

Early Oto-Mangean Homelands and Cultures:
some premature hypotheses

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1. Introduction.

What follows is an exercise in determining traits of the homeland and culture of the speakers of proto-Oto-Mangean and some of its immediate descendants. The results of this study can in no way be taken as definitive, because to date we have only some 500 etymologies to work with, of which some 100 are grammatical morphemes. Nevertheless, on the basis of a data set about this large, it has been possible with several language families to develop fairly reliable models with regard to this subject matter. In future decades the picture offered here will be considerably amplified, and hopefully some of the major features of the present work will survive into the future.

The most mature work on proto-culture (Wörter und Sachen) and homelands has been produced by students of the Indo-European languages. We may mention Schrader 1890, Childe 1926, Dumézil 1958, Benveniste 1969, Gamkrelidze & Ivanov 1984, and Mallory 1989 as characteristic and for the most part exemplary, even when controversial. In spite of the vastly greater number of known Indo-European etymologies than for those of most other stocks, the number of Indo-European etymologies usable for a diversification model and the reconstruction of culture patterns probably does not exceed 750. (Gamkrelidze & Ivanov cite about

1100 distinct etyma, but many of these refer to universal traits of the human condition). For the methodology of kinship reconstruction see Friedrich 1966, Dyen & Aberle 1974, and Whistler 1980.

The Oto-Mangean languages are, with the (former) exception of Pame and Chichimeko, spoken entirely within Meso-America; with the exception of the extinct Sutiaba and Chorotega, they are (and were) spoken entirely within Mexico. Readers of this article who are unfamiliar with the geography of Mexico should arm themselves with a good physical map.

Earlier work done on Oto-Mangean homelands and cultures includes **Kinship**: Harvey 1964, Casasa 1976, Casasa 1979, Merrifield 1981; **Culture and Homeland**: Amador & Casasa 1979; **Diversification and Homeland**: Hopkins 1984, Winter & Gaxiola & Hernández 1984, Kaufman 1988ms; **Color**: MacLaury 1988.

When Harvey wrote, no usable proposal for pOM reconstruction existed at all. Merrifield, Amador & Casasa, and Hopkins based their reconstructions on the etymologies and phonological reconstruction of Rensch 1966 (pub. 1976). Since 1982 I have carried out phonological and grammatical reconstruction in OM that results in a very different picture of pOM and early OM than the one offered by Rensch. My picture has a different phonological system, a different (though partly identical) set of etymologies, a full set of grammatical markers used with verbs, and a different model of the diversification of the family. My justifications for all of these differences from Rensch are found in Kaufman 1983ms and Kaufman 1988ms, and though I will characterize my phonological and some aspects of my grammatical reconstruction here, as well as my diversification model, I will not justify or defend them.

Earlier ventures in the area of Oto-Mangean cultural reconstruction have been based on Rensch's various OM writings or on no systematic comparative study at all. Inasmuch as my set of etyma, my reconstructions, and my diversification model are different from those of Rensch, and in my view more reliable, it seems opportune and fitting to see, on the basis of my reconstruction, what kinds of inferences we can draw about what the culture, habitat, and homeland of the proto- and early Oto-Mangeans might have been. Although my reconstruction is incomplete, it is more elaborate than that of Rensch.

Josserand 1983ms is based on Kaufman 1983ms, which is a phonological reconstruction in which I do not propose a diversification model. Kaufman 1988ms, which is grammatical reconstruction of verbal structure, leads to a diversification model somewhat different, and considerably more ramified, than the one proposed by Josserand, which was based only on phonology.

2. Cultural Reconstruction, Homelands, and Habitats.

2.1. Methodological Remarks about Semantic Reconstruction.

In doing semantic reconstruction we can have two kinds of evidence: [a] what are the etymologies that fit within a given semantic field, defined impressionistically or on universalist grounds?; [b] what is the empirical scope and structure of the semantic field in question in each of the daughter languages? From this information we select the data and try to fit it into a coherent pattern, reconstructing at all necessary nodes both lexical items with their glosses and semantic systems. In practice/reality, however, the structure of the semantic fields in the daughter languages are rarely known, and what we do is to arrange reconstructed etyma into plausible patterns. For such semantic fields as **kinship** and **color**, we do have reliable descriptions for many Oto-Mangean languages, and we could in principle have such information about **ethnobotany**, **ethnozoology**, **ethnomedicine** and other fields, if proper studies were carried out.

This two-part input to a semantic reconstruction is perfectly analogous to what goes on in morphosyntactic reconstruction. To carry out morphosyntactic reconstruction we have to know not only what cognate morphemes are identifiable, but also how the morphosyntactic system is organized (i.e., its scope and structure). In both semantic and morphosyntactic reconstruction, since we are comparing not only morphemes but systems, if we have full enough data, it is possible that we can determine the existence of a grammatical category and its marker without being able to specify its phonological shape. Both semantic and morphosyntactic reconstruction depend on phonological reconstruction.

Phonological reconstruction is a bit different in procedure and a bit more complicated: we need to know two different kinds of facts: [a] valid etymologies; [b] sound systems (elements and

distributions) of daughter languages. Elements are phones, phonemes, and morphophonemes; distributions are phonotactics. Sound correspondences, which are extractable from valid etymologies, are the result of an analytical procedure for building hypotheses about earlier phonological states, and while this is a necessary step in phonological reconstruction, sound correspondences have no structural reality within any linguistic system and hence have no theoretical status. Sound correspondences are also the result of different diachronic phonological rules acting on the inherited lexicons of the several daughter languages.

