*t ^y	*t ⁱ v
**yk		*ç	k ^y	*çv			*k ⁱ v
**yk ^w							*k ^w v
**ys		*ç	ç			*ç	*s ⁱ v
**yn		*ñ		*ñ			*n ⁱ v
**y ^w							*w ^v
**ynt		*nt ^y	nt ^y				*z ⁱ v
**ynk			nk ^y				*g ⁱ v
**ynk ^w							*g ^w v
**y ⁿ s		*ç	ç				*z ⁱ v
**y ⁿ w							*m ^v
**?CV	*?CV	*?CV	C?V		*C?V	*CV?CV	*?CV
**hCV	*hCV	*hCV	ChV		*ChV	*CV?VCV	*hCV
**CV?	*CV?	*CV?	CV?	*CV?	*CV?	*CV?	*CV?
**CVh	*CVh	*ChV	C ^v	*C ^v	*CVh	*CV?V	*C ^v
**CVh?		*ChV?	C ^v ?	*C ^v ?			*C ^v ?

(Rensch 1977: 70, 71, 74)

Future work in OM should attempt to make the reconstructions more plausible phonetically. While such things as Ys, Yn, etc. may represent the correspondences, they are not very revealing phonetically. The immediate needs in OM are more descriptive and comparative work in the language families. Ocuiltec and Matlatzinca are critical, since they are moribund. Future work should be directed at grammar generally and at OM morphophonemics, which are complex, but frequently correspond from language to language. If the reconstruction is revised, as I believe it should be, then Rensch's (1973) ideas about subgrouping and diversification will not hold up. OM subgrouping is generally considered an open question, and deserves serious investigation.

1.3. Hokan

Branches of Hokan are covered in this volume by Jacobsen and Langdon, and I consider here only recent work on the so-called Hokan languages of MA. Hokan is at best a controversial grouping, especially when it comes to languages in MA. Those discussed in this section should not be considered to share a proven relationship.

1.3.1. Tequistlatecan (Chontal of Oaxaca). Brinton (1892) suggested that Yuman, Seri, and Tequistlatec were related, and Kroeber (1915), in framing the Hokan hypothesis, included

all these. Though the classification of Tequistlatecan as Hokan is tenuous, it is usually accepted without much comment. However, it has been the subject of recent controversy, Turner (1967, 1977) arguing against the connection, and Bright (1970) arguing against Turner's methods and for the connection.

Tequistlatecan has two closely related languages (13 m.c.), Huamelultec (Lowland Chontal), and Tequistlatec (Highland Chontal). Proto-Tequistlatecan phonology has been considered by Turner (1969) and refined by Waterhouse (1969).

It has the inventory:

p	t	c	k	i	u
b	d		g	e	o
f'	tɬ'	c'	k'	a	
	ɬ	s		phonemic stress	
w	l	y	h ?		
m	n				
W	N			(probably voiceless W and N should be reanalyzed as clusters of <u>hw</u> and <u>hn</u> respectively)	

See also Turner and Turner's (1971) dictionary.

1.3.2. Jicaque. There are two Jicaque languages (10 to 16 m.c.). Jicaque of El Palmar (JPal), now extinct, is known only from a short vocabulary published in Membreno (1897: 195-6, 233-42), reprinted in Lehmann (1920:654-68). The

other Jicaque language is spoken by a few hundred individuals in la Montaña de Flor, near Orica, in Honduras, and still by a very few very old people in the department of Yoro. Not much is available on this language (see Conzemius 1922, Lehmann 1920, Membreño 1897, Von Hagen 1943, Oltrogge 1971, 1976, 1977, Dennis and Fleming 1976, Dennis et al 1975a, 1975b, Flemming and Dennis 1977).

Proto-Jicaque phonology has been reconstructed (Campbell and Oltrogge 1977). Some of the correspondences with our reconstructions are: (JPal given in Membreño's orthography)

Proto-Jicaque	JPal	J Montaña de Flor
*-p	-k	-p
*-k	-k	-k
*l-	d-	l-
*-l	-n	-l
*-m	-n	-m
*k'-	k-	∅
*-k'-	-g-	-ʔ-
*(-)t'-	(-)č-	(-)t'-
*-t'	-t	-t'
*t ^h	š	t ^h
*-t-	-č-	-s-
*s-	č-	s-
*-s	-∅	-s

The Jicaque-Hokan hypothesis is taken up below.

1.3.3. Tlapanec-Subtiaba. Subtiaba and Tlapanec are closely related languages (8 m.c.), though Subtiaba was spoken in Nicaragua (now extinct) and Tlapanec is spoken in Guerrero, Mexico (by about 50,000 speakers). Extant sources of Subtiaba are Lehmann (1920:932-69), Mántica 1973, and Campbell 1975b. The principal sources for Tlapanec are Radin 1933a, Schultze-Jena 1938, Weitlaner and Weitlaner 1943, and Weathers 1976.

