

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:
m	n	s			e	o	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 understudied 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

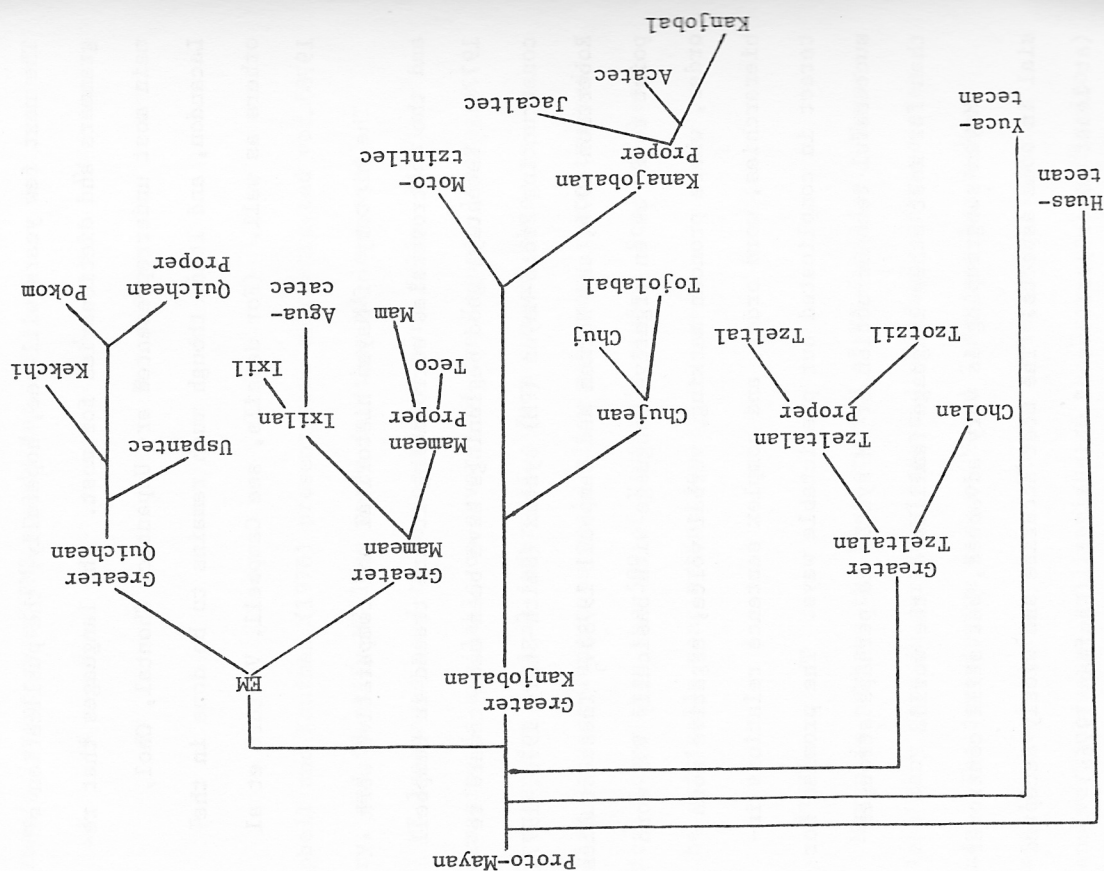
of Chicago, and others, rather good information exists at least in manuscript and file-box form for most Mayan languages.

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:

{ sonorant
fricative }

1. *r > y
2. *q > k
3. *t̥ > t
4. *k > č / ...
5. *ŋ > x̣
6. *t̥ > ć
7. *CV?VC CV?C
8. *r > t
9. *t > č
10. *č > ć
11. č > ɸ
12. *ɟ > ć
13. ć > č
14. *b' > p' / ___ V
15. *ŋ > n
16. *CV?C > CVC
17. *k > č
18. *V: > V
19. *h > ?
20. x̣ > x
21. *š > ṣ̌
22. x > h
23. x > x
24. *x > h
25. [e:] > [i] / ...
[o:] > [u] / ...