For OM languages efforts in semantic reconstruction have most often focused on kinship. Harvey (1964) had kinship terms and systems from a variety of OM languages [Sapoteko, Masateko, Popoloka, Chocho, Misteko, Kwikateko, Chinanteko, and Otoml]. He attempted to reconstruct kin terms and then arrange them into a system, but (according to Casasa 1976) without considering the attested systems in which their reflexes are embedded. Casasa (1976, 1979) attempted to reconstruct the pOM system by comparing the documented systems of certain OM languages [Otoml, Masawa, Matlatzinka, Pame, Popoloka, Chocho, Iskateko, Chinanteko, Misteko, Kwikateko, Triki, Amusgo, and Sapoteko], but she did not do phonological reconstruction. Instead, she searched Rensch for possible tags to attach to her reconstructed kin categories. Since Rensch (1966/1976) was reconstructing whatever he could, and not focussing especially on kinship, one naturally would not expect to find labels for each of Casasa's categories, and she herself does not exaggerate the value of her accomplishments/results in this area. Merrifield (1981) had the potential for doing the job right because he has the kinship terms and systems for most of the OM languages (but not Chrn, and the Ams data seems incomplete). Many of the etyma found in his data, however, were unknown to Rensch; and Merrifield, on the other hand, is not quite at home in Rensch's theory of OM comparative phonology. Furthermore, Rensch's theory is faulty, as I have shown in detail elsewhere (Kaufman 1983ms). Merrifield does come up with both a system and a set of terms for pOM, and the system seems plausible, though in need of reexamination and reformulation, while the terms are subject to improvement both in the reconstructed shapes provided for particular etyma and in the association of particular etyma with particular kin categories. In my attempted reconstruction I have made use of the data in Merrifield, as well as some data found in Rensch's etymologies which are absent from Merrifield's

cognate sets, although found in the kinship data of some of the daughter languages. The discussion of kinship makes up the most extensive section in the present study.

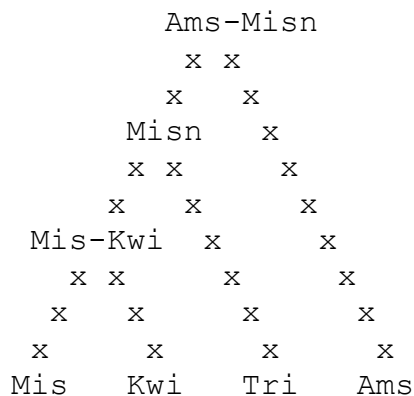
2.2. Cultural Reconstruction and Archeological Correlations

In order to devise a model for the linguistic diversification of a language family or stock, and to make cultural inferences and archeological correlations, it is necessary to examine the following kinds of data: current and historically attested locations of languages; internal diversification (dialectal ramification) of languages; diversification of family/stock & glottochronological calibration; cross-influences after language split; archeological picture of the area & archeologically-based chronology; semantic reconstruction for each etymon & reconstruction of semantic and terminological networks; assignment of each etymon to its appropriate level in the family tree; problems of distinguishing cognates from diffused items.

3. Some Results for Oto-Mangean.

3.1. Classification/Breakdown of the Oto-Mangean Stock.

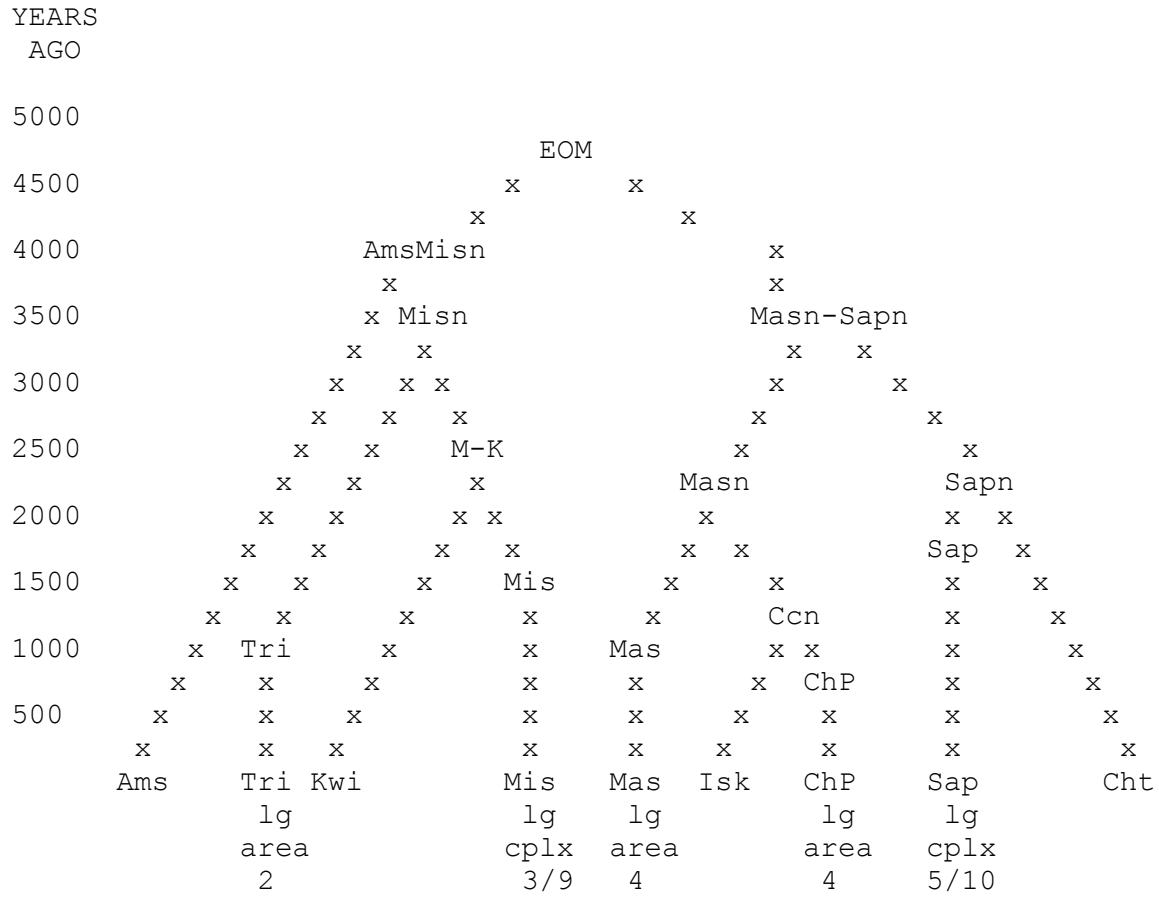
There are two major divisions within the OM languages, Western and Eastern. I do not consider Huave to be an Oto-Mangean language. I differ from the orthodox classification (as seen in Rensch 1976) in recognizing a particularly close connection between Amusgo and orthodox Misn, one that presupposes a post-OM protolanguage. We might consider extending the meaning of Mistekan to include Ams, or we might name a new node and call it **Amusgo-Mistekan**. Swadesh 1964a, Longacre 1957 & 1961, and I myself agree that a fragment of the OM diversification tree looks like that given below:



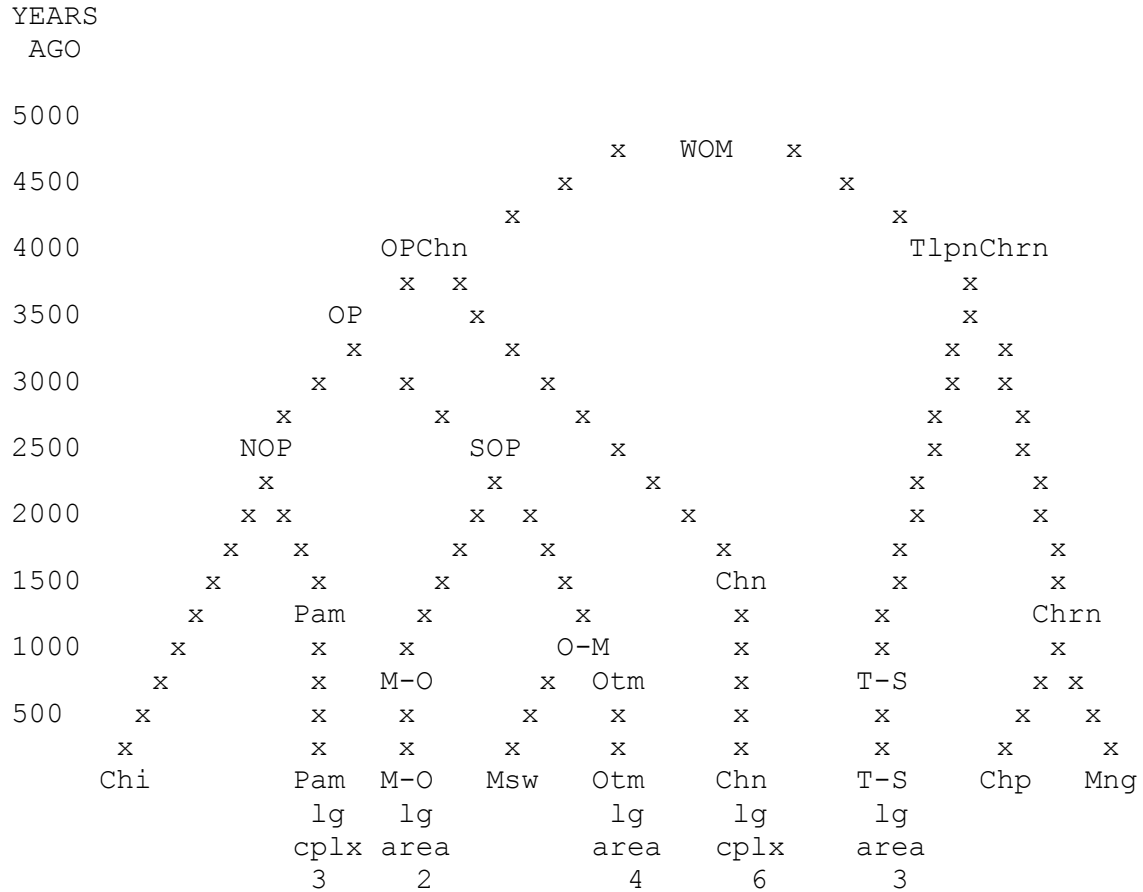
Rensch 1966 (pub. 1976) does not deal with this question, but accepts that Misn (= Mis,Kwi,Tri) and Ams are two of the main branches of OM.

Glottochronological (lexicostatistic) calculations have been made for various pairs and sets of OM languages. I have referred to and taken account of them, but they are all highly inconclusive, because mainly based on inadequate data or inadequate methodology. (cf. Gudschinsky 19xx, Cazés 19xx, Manrique 19xx, Bartholomew 19xx, Swadesh 19xx, 19xx, 19xx, 19xx).

The diagram below is a tentative family tree for Eastern Oto-Mangean, with very approximate lexicostatistic calibration. (Proto-Oto-Mangean is about 6000 years old.)



The diagram below is a tentative family tree for Western Oto-Mangean, with very approximate lexicostatistic calibration (Proto-Oto-Mangean is about 6000 years old).



3.2. Distribution of Reconstructed Etyma.

Of the approximately 400 lexical etymologies on hand, most of them are at level 1 [the whole stock] or 2 [one of the two major divisions]. Levels 2 [Western vs. Eastern] and 3 [a two-way breakdown of each of these] are what I have newly established, primarily on the basis of grammatical data. In many specific instances the lexical distributions are harmonious with the breakdown discovered on studying grammatical developments. Levels 1 and 4 are the common property and currency of Oto-Mangeanists. In the study carried out here Level 4 entities are the basic entities referred to. Data from individual languages within families will only occasionally be referred to. No item is found in these materials that is restricted to a single level 4 entity.

Level 1: proto-Oto-Mangean [stock]

Level 2: proto-Western Oto-Mangean [division]
proto-Eastern Oto-Mangean [division]

Level 3: proto-Oto-Chinanteko [branch: OP-Chn: under WOM]
proto-Tlapanekan-Chorotegan
[branch: Tlpn-Chrn: under WOM]
proto-Masatekan-Sapotekan
[branch: Masn-Sapn: under EOM]
proto-Amusgo-Mistekan [branch: Ams-Misn: under EOM]

Level 4: proto-OtoPame [family: under OP-Chn]
proto-Chinanteko [family: under OP-Chn]
proto-Tlapanekan [family: under Tlpn-Chrn]
proto-Choroteganb [family: under Tlpn-Chrn]
proto-Masatekan (Popolokan) [family: under Masn-Sapn]
proto-Sapotekan [family: under Masn-Sapn]
Amusgo [language: under Ams-Misn]
proto-Mistekan [family: under Ams-Misn]