Weitlaner and Weitlaner's Popoloca-Tlappaneca (of Tenancitla, Guerrero) is a rather different variety; though they presented only about 100 words, they noted these correspondences:

Tlapanec	Popoloca-Tlappaneca	Subtiaba
i-	e, ẽ-	e, ẽ
a-	e, ẽ-	a-
ny-	č-	ñ-
-ny-	-ŋg-	-ŋg-
r-	l-	d-
r-	ⁿ d-	d
t-, -t-	t-, -t-	s-, -s-

Both varieties have tonal contrasts. They concluded that Popoloca-Tlappaneca represents a more conservative variety.

Weathers (1976) reports six dialects of Tlapanec with clear-cut borders, all with at least a minimal level of mutual intelligibility with the Malinaltepec dialect. This dialect's phonemic inventory is: p t k ? , b d g, s s, m n, l r, w y h, i e a o u, vowel length, nasalization, and tone (three level and several gliding). In his comparisons of Tlapanec forms with Subtiaba, Weathers comes to the conclusion that Subtiaba is more conservative.

The controversial Hokan and OM affinities of Tlapanec-Subtiaba are taken up below.

1.3.4. For Seri and Peninsular Yuman, see Langdon 1974, Massey 1949, Kroeber 1931, 1943, Moser and Moser 1961, Robles U. 1964, and Langdon and Jacobsen in this volume.

1.3.5. For Coahuiltecan revisions see Goddard (this volume). See also Hoyo 1960, 1965, Troike 1959, 1963, Swanton 1940. Most of the so-called Coahuiltecan languages are so different that they cannot be considered successfully related on the basis of extant material.

1.4. Huave

Huave (in Oaxaca) is generally considered an isolate, though unsubstantiated hypotheses have attempted to link it with Mixe (Radin 1916), Zoque and Mayan (Radin 1924), Algonquian-Gulf (Suárez 1975), and others (see Arana 1964a,

Swadesh 1960, 1964a, 1964b, 1967:87, Longacre 1968:343, etc. The Huave-OM hypothesis is considered below.

Suárez (1975) reconstructed Proto-Huave based on four dialects, San Francisco, San Dionisio, San Mateo, and Santa María. His Proto-Huave phonemic inventory is:

p	t	k	k ^w	i	i:	ɨ	ɨ:
	c			e	e:	o	o:
mb	nd	ng	ng ^w	a	a:		
	nc						
	s						tonal contrast
	l						
	ř						
(w)	(r)	(y)	h				
	(ɖ)						

Parenthesized segments are problematical and can perhaps be eliminated in future work. The ɨ occurs in only two cases. The o is also rare, only seven examples. Though Suárez reconstructs two r 's, he suggests that there was probably only one in the proto language, that these were conditions variants. The y and w , in Suárez's opinion, may be merely neutralizations of certain vowels. The ɨ varies between central and back, and since younger speakers have u more frequently, Suárez chose *ɨ for the reconstruction. There are, however, some reasons to suspect that *u might actually have been a

better choice, and this bears investigation. The o: is rare, occurring only in penultimate syllables. The tonal contrast also exists only in penultimate syllables and is preserved fully only in San Mateo, though some residue of it is reflected in final consonants of other dialects. Since Huave tone has a low functional load (see Pike and Warkentin 1961), it may ultimately be possible to explain its origin and eliminate it from Proto-Huave. Finally, many of Suárez's Proto-Huave lexical items are loans; of his 971 reconstructed lexical items, I identify over 50 as loans from other indigenous languages.

Suárez (1975) is by far the best source on Huave. Other descriptive sources, however, are Diebold 1962, Stairs and Hollenback 1969, Pike and Warkentin 1961, Radin 1929, Warkentin and Warkentin 1947a, 1947b, 1952.

1.5. Totonacan

Totonacan includes Totonac and Tepehua (26 m.c.). The only comparative study so far is that of Arana (1953). She reconstructed Proto-Totonacan phonology on the basis of three Totonac dialects, one Tepehua dialect, and a list of only 68 cognates. Her inventory was:

p	t	ʔ	ç	tl	k	q	i	u	V:
		s	š	ɬ	x			a	
m	n								
w			y	l					

Though Tepehua has glottalized consonants, they correspond largely to Totonac glottal stops in CV?(C), the so-called glottalized vowels, in most environments. Arana reconstructed the Totonac pattern for the Proto-language. However, the entire question of glottalized consonants in Totonacan deserves serious study.