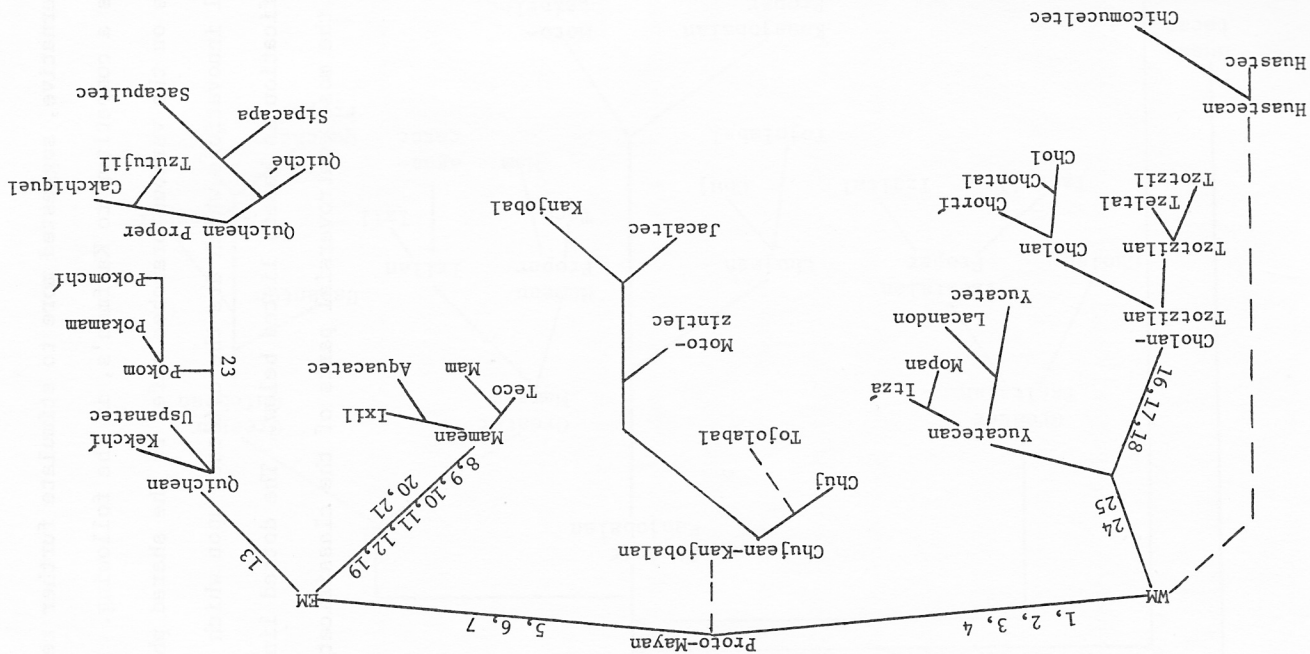
The question in considering Huastec is, do innovations

1-4 shared (at least in part) with Yucatecan and Chol-

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

t	ṭ	ʈ	k	q	i	u	V:	CVC
t'	ṭ'	ʈ'	k'	q'	e	o		CV:C
n			ŋ		a			CV?VC
l		s	ʃ	x				CV?C
r			y	h	?			CVhC
								CVSC (S=s, ʃ, x)

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 $*CV:C > \overset{h}{C}V:C$, $*CV?C > \overset{h}{C}V?VC$, $*CVhC > \overset{h}{C}V:C$. McQuown's proposed $*\underline{\theta}$ is explained in that the $\underline{\theta}$ of Chol and Chontal is the reflex of $*\underline{a}$ in all contexts except before \underline{h} or \underline{l} , where \underline{t} remained \underline{a} . The Tzotzil \underline{o} reflex is explained in like manner, but also involves conditioning from certain other following consonants. Long $*\underline{a}$: became \underline{a} in these languages, thus giving the apparent $\underline{a}/\underline{\theta}$ contrast. The assumed $*\underline{\xi}$ is really the reflex of $*\underline{\xi}$ in the chain-shift in Mamean:

$*r > t$

$*t > \xi$

$*\xi > \xi'$

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

$$b' > p' / \begin{cases} \text{fricative} \\ \text{sonorant} \end{cases} V$$

Finally, it is now clear that PM contrasted $*\underline{r}$ and $*\underline{y}$. Both these had been assumed to be $*\underline{y}$ earlier, but the correspondence sets clearly contrast: $*r$ - Quichean r : Mamean t : Motozintlec ξ : 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 Chol'ti' (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 ɛ 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