3.3. Linguistic Structure and Hypotheses about Population Movements.

In the verbal complex the Eastern languages seem to have structures that are both more complex and more revealing of earlier structural states. Chinanteko has about as much morphology as Chinese, but this is not in any way a conservative pattern. Where pOM had a variety of proclitics, prefixes, and enclitics, pre-Chinanteko simply swallowed up unaccented vowels and most of the consonants that accompanied them in unaccented morphemes. Some metaphonic phenomena, and some conditioned reflexes of earlier consonant articulations have occurred, leaving minor traces of former unaccented syllables. Pre-OP underwent a similar process of losing the vowels of unstressed syllables, but did not go so far (not even very far) in simplifying the syllable-final consonants and clusters that appeared as the result of the vowel of enclitics being dropped. Still, OP does not show the degree of syllable-initial consonant clustering that we would expect to see if the probable consonant clusters resulting from the dropping of pre-stressed vowels had remained without simplification. The OP languages have fairly elaborate verb morphologies and clitic strings both before and after the verb. OP (or its subfamilies) has created a whole new system of VP organization, often using morphemes that are not found in other OM families, or that are used in other functions. Pamean languages have syntactic traits that are not found in other OM (or even Meso-American) languages. They are spoken in the dry lands of North Central Mexico, and the Pames themselves in historical times were foragers who were only marginally (if at all) agricultural. This no doubt represents the stranding of a Meso-American agricultural people who colonized the area in question during a more favorable climatological era before the drying up that occurred in the first millennium AD. In their dry habitat they encountered non-Meso-American peoples speaking unrelated languages. Otomian languages have syntactic traits that are not typical of OM languages (though not foreign to Meso-America), and that look typically Mayan, possibly the result of very early contact with Wastek(an) or some other unknown Mayan language once spoken in East Central Mexico.

3.4. Language Distributions.

Chiapaneko, known from Chiapas, and Mange or Chorotega, known from Nicaragua, are outliers; they originally must have been located somewhere within the area outlined by the rest of

the stock. The Pamean group of OtoPamean languages are currently spoken outside of Meso-America. They represent a northward expansion out of a more centrally-located OtoPamean homeland, probably the Valley of Mexico. Within Meso-America, the OP languages spread from the Valley of Mexico to the Valleys of Toluca [Matlatzinka-Okwilteko], Querétaro [Otomí-Masawa], and perhaps Pachuca-Mezquital.

3.5. Diversification Model.

Chinanteko is currently spoken in Oaxaca, north of Sapoteko. Its closest relatives within OM are OtoPamean; its next closest relatives are Tlapanekan and Mangan. Hence the original location of Chinanteko is somewhere in the neighborhood of OP, Tlpn, and Chrn, probably in the Valley of Morelos.

Mangan is most closely related to Tlapanekan, after that to OtoPamean and Chinanteko. It also shares various traits with Masatekan, which may be diffused, but nevertheless require geographical adjacency. Given that the Manges were also known as Chorotegas (Nawa /cholol-te:ka-h/ 'people from /cholol-la:n/'; /cholol-la:n/ is Cholula) it seems feasible to locate the Mangan homeland in the valley of Puebla, whose main center was Cholula.

3.6. Cross-branch Influences.

Masatekan and Tlapanekan-Chorotegan show certain common traits which are most likely due to diffusion; and if not, suggest geographical contiguity. Popolokan seems firmly associated with the Tehuacán Valley. If Mangan is assigned to the Valley of Puebla, Tlapanekan should be somewhere not too far away; the upper Balsas Basin seems possible.

Mistekan (or Misteko) itself has influenced Masateko grammatically in certain ways. They are adjacent anyway, and there is no reason to assume that either had an original homeland far from its current location: Misteko, however, has expanded from the Misteka Alta into the Misteka Baja during the last 1000-1500 years.

3.7. Archeological Correlations.

Based on the language distribution data, with rollbacks and relocations suggested by the above remarks, the maximum extent of the pOM homeland might have been as follows: the Valley of Mexico, the Valley of Morelos, the Balsas Basin, the Valley of Puebla, the Tehuacán Valley, the Valley of Oaxaca, and the Mixteca Alta. The Tehuacán Tradition, an archeological horizon that extends from 5000 to 2300 BC, brackets the probable time period for the break-up of pOM (ca. 4000-4500 BC). The Tehuacán Tradition has a geographical spread that includes all of the above regions, as well as the Chinantla, the Valley of Querétaro, and the Pachuca-Mezquital Valley. Locating the pOM homeland within this area seem unavoidable. We may doubt whether a single protolanguage could have been spoken over such a large area, but associating the pOM homeland with a specific subarea within the distribution of the Tehuacán Tradition is not at the moment feasible. The Tehuacán Tradition occupies a highland habitat.

To summarize the foregoing discussion, the post-*proto-Oto-Mangean* groups may have had the following homelands:

OtoPamean: Valley of Mexico and/or Valley of Toluca

Chinanteko: Valley of Morelos

Tlapanekan: upper Balsas Basin

Chorotegan: Valley of Puebla

Masatekan: Tehuacán Valley

Sapotekan: Valley of Oaxaca

Mistekan: Mixteca Alta and/or Nochistlán Valley

Amusgo: Mixteca Alta

4. Aspects of Proto-Otomangean Structure

4.1. Proto-Oto-Mangean Phonology.

Phonemes:

c o n s o n a n t s							v o w e l s		
p	t	c	k	k ^w	ʔ		i	ia	u
		s	x	x ^w	h		e	ea	o
	r						ai	a	au
	l								
m	n								
		y		w					

t o n e s [two or three]

Note that although many sets of items cited here may have the same segments, they could well have had different tones.

phonetics: *r may be [θ]; but overall, the evidence tends to support [r]

frequency: *p is rare or non-existent

classes of phonemes:

H (laryngeals): ʔ h
T (plosives): p t c k k^w
S (spirants): s x x^w
R (resonants): l (r) m n
N (nasals): m n
Y (semivowels): y w

The syllable has the shape **(H) (n)C(y)V(V) (n) (h) (ʔ)**. Every syllable begins with some consonant, which can include H and N. The preconsonantal nasal, written <n>, is homorganic to what follows: before laryngeals it is apparently [n]. Vowel clusters are monosyllabic falling diphthongs. The diphthongs are written

as such because /Vy/ and /Vw/ sequences could be ambiguous for inserting syllable boundaries, and no semivowel corresponding to /a/ is available or otherwise needs to be reconstructed. Disyllabic strings must have a consonant between the two syllabic nuclei.