Descriptive materials on Totonac are quite good, including good dictionaries of three dialects (Aschmann 1962, 1973, Reid and Bishop 1974). For historical work on Totonacan we still need an analytical dictionary, one which shows the morphological composition of Totonac words and stems; Totonac is a synthetic language with quite complicated word formation. For Totonac grammar see McQuown 1940, Reid et al 1968, Aschmann 1953, Ashmann and Wonderly 1952, etc.

Materials for Tepehua are extremely scant, and we need a dictionary, preferably analytical, and descriptive materials generally. Linguists of the Summer Institute of Linguistics have worked on Tepehua, but as yet little is available (see Bower 1948, Bower and Erickson 1967). Lewis Jacks conducted a broad dialect survey of Tepehua and Totonac dialects (infor-

mation on file in the linguistics program of Centro de Investigaciones Superiores del Instituto Nacional de Antropología e Historia in Mexico). Some limited information is also found in Hasler 1966.

Several lines of information suggest the Totonacs as the strongest candidates for the builders of Teotihuacan, an extremely important MA archaeological culture. For this reason Totonacan loan words in other indigenous languages deserve extensive study. (For details, see Campbell and Kaufman 1977).

1.6. Mixe-Zoquean (MZ)

The MZ family has special importance in Mesoamerica, since MZ seems to have been the language of the archaeological Olmecs, the first great MA civilization (see Campbell and Kaufman 1976). Unfortunately little historical and comparative work on MZ has been published (see Wonderly 1949, Kaufman 1964a, Nordell 1962, Thomas 1974, Longacre 1967:137-8, and Campbell and Kaufman 1976). By far the most extensive and accurate is Kaufman's unpublished (1964b) "Diachronic Studies in Mixe-Zoquean" and his list of about 500 reconstructed vocabulary items, prepared on the basis of sources available in 1962. Kaufman's MZ classification is:

I. Zoque

A. Chiapas Zoque

1. Central (including Copainalá)
2. Northern (including Magdalena)
3. Northeastern (including Chapultenango and Ocotepec)
4. Southern (including Tuxtla Gutiérrez and Ocozocuautla)

B. Oaxaca Zoque (San Miguel Chimalapa, Santa María Chimalapa)

C. Veracruz Zoque

1. Sierra Popoluca (including Soteapan and 25 others)
2. Texistepec Popoluca

D. perhaps Tabasco Zoque (no data available)

II. Mixe

A. Veracruz Mixe

1. Sayula Popoluca
2. Oluta Popoluca

B. Eastern Mixe (Oaxaca a)

C. Western Mixe (Oaxaca b)

D. Tapachultec (extinct, material reprinted in Lehmann 1920)

There is now general agreement that Tapachultec belongs to the Mixe branch of the family (see Kaufman 1964a). Kaufman's unpublished study also includes historical phonology, with

developments traced from the proto language into the daughter languages, and comparative grammar (especially morphology).

Kaufman's inventory of PMZ sounds is:

p	t	c	k	ʔ	i	ɛ	u	V:
		s			e	o		
m	n				a			
w	y		h					

Campbell and Kaufman (1976) present some reconstructed vocabulary, and identify MZ loan words in other MA languages.

MZ languages need to be documented more fully, little information is available on several of the Zoquean languages. More extensive lexical information from some of these unstudied Zoquean languages would allow many more reconstructed lexical items than the 500 of Kaufman's study. Some of these may be critically near extinction.

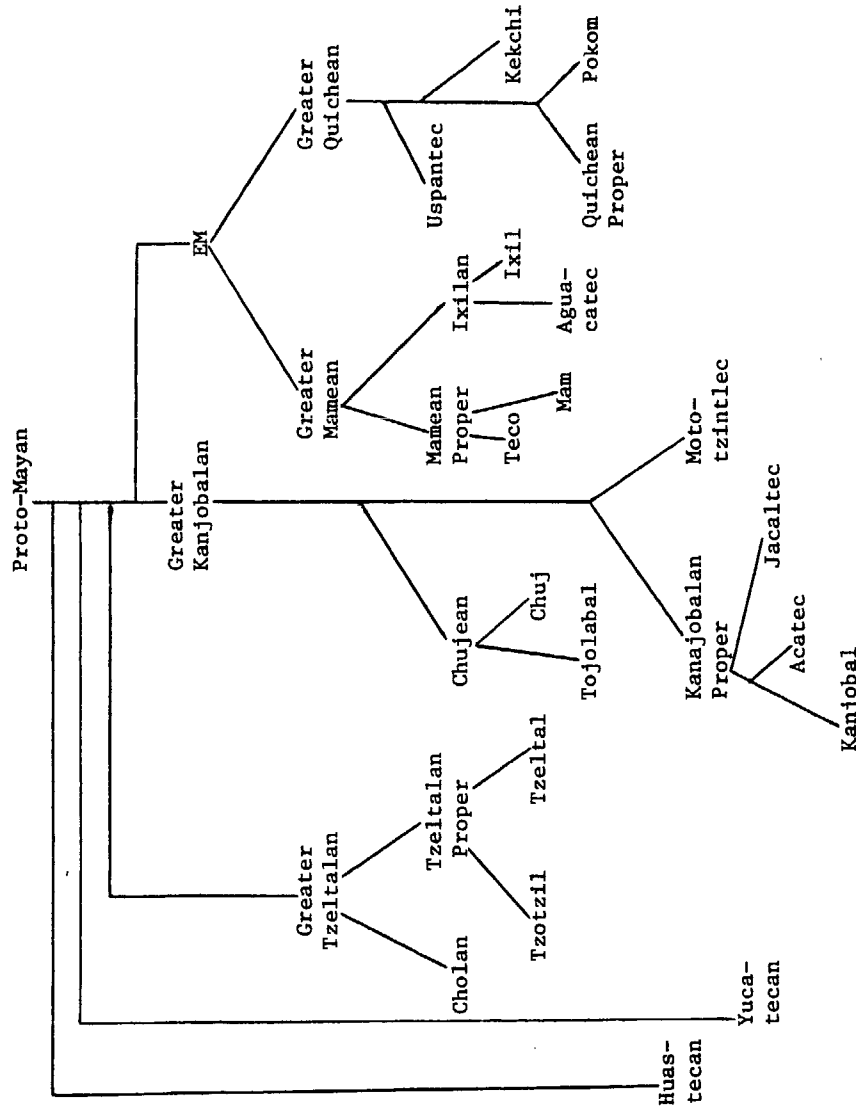
1.7. Mayan

Mayan is perhaps the best studied of MA families. Nevertheless many gaps in our knowledge and abundant controversies remain. The descriptive work on Mayan languages has mushroomed in the last few years. Thanks to Terrence Kaufman's extensive fieldwork, to linguists of the Proyecto Lingüístico Francisco Marroquín in Guatemala, to the Summer Institute of Linguistics, to students of Norman McQuown at the University

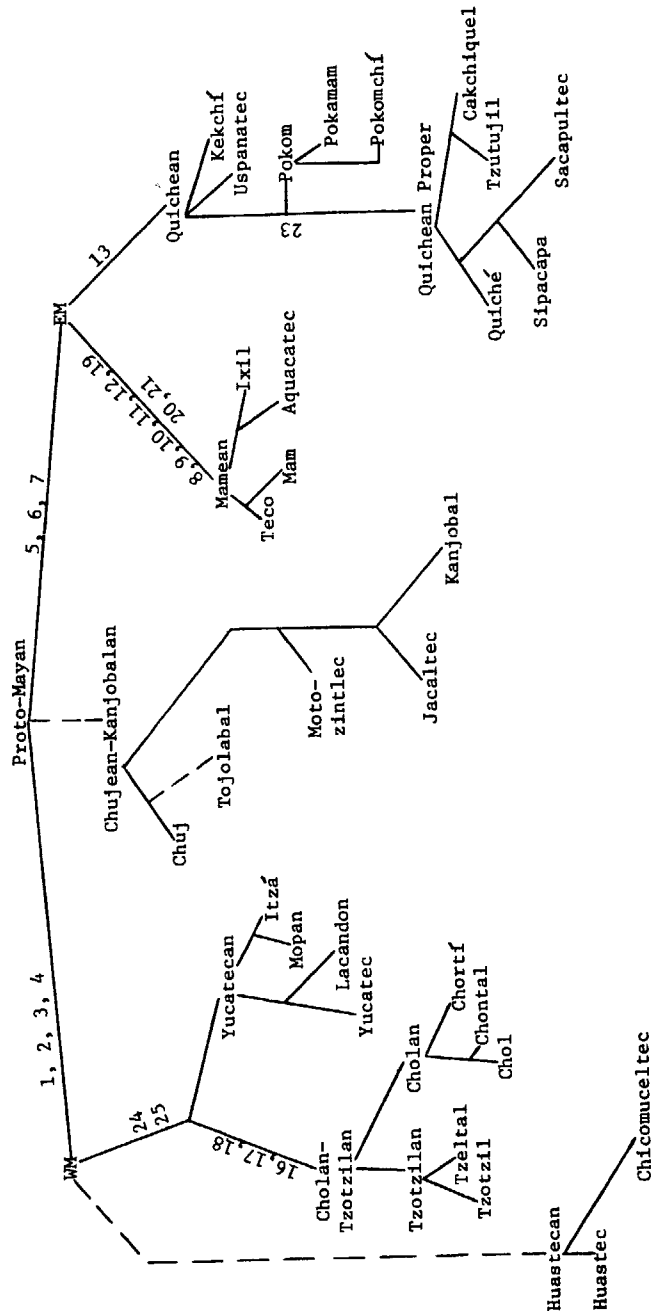
of Chicago, and others, rather good information exists at least in manuscript and file-box form for most Mayan languages. The next few years will see, hopefully, the publication of grammars and dictionaries for most. The languages that remain most underrepresented are Uspantec, Chontal, Chol, Lacandon, and Itzá, though much remains to be done in the others as well. (For details, see Campbell, Ventur et al 1978).