Cover symbols: X = *x or *h; H = *h or *ʔ; S = *s or *c;
E = *i or *e; A = *a or *ai

Boundary markers: <#> word; <+> clitic; <=> compound;
<-> inflexional affix; <.> derivational affix

4.2. Hypothesized Rules of OM Word-formation.

A number of the reconstructed forms cited here are morphemically complex, and in fact compounds. In a compound one element is the head, and all others are modifiers. In compounds forming noun stems, the modifier can either precede or follow. In the absence of more certain knowledge, I operate with the following working hypotheses:

1. an adjective follows a noun when it modifies it
2. a noun precedes a noun when it categorizes it ("noun-type noun")
3. a noun follows a noun when it possesses it ("noun of noun")

A note on terminology: a **prepon**d is a root that always occurs as the first member of a compound; a **postpon**d is a root that always occurs as the last member of a compound. These terms were coined by John P. Harrington, and first used in his Tobacco among the Karuk Indians of California (1932). Later on William Bright used them in his The Karok Language (1957). I recommend their general use as being completely apt and needed to describe real recurrent phenomena.

5. Reconstructed (Proto-)Oto-Mangean Etyma by Semantic Fields.

The etyma that are considered useful for determining the habitat and culture of the early Oto-Mangeans are given below, according to the following categories: natural environment (5.1, 5.2), animals (5.3), plants (5.4), substances (5.5), technology (5.6), kinship (5.7), color (5.8), magic & ritual (5.9), counting & trade (5.10).

The physical layout and indenting conventions for the reconstructions cited are as follows:

Level 1
 Level 2
 Level 3 [very occasionally]

Cultural and geographical universals of the non-arctic regions are not considered here, unless some particular story can be built around the terms.

5.1. Land Forms

*XeyA [OM:Chn,Sapn] 'mountain'
 *k^wa [WOM] 'mountain'

5.2. Weather

*ca(n) [OM] 'hail; ice'. Hail is universal in the tropics.

*7wa [OM] 'ice, frost'. This is not common in the tropical Lowlands, but there is usually a word for it.

Comment: Natural phenomena do not help to narrow down the homeland.

5.3. Animals.

5.3.1. Animal Types and Parts

*k^wea [OM:Miscn,Masn,Sapn,Tlpn] 'animal'
*kiyau [OM:Ams,Chrn] 'animal'
*luwa [OM:Chn,Tlpn,Ams,Masn] 'skin, leather'

TAIL *syu7ma [EOM] 'tail'

BIRD *sai [EOM] 'bird'

 *hta [OP-Chn] 'bird'

TO CRY *7ya [EOM] 'to cry [animal]'

*ka [OM: Misn-Ams, Chrn, OP] 'fish'

*k^wa [OP-Chn] 'to fish'

5.3.2. **Wild Animals** [animals universally found are not cited]

*k^wa [OM: WOM, Misn] 'white tail deer'

*Sauh [OM] 'brocket deer'

*Qo [OM: Chrn, Ams] '*peccary (> pig)'

*ntyē [OM] 'fox' [EOM] ('dog' [Chn], 'jaguar' [Tl])

*kuXa [WOM: Chrn, OP-Chn] 'rabbit' [areal]

*me [OM] 'skunk' [Misn, Chn] (> 'onion' [Chn, Ams])'

*7en [Ams-Misn] 'skunk' [innovation]

*xia [OM] 'possum'

*yau [OM] 'squirrel'

BAT *k^wea [Masn-Sapn] 'bat'

*nkin [WOM] 'bat' [Chn], 'rat' [Chrn]

*ka [OM: OP, Misn] 'crow₁' [probably onomatopoetic in origin]

*ntyā [OM: Tl, Ams, Masn] 'crow₂' This "crow" is actually a raven.

*we [WOM] 'hawk, buzzard'

*la [OM: Chn, Sapn] 'snake₁'

*lu [OM: Chrn, Chn, Misn] 'snake₂' (+ 'worm', 'lizard')

Of course there are many different kinds of snake in MA. These two items may share a morpheme. Most snake names in MA languages are descriptive compounds.

*ka(u) [OM] 'lizard₁' (+ 'iguana' [Chn], 'salamander' [Ams],
'snake' [Misn])

*x^wa [OM] 'cayman' [Chn], 'lizard' [Ams], 'snail' [Masn],
'armadillo' [Chrn]

*tea [EOM] 'lizard₂' [innovation] (+ 'alligator',
'chameleon')

*mau [OP-Chn] 'turtle'

*tu [OM] 'toad' [EOM], 'frog' [Chn]

SVyau⁷ [OM:Chn,Ams] 'crab'

*se (+ha) [OM] 'butterfly'

*sye [OM:EOM,Tlpn] 'honey, sweet'

*nyau(n) [Ams-Misn] 'bee'

ANT, TICK, LOUSE, FLEA, FLY not listed. SPIDER not found.

5.3.3. Domesticated Animals

*lyau [OM:Masn,OP] 'dog'

*nta [OM:Masn,Tl] 'turkey hen'

*tu [OM:Chn,Tl,Sapn] 'turkey hen' [areal]

*⁷au [OP-Chn] 'turkey hen' [innovation]

5.4. Plants.

5.4.1. Plant Types and Parts

*ya [OM] 'tree' (stick, wood, firewood, vegetation) [OM];
'oak' [WOM:T,Chn]

*tau(n) [OM] 'wood' ('firewood, stick')

*se [OM] 'pole' ('stick')

*(n)tea [OM] 'fruit' [OP,Ams]; 'seed' [Masn-Sapn]

*k^wa [OM] `bark; leaf`

*ma [WOM:Chn,Chrn] `leaf`

*kau [EOM:Masn-Sapn,Ams] `leaf`

GRASS

*ca [OP-Chn] `fodder, hay`

*li(h) [OM] `flower`

*(n)c(y)ea [OM] `thorn` [Chrn,Sapn]; `sharp` [WOM:Chn,Tl]

*yau(n) [EOM] `thorn`

*ta +Hi(n) [OM] `mushroom`

5.4.2. **Wild Plants** [plants universally found are not cited]

*xinai [OM] `palm tree` [Masn-Sapn]; `palmetto` [Chn]

*ka [OM] `palmetto?` [Chn]; `coconut` [Ams]

*ka [OM] `pine tree` [OM]; `candle` [Ams-Misn]. Pines are not common in the tropical lowlands.