The history of Mayan historical and comparative work and the controversies surrounding it are traced in Campbell 1977a. Recently, good beginnings have been made toward reconstructing Proto-Mayan (PM) syntax (Smith-Stark 1976, 1977, Robertson 1976, and Norman and Campbell 1978). These studies point to PM as an ergative language with basically VOS word order, where pronoun marking, verbal voice, ergative noun hierarchies, word order, and complex sentence relations interact in complicated but predictable ways. The promise for successful reconstruction of PM syntax is perhaps stronger than for most other language families of the world.

Mayan subgrouping is very advanced, but still controversial in some aspects. The most accurate and widely accepted (at least major portions of which) is: (Kaufman 1976a)



An alternative, suggested more to stimulate further research than as a competitor to Kaufman's, in the following. The numbers on the various branches refer to the shared phonological innovations which are the evidence upon which this classification is based, listed below. The dotted lines indicate the most controversial parts of the classification.



Shared innovations:

- | | |
|-----------------|---|
| 1. *r > y | 14. *b' > p' / ___ V {sonorant fricative} |
| 2. *q > k | 15. *ŋ > n |
| 3. *t̥ > t | 16. *CV?C > CVC |
| 4. *k > ʃ / ... | 17. *k > ʃ |
| 5. *ŋ > x | 18. *V: > V |
| 6. *t̥ > ɕ | 19. *h > ? |
| 7. *CV?VC CV?C | 20. x̣ > x |
| 8. *r > t | 21. *ʒ > ʒ̣ |
| 9. *t > ʃ | 22. x > h |
| 10. *ʃ > ʃ̣ | 23. x > x |
| 11. ʃ > ʃ̣ | 24. *x > h |
| 12. *ʒ > ʒ̣ | 25. [e:] > [i] |
| 13. ɕ > ʃ | [o:] > [u] / ... |

The question in considering Huastec is, do innovations 1-4 shared (at least in part) with Yucatecan and Cholan-Tzotzilan constitute strong enough evidence for grouping these together, or could 1 through 4 have happened independently (the latter is Kaufman's opinion)? And if they do share these phonological innovations as members of a single subgroup, then how did Huastec come to be so different in its grammar and lexicon? The question surrounding Chujean-Kanjobalan is, if these are related, why don't they share any phonological innovations? Many aspects of Tojolabal grammar, for example, are shared with

Tzotzilan, though it is difficult to determine whether this is due to common innovation or to diffusion. (See Robertson 1976, 1977).

The most widely accepted reconstruction of PM phonology is:

p	t	t̃	t̃'	č	k	q	i	u	V:	CVC
b'	t'	t'	t'	č'	k'	q'	e	o		CV:C
m	n				ŋ		a			CV?VC
			s	š		x				CV?C
	l									CVhC
	r									CVSC (S=s, š, x)
w		y	h	?						

There were many important developments which led to this reconstruction, many were refinements in McQuown's (1956a) original reconstruction. The tonal distinction McQuown posited turns out to be the reflex of segmental phonology in Yucatec (*CV:C > C[̀]V:C, *CV?C > C[̀]V?VC, *CVhC > C[̀]V:C). McQuown's proposed *ə is explained in that the ə of Chol and Chontal is the reflex of *a in all contexts except before h or ʔ, where it remained a. The Tzotzil o reflex is explained in like manner, but also involves conditioning from certain other following consonants. Long *a: became a in these languages, thus giving the apparent a/ə contrast. The assumed *č is really the reflex of *č in the chain-shift in Mamean:

*r > t

*t > č

*č > č̃

The *p' posited earlier by various scholars turns out to be a reflex of *b' from the Yucatecan and Greater Cholan change:

b' > p' / ___V {fricative
sonorant}

Finally, it is now clear that PM contrasted *r and *y. Both these had been assumed to be *y earlier, but the correspondence sets clearly contrast: *r - Quichean r : Mamean t : Motozintlec č : others y; *y - y in all languages. (See Campbell 1977:89-100).