5.4.3. **Cultivated Plants**

*ntea [OM] `beans` [OM]; `kidney(s)` [Ams-Misn,Chn]

*mau [COM:Masn,Chrn] `beans` [innovation]

*Qu [OM:Tl,Sapn] `sweet potato`

*rVHmi [OM] `tuber: sweet potato` [Misn]; cassava [Chn]`

*ya [COM] `cassava` [Chrn,Masn]; `sweet potato` [Chrn]
[innovation]

*t(y)E [OM:Ams-Misn,Tlpn] `avocado`

*lyumau [COM:Masn,Chrn] `avocado` [innovation]

*ro [OM:Ams-Misn,OP-Chn] `*cane (> sugarcane)'

*ta [OM] `cane' [EOM]; `reed/bamboo' [Chn]

*x(i)lyau [EOM] `cornhusk/cornstalk'

*kVwa [OM] `cacao' [areal]

*uci [Tl-Chrn] `cacao'

[innovation: cf pEOM *c(y)e `seed']

CHILLI PEPPER *xinya7 [Masn-Sapn] `chilli pepper'

*la7ah [Ams-Misn] `chilli pepper'

SQUASH *hku [COM:Chrn,Masn] `squash'

*mau [OP-Chn] `squash'

*lauken [Ams-Misn] `squash'

TOBACCO *ro [OP-Chn] `tobacco'

*nu [EOM] `tobacco' [Misn,Masn]; `cigaret' [Ams-Misn]

MAMMEE *ka [EOM] `plantain' [Misn,Masn]; `mammee' [Masn]

`Plantain' and/or `banana' is often named after `mammee' in MA, even though the plantain is probably a native New World (cultivated) plant.

X FRUIT *ko [EOM] `zapote/anona' [Misn]; `pineapple' [Masn]

See also COTTON, CENTURY PLANT, and PRICKLY PEAR, listed under WOVEN THINGS AND STRINGS/FIBERS AND WEAVING.

5.4.4. **Maize and Maize Products**

*nu [OM:Op-Chn,Ams-Misn] `cornfield' (`corn crop' [Ams],
`to plant' [Misn])

*na [OM:Chn,Masn,Ams] `corncob' (`corn' [Ams])

*ren [OM:Misn,Chn,Chrn] `corncob' (`hominy' [Chrn])

*s(a7)ai(n) [OM] 'roasting ear' ('corncob' [Ams],
'cooked corn' [Masn])

*nyean [Ams-Misn] 'roasting ear' [innovation]

*k^wau [OM] 'maize' [WOM:Chrn,Chn] ('atole, roasting ear'
[Chrn],
'kernel' [Sapn])

*7tye [OP-Chn] 'atole'

*hme [OM] 'maize' [Masn]; 'tortilla' [OP]

*ma [OM] 'food' [Chn,Cht] ('corn/tortilla' [Tlpn-Chrn])

*-etta [OM] 'tortilla' [EOM:Misn,Sapn]; 'hominy' [Chrn]

*sau (+wV) [OM] 'hominy' [OP]; 'tamale, tortilla' [Misn]

*c/l-auxen [Ams-Misn] 'corn dough'

5.5. Substances

*la [OM] 'quicklime' [OM:Masn,Chn];
'ashes' [EOM:Ams-Misn,Masn]

*ka [Ams-Misn] 'quicklime' (cf. pOM *kau 'to burn')

*ki(a) [OM] 'metal' [Masn,Chn]; 'hard' [Masn,Ams,Tlpn]
(cf. *kia [OM:Chn,Sapn] 'stone')

*ka [EOM:Misn,Masn] 'metal' (cf. Chrn *k2 'stone')

These two items may share a morpheme.

SALT *ihru [WOM] 'salt'

*(se)hre(n)7 [EOM] 'salt'

These two items may be related.

5.6. Technology.

5.6.1. Objects Made of Clay

*t(y)ia7 [OM] 'water jar/jug' [Sapn,Tl];
 'pot' [COM:Masn,Tl-Chrn]

*su [OM] 'water jar/jug' [OP-Chn,Ams] ('pot' [Sapn])

The possible difference between these two items is not clear.

*ko [OM] 'pot' [COM:Masn,Chrn]; 'bowl' [EOM:Miscn,Masn]

*wa [OM] 'plate' [Masn,Chn]; 'pot' [Ams]

*yo [OM:OP-Chn,Miscn] 'clay griddle (Sp. comal)'
 ('tortilla' [Masn])

*ta [OM:Masn,Chn] 'clay griddle'

*ci [OM:OP,Ams] 'clay griddle'

How these three items may have been different is unclear. The presence of these terms indicates a more northerly homeland, since the **comal** was introduced into Mayaland in postclassic times.

*cu [OM:Chn,Masn-Sapn] 'to toast, fry'

*tai [OM] 'to boil' [EOM]; 'to roast' [Chn]

*xa [OM] 'to roast'; (+ 'to bake', 'oven')

*tun [Ams-Miscn] 'oven' [Ams-Miscn]; (+ 'box' [Miscn])

5.6.2. Other Containers

*x^wa [OP-Chn] 'box'

*k^wau [OP-Chn] 'gourd (dipper)'

5.6.3. Woven Things and Strings

*to [OM:OP-Chn,Tl,Masn-Sapn,Ams] 'basket₁'

*me [OM?:OP-Chn,?Sapn] 'basket₂'

There is more than one style of basket in MA.

*pa [OM:Chrn,Chn,Sapn] 'tumpline'

*to [EOM] 'tumpline' [Misn] [innovation];
'thread/rope' [Sapn]

*lyi +wa [OM] 'root' [OP,Ams-Misn];
'rope/cord' [EOM:Masn,Misn]

*ma [OM] 'root' [Chn,Tlpn,Masn]; 'vine' [Tlpn,Sapn]
('sweet potato' [Masn])

BRAID *Xwi [WOM] 'braid'

TO SEW *7we [OP-Chn] 'to sew' [OP-Chn]; 'clothing' [Chn]

*ke [OM:Chn,Sapn] 'to dress oneself'

*(syi=)lyau [OM] '*cotton, cloth'. See also under PLANTS.
Cf. *syiya (+hV) 'agave fiber' and *syi 'leaf; paper'

(l(y)au)=tye(7) [OM] ' (cotton) cloth' ('blanket' [Misn])

Note that these two items, which are compounds, share a common morpheme, *l(y)au, which probably means '*cotton', while *tye(7) probably means '*cloth'.