For a rather comprehensive bibliography of Mayan linguistics see Campbell, Ventur, et al 1977.

The most pressing need in Mayan studies is for the completion and publication of work in progress or in manuscript form. The subgrouping controversies need more study; this will require an understanding of grammatical innovations, since the testimony of phonology has largely been exhausted. Mayan subgroups should be reconstructed, especially Proto-Cholan, Cholan-Tzotzilan, and Proto-Huastecan. Extensive philological studies of the extant colonial materials, which are massive for some languages, should be done. This is particularly important for Chicomuceltec and Choltí (both extinct),

and for documenting linguistic change during the past 400 years. (For some beginnings see Freeze 1975, Norman 1977, Campbell 1973a, 1974, 1977, in press.) All Mayanists wait for Terrence Kaufman to complete and publish his etymological dictionary. Finally, an important need is for scholars with linguistic sophistication to dedicate more attention to Mayan hieroglyphic writing.

Great progress has been made in understanding Mayan hieroglyphic writing. There can be little doubt, at least among linguists, that the phonetic hypothesis has been demonstrated, that some aspects of Mayan writing involved symbols with the value of phonetically-read syllables. The best single review of this field is Kelley 1976. Some other exciting sources are Lounsbury 1974a, 1974b, Lounsbury and Coe 1968, Kelley 1962a, 1962b, 1966, etc.

1.8. Tarascan

Tarascan (with about 50,000 speakers in Michoacán) is an isolate, with no convincing external relationships, though such relationships have been suggested in abundance. Friedrich 1971a presented a comprehensive study of Tarascan dialectology, involving 26 villages. He showed that the phonological variation had historical implications. There are sources on Tarascan, though often of limited access; see Bright's (1967) bibliography

for older sources. More recent works are Foster 1969, Friedrich 1969, 1971a, 1971b, and Swadesh 1969 (based on Gilberti 1559).

The most pressing need in Tarascan is a modern, preferably analytical, dictionary.

1.9. Cuitlatec

Cuitlatec of Guerrero, also an isolate, has recently become extinct. The principal source of information is Escalante 1962. His phonological inventory is:

p	t	c	k	k ^w		i	ɨ	u	tones: / \
b	d		g			e	o		
m	n	l					a		
			ɬ						
			s						
w		y	h	?					

Other sources are: León 1903b, Hendrichs 1939, 1946:220-45, 1947, McQuown 1945, Weitlaner 1936-9, and recently Almstedt 1972, 1974. Almstedt's work is based on Lemley's unpublished field data, collected on trips made between 1943 and 1949.

None of the genetic affinities proposed for Cuitlatec is convincing, and very little substantive data has been presented in support of any of these. They are UA (Sapir 1926 ("a doubtful member of the stock"), Swadesh 1960, Arana 1958

(with 49 m.c. separation from Aztec)); Hoka, OM, and Tarascan (Weitlaner 1936-9, 1948a); Mayan and Xinca (Hendrichs 1947); Tlapanec (Lehmann 1920); and Paya (Arana 1958 [47 m.c.]).

1.10. Xincan

Xincan in Guatemala is a family of at least four closely related languages. Yupiltepeque, also once spoken in Jutiapa, is now extinct; extant materials are reprinted in Lehmann (1920:727-68). Chiquimulilla has only one surviving speaker. Guazacapán has a very few speakers. Jumaytepeque Xinca is a language which I recently discovered near the top of the Volcano of Jumaytepeque; it also is quite moribund. Terrence Kaufman and I have worked extensively on the three extant languages and have prepared a comparative grammar and dictionary, with a reconstruction of Proto-Xincan phonology and abundant texts. As for the relationships, Swadesh calculated 17 m.c. separation for Chiquimulilla and Guazacapán (Swadesh 1967:98-9); Kaufman (1964b) calculates 12 m.c. for the family.

Toponyms with Xincan etymologies show that Xincan languages once had a much wider distribution in Guatemala and nearby territory of Honduras and El Salvador (see Campbell 1978, Campbell and Kaufman 1977). Also, Xincan languages have borrowed extensively from Mayan and other indigenous languages. The fact that most Xincan terms for cultigens

are loans from Mayan suggests that the Xinca may not have been agriculturalists before their contacts with Mayan speakers. (See Campbell 1972a, 1978, Campbell and Kaufman 1977). It also seems likely that Xinca's VOS word order is borrowed from Mayan.