*sya7ma [EOM:Sapn,Misn] 'cloth(ing)'

STRAW MAT *hma [OP-Chn] 'straw mat'

*ruwe [Ams-Misn] 'straw mat'

No pOM term?

COMB *ka [Ams-Misn] `comb`

BOW *htu [OP-Chn] `*spear thrower (Nah. atlatl) (> gun)`

5.6.6. **Things Built**

*iRyau [OM:OP,Chrn,Masn] `road`

*Xwe [OM] `road`

How these two items might be different is unclear.

*(n)kya [OM] `nest`

*yau +hV(N) [OM] `fence`

*(n)ku(=wa7) [OM] `house` [OM:Tlpn,Ams];
 `temple (> church)` [OM:Chn,Masn];
 `fence` [EOM:Masn,Misn]

*yain [OM:Tlpn,Sapn] `sweathouse (Sp. temazcal)`

*so7u [EOM] `adobe` [possibly diffused]

*yau [EOM] `village`; `house`

*xicean [EOM:Ams,Sapn] `village`

5.7. **Kinship and Roles** [See Harvey 1964, Casasa 1976, Casasa 1979, Merrifield 1981]

5.7.1. **Oto-Mangean Kinship Etyma.**

The literature on OM kinship occupies several hundred printed pages. First I present the valid etymologies for terms referring to kinship and related fields, according to the semantic connexions they seem to have. Eleven of these etymologies are first noted in Merrifield 1981, and eleven or twelve of them (including two or three compounds: marked TK) have been discovered by me in the process of writing this chapter. My new sets have mostly been found within the "cognate" sets and kin term data found in Merrifield 1981.

FEMALE

- *x^w(y)e [OM:OP-Chn, ?Tlpn, Chrn, Sapn, ?Ams, Misn] 'woman'
- *Hya(n)7 [OM:OP-Chn, Misn] 'woman, female'
- *co(n) [OM:OP-Chn, Masn, Misn] 'female/woman, mother, daughter'

GRANDMOTHER

- *(n)t(y)au [OM] '*grandmother and grandchild'
'(grand)mother' [OP, Ams]:
reciprocal with 'grandchild'
[OP-Chn, Masn]
(?+ 'child's spouse' [Masn])
(+ 'child' [Ams, ?Tlpn])
- TK *sI [OM] 'grandmother (and grandchild)' [Tl, Sapn, Misn: Mis]
- *k^wau(n) [(E)OM] 'grandmother' [Misn: Kwi, Tri];
'aunt, wife' [Masn]; 'female' [Sapn]:
'man's sister-in-law' [Otm]

MOTHER

*naH [OM:OP,Masn-Sapn,Ams-Misn] `mother' [EOM];
 (+ `woman' [Sapn]; `lady' [Misn];
 + Otm `grandmother')

*mau [WOM] `mother' [Chrn,Chn];
 (+ `grandmother' [Chn])

MALE

*caH [OM:OP-Chn,Masn,Ams-Misn] `male/man, husband';
 (+ `son-in-law'??)

*wa [OM:OP,Masn,Chrn] `man' [Masn,Chrn];
 `husband' [OP,Masn]

TK *ni [COM:Tl,Masn,Mis] `male': in `son-in-law' [Tl];
 `uncle' [Masn];
 `man's brother' [Mis]

*Xwi [WOM] `male/man, husband' [Chrn];
 `owner, lord, God' [Chn]

GRANDFATHER

*yu [OM:OP-Chn,Sapn,Ams] `*older male kinsman'
 `man's brother' [Otm,Tl];
 `father/uncle' [Pam];
 `old (male)/grandfather/gentleman[Chn];
 `man, grandfather' [Sapn]; `human' [Ams]

WM *si [OM:(Tl,)Masn-Sapn,Misn] `man/male/husband' [Masn];
 `father' [Sapn];
 `grandfather' [Misn]

TK *s(y)I=yu [OM:Tl,Sapn] `grandfather'. This item no doubt
 contains the previous item plus *yu `elder male kinsman'.

WM *xE [OM:OP,Misn] `grandfather'

SAME-SEX SIBLING

*ko [OM:OP,Misn] 'same sex (elder) sibling'

*ko=x^w(y)e [OM:OP,Misn] 'woman's sister'.
*x^w(y)e is 'female'.

WM *ki(=) [OM:OP,Chn,Tlpn,Masn,Sapn,?Ams] 'same sex sibling'.
Usually as first member of a compound;
also as second member in OP and Masn.
pOtm *mi&kki 'co-brother-in-law'

TK *ki=yu [OM:Chn,Tlpn,Sapn,Ams] '(man's) (elder) brother'
[Chn,Tlpn,Ams],
'husband/man' [Sapn],
'father' [Chn]

YOUNGER SIBLING

*(i)ta(n) [OM:OP,Tlpn,Misn,?Ams] 'younger sibling'

CHILD

*(H)(n)t(y)a(i) [OM:OP,Tl-Chrn,Masn] 'little/child'

*s(y)i [OM:Chn,Sapn] 'child'

*tu [OM:OP,Sapn,Ams] 'young person/child; offspring'

WM *ca [EOM:Masn,Misn] 'child'

WM *k^wa= [OM:OP,Chrn,Masn,Sapn,Misn] 'diminutive prepound in
kin terms'

AFFINALS

TK *la [OM:Chn,Sapn] 'in-law'

WM *kah [OM:Chn,Masn,Misn,?Ams] 'in-law'
('child-in-law' [OP-Chn,Misn];
'parent-in-law' [OP,Masn])

TK *ku [OM:OP,Tl,Sapn,Ams] 'child-in-law'

These two items may be related.

TK *c(y)in [OM:OP,Masn] 'female kin by marriage':
'daughter-in-law' [Otm]; 'wife' [Masn]

WM *ca(u) [EOM:Masn,Ams-Misn] 'man's daughter-in-law
& reciprocal'

Note that pOP *mo& 'woman's brother-in-law' is borrowed from
Mayan *mu7 (=> Wasteko /muul/).