1.11. Lencan

Lencan is a family of two languages, Honduran Lenca (HL) and Salvadorian Lenca (SL) (also called Chilanga after the principal town in which it was spoken). Swadesh (1967:98) calculated 20 m.c. divergence between the two. HL is probably extinct, though this is not yet certain. Most available material is reprinted in Lehmann (1920:668-700) representing dialects from Intibucá, Opatoro, Guajiquiro, Similatón (modern Cabañas), and Santa Elena. These are for the most part represented only by short word lists recorded by non-linguists, and thus leave much to be desired. The only modern sample is that of Campbell, Chapman, et al. 1978, taken from a tape recording made by Anne Chapman in 1965 of an old man whose father had spoken Lenca well, but the man himself could recall only a few words and phrases.

SL is extinct. Most extant material, including Lehmann's own phonetically recorded data, are contained in Lehmann (1920:700-719). I was able to amplify and clarify Lehmann's data

somewhat in my work with the last speaker shortly before his death (Campbell 1976a).

The most important need for Lencan is a thorough philological investigation of both languages, especially HL. Another need is the reconstruction of Proto-Lencan. Here I present some preliminary historical considerations. My interpretation of HL orthography is impressionistic, based on the tape recording, and should be refined in a detailed philological study. Some Lencan sound correspondences are (first Member is SL, second HL): 1-š, š-š, t'-s, p-p, t-t, k-k, m-m, n-n, s-s, y-y, w-w, etc. A sample cognate list, to give a flavor of the relationship, is:

SL	HL	
alah	aša	hair
wal	was	water
t'epe	sepe	salt
-tokoro	to(ho)ro	head, ear
en-(gin)	en-(gin)	hear
maš-	maš	to hit
ša	šak	firewood
wati	waktik	sandal
in-t'ač'a	in	mouth
košaka	gulal	hand
t'aw	taw	house

SL	HL	
šara	šir	grass
šoko	šogo	white
t'upa-	sopata	cloud
šušu	šušu	dog
ta-	ta	milpa
tal-	tal-	to drink
tem	tem	louse
ul-	ul-	to dance
wewe	wa(wa)	boy
ik'an	yuga	fire
ihwa-	iwe-	to sing
	etc.	

Terrence Kaufman has compiled about seventy-five Lencan cognate sets; he has also presented his interpretation of the philological meaning of extant Lencan materials (Kaufman 1965).

1.12. Paya

Paya is spoken still by about 300 persons in the northern part of Olancho department, Honduras. Paya has also generally been considered an isolate and attempts to relate it to other languages have been unconvincing because of the lack of any dependable descriptive material. Conzemius (1928) for example, omitted vowel nasalization, glottal stops, and tones, all

contrastive.

Squier (1853) grouped Paya with Jicaque; Schmidt (1926) grouped Paya, Jicaque, Xinca, and Lenca as a branch of his Miskito-Xinca Gruppe. Arana (1958) related Paya and Cuitlatec at 47 m.c. separation. Swadesh (1967) put Paya in the Chibchan family, closest to the Misumalpan group (which he calls Misuluan). Loukotka (1968) also classified Paya as a member of the Chibchan stock, though not supported by comparative evidence.

Dennis Holt's recent descriptive work and connected historical studies (see Holt 1975a, 1975b, 1975c, 1976, Holt and Bright 1976) have conclusively demonstrated that Paya is a Chibchan language. The following brief sample from Holt (1975a) shows the relationships (see Holt 1975a for details of correspondence sets, proto forms, and sound changes):

Paya	Guatuso	Bribri	Cuna	Cágaba	
to:k	tió-k̄i	ε-tsuk-	toka		enter
wɑ:k-	xuá-k̄i	wo	wakala	waka	face
sá	čiá	tsá	saila	sǎ-, sǎi-	head, hair
píš	pí-k̄i-ka	bikǎs	pikwa	bitsa	how many?
pí-	pi-	bī-	pi-	mi-	interrogative
-tá-	ébedo		ta	na-	negative
-wa		-wa		-wa	present tense
ti:š	tí-k̄i	tkē	tik-	ni-ka	to plant, sow
parí:	pálo-xa	boło-boło		málu(rze)	sweet
pó:k	páũka	bōk	po(:)kwa	máũzua	two
-tia	tí	di?	ti(i)	ni	water
pa-	pō	be?	pe	ma	you

I do not take up Macro-Chibchan generally. For information on other recent work in Chibchan see Holt 1975a, 1976, Bogarín 1970, Wilson 1970, 1974, Wheeler 1972, Constenla 1975, and Arroyo 1966.

1.13. Misumalpan

The Misumalpan family is generally considered a branch of Macro-Chibchan, though little has been done to demonstrate it. The family consists of Mískito (spoken by about 35,000 in Honduras and Nicaragua), Sumu (still quite viable, spoken in several divergent dialects in Honduras and Nicaragua), and Cacaopera (of eastern El Salvador) and Matagalpa (of Honduras) (both now extinct).

Cacaopera and Matagalpa together have been called Matagalpan (Brinton 1895), and are frequently thought to be merely dialects of a single language. However, they are separate languages (Swadesh 1967:97 calculates 10 m.c. separation), as seen from a few cognates illustrating the r-y correspondence:

Cacaopera	Matagalpa	
ařáw	ayan	crab
řra	iya	rain
kařám	kayan	mountain
dúřu	doyú	land
búřu	buyo	two

All available Matagalpa material is reprinted in Lehmann (1920: 599-604); the language has been extinct at least 100 years. Most available Cacaopera information is also in Lehmann (1920: 604-23). I was able to clarify aspects of Cacaopera in my own recent work (Campbell 1975c, 1975d), where I obtained a few hundred words and phrases from the grandchildren of the last competent speakers. Apart from these few old persons who remember a few scattered words, the language is extinct.

Mískito is reasonably well documented, though much more could be done (see Lehmann 1920, Heath 1927a, 1927b, 1950, Heath and Marx 1961, Thaeler n.d., Conzemius 1929, 1932, 1938, Mántica 1973, etc.).

Sumu has considerable dialect diversity, including varieties called Tawahka, Panamaka, Ulua, Bawihka, and Kukra, among others. Some have supposed this diversity to be as great as that between German and Dutch, and since the dialect differences are rapidly being eliminated in recent population movements, this should be studied soon. Sumu is poorly described and a full-scale grammar and dictionary should be prepared. Available sources are Lehmann 1920, Heath n.d., Conzemius 1929, 1932, Mántica 1973, and Membreño (1897:217-27), etc.

Misumalpan as a family has long been recognized, though no rigorous historical study has been done. Swadesh (1967:

97-8) gives 43 m.c. for the family, indicating that the relationship is not especially close. A sample of probable Misumalpan cognates and correspondences gives a better idea:

Cacaopera	Matagalpa	Mískito	Sumu	
bil (worm)		piuta	bil	snake
pasár ^v		písa	pisa	flea
man	man		pan	tree
aiku	aiko		waiku	moon
sásaka		san-	sanka	green
lalaá		lalah-	lalah	yellow
mayu	pu	paw-	paw	red
búru	buyo	wal	bu	two
li	li	li	was	water
u	u	u	u	house
wasba/watba	watba	yumpa	bas/mas	three
sial	sial	sikia	sarin	avocado
lawal	lawal	lapta (hot)	lawa (griddle)	fire
-nan-	nam		nan	nose
yam		yan	yan	I
man-		man	man	you
wabu		yampus	wan	ashes
m-	m-/p-	p-	p-	
l-	l-	l-	l-	
s-	s-	s-	s-	
y-	y-	y-	y-	

1.14. Extinct and unclassified languages

The following is a list of lesser-known extinct and unclassified languages:

Aibine (perhaps Eudeve or Jova)	Meztitlaneca
Aguata	Negrito
Apanec	Olive
Ayacastec	Otomí of Jalisco
Bocalo	Pampuchin
Borrado	Panteca
Cacoma	Peión
Cataara	Pinoles (OM?)
Chameltec	Pison, Pisone, Pizones
Chichimec (one of several called "Chichimec")	Pocotec
Chontal of Guerrero	Potlapigua
Chumbia	Quacumec, Cuauhcomec
Cintec	Quahutec
Coano	Quata
Cocmacague	Quinigua (Hoyo 1960), Quirigua (Swadesh 1968)
Conguaco (Xincan?)	Salinero
Copuce	Tacacho
Cuacumanes	Tamaulipec (Swadesh 1963)
Cucharete	Tamazultec (Tlacotepehua-Tepustec)
Cuyumatec	Texome
Guamar, Guamara	Tezcatec
Guaxabane	Tiam
Hualahuís	Tlaltempanec
Huaynamota	Tlatzihuiztec
Himeri	Toboso
Hio	Tolimec
Huehuetec	Tomatec
Icaura-Ayancaura	Tonaz
Iscuca	Totrame
Itzucó	Tuxtéc
Izteca	Tuztec
Janambre	Uchita
Jano	Ure
Jocome	Vigitega
Mancheño	Xocotec
Matlame	'Zapotec' of Jalisco
Mascorro, Mazcorro	'Zapotec' local
Mazatec of Guerrero	Zapotlanec
Mazatec of Tabasco	Zayahueco
Meco (Chichimeco?)	Zoyatec
Melaguese	