The following etyma used to label human beings apparently do not
enter into the expression of kin categories:

*sa(n) [OM:Chn,Masn,Ams] 'person'

*Hwi(n) [OM:Chn,Masn] 'person'

*sa Hwi [OM:Chn,Ams-Misn,Masn] 'people'

*tau7o [EOM:Sapn,Ams-Misn] 'god/saint, holy, chief/owner'

*mia [WOM] 'lord, ruler, God' [Chrn]; 'chief/owner' [OP]

*we7=ne [OM] 'infant' [WOM]; 'small' [Sapn]

Sapotekan #s^ine7 is from OM *syi 'child' + #ne

*ci [OM:OP,Chrn,Masn] 'little, small'

5.7.2. Speculations on the Structure of the proto-Oto-Mangean Kinship System.

Judging from a survey of the distinctively named categories
in the systems attested in Merrifield, we would expect that pOM
might have been able to name the following categories. These
are categories found in at least one EM and at least one WM
family protolanguage, and not limited to COM. Some terms may be
morphologically complex.

lineal kin
father
mother
child (= offspring)
grandfather (reciprocal)
grandmother (reciprocal)

collateral kin
man's elder brother
woman's elder sister
cross-sex elder sibling
younger sibling
uncle (reciprocal)
aunt (reciprocal)

spouses
husband
wife

affinal kin
son-in-law (reciprocal?)
daughter-in-law (reciprocal?)
man's brother-in-law
woman's sister-in-law

Note that relative age is important for siblings, and that no distinction is drawn between kinsmen on the mother's or father's side, except in OtoPame, which on other grounds (VOS and AN word order, loans like *mo& 'woman's brother-in-law') is suspect of being influenced by Mayan. Note also that grand-kin and in-law terms are occasionally reciprocal: this is not unknown in MA, since Mayan also has reciprocal grandparent:grandchild terms, and child-in-law:parent-in-law terms; Mayan has reciprocal mother's brother:sister's son as well, but such a trait has not apparently been reported within OM.

Husband and wife terms are (+/- derived from) general vocabulary items meaning 'man/male' and woman/female'.

Father and mother terms have special vocative forms in a few languages.

Grandchild terms are all either the same as grandparent terms, based on grandparent terms, or based on offspring terms.

The 'child' term distinguishes sex only by free postposed modifiers.

Instead of 'man's elder brother', some languages have terms meaning just 'man's brother' or 'older brother', but the functional slots match, since there are no other contrasting

terms; the same can be said of terms for 'woman's elder sister' and their analogs. Three of the families have terms for cross-sex (+/- elder) sibling ['cross-sex' means that the kinsman is of the opposite sex from the possessor], and this is a sufficiently unusual category to make its reconstruction likely. All of the families have terms that means either sibling in general or younger sibling in general, but not both. Given that relative age of siblings is clearly important here and there throughout the family, and its absence may owe something to language contact, especially with Spanish, it is reasonable to suppose that relative age, where encoded, is a conservative feature. Five of the families have distinctive uncle and aunt terms; the rest lack them. Four of the five systems with uncle and aunt terms do not distinguish the sex of the parent through whom the kinsman is related to ego. Nephew and niece terms are rare.

Son-in-law and daughter-in-law are found as distinct terms in most systems; in two families, both COM, there is just a child-in-law term. One branch has a distinctive father-in-law term, and one has a parent-in-law term; in all the rest the terms are based on father and mother terms. Siblings-in-law are distinctively named only in OP and Sapn.

5.7.3. Casasa's Reconstruction

Casasa, based on a comparison of the attested OM kinship systems, comes up with a reconstruction of the pOM system -- without pOM labels -- that is considerably different from the typological outline I have provided above. Her result conceivably could be partly due to the fact that she considers only structure and not the etymology of labels for points in the structure, except that that is what I have done above. It is also conceivable that the data she examined was faulty and/or incomplete, both within languages and across languages. Casasa examines kinship systems from all the OM branch families except Mangan and Tlapaneko-Sutiaba. She lacks data from Pamean and Chatino, but seems to have collected or found data for all the rest of the languages.

Casasa postulates the following kin types for pOM (She does not discuss spouses or affinals, only lineal and collateral kin):

lineal kin

father, mother
son, daughter
grandfather, grandmother
grandchild

collateral kin

man's sister, woman's sister, cross-sex sibling
uncle, aunt
nephew, niece

5.7.4. Merrifield's Reconstruction

Merrifield (1981.19-46) reconstructs both kin terms and a kinship system, and reaches conclusions different both from that of Casasa, and from what I suggested above on typological grounds.

The system he proposes is as follows:

lineal kin:

father, mother
child
grandfather (reciprocal), grandmother (reciprocal)

collateral kin:

man's elder brother, woman's elder sister, cross-sex elder sibling
sibling
younger sibling

affinal kin:

son-in-law (reciprocal), daughter-in-law (reciprocal)

spouses:

husband = male/man, wife = female/woman

The reconstructed forms offered by WM, with their glosses, are given below. Note that Merrifield attributes 'uncle' and 'aunt' values to the 'male/man' and 'female/woman' terms. The reader should bear in mind that due to Merrifield's acceptance

of the 'OM consonant alternation hypothesis' of Longacre and Rensch, many of the reconstructions cited below refer to at least two distinct etyma. "POM" etymologies numbered 428-429-430-431-432-433 are new putative cognate sets proposed by Merrifield. All reconstructions with **a** and **b** after them are forms or glosses made by WM. In this section I reproduce WM's **POM** instead of my preferred **pOM**.

**yu [POM 421]	'person'
**kwa, **ka, **wa [POM 387]	'male' > 'husband'
**sehn, **yehn [POM 254]	'male' > 'husband'
**kwin, **kin, **win [POM 361]	'male' > 'husband'
**kwin, **kin, **win [POM 361a]	'uncle' (R,G)
**kwin-yu-wa, *kin-yu-wa, *nwin-yu-wa [POM 361]	'father'
**Ytah [POM 49]	'father (vocative)'
**siHn, **niHn [POM 255]	'female' > 'wife'
**siHn, **niHn [POM 255a]	'mother'; 'aunt' (R,G)
**nsi-nsi [POM 255b]	'aunt' (R,G)
**suHn, **nuHn [POM 340]	'female' > 'wife'
**suHn, **nuHn [POM 340a]	'mother'
**suHn, **nuHn [POM 340b]	'aunt' (R,G)
**kwin, **kin, **win [POM 148]	'female' > 'wife'
kwin, (kin,) **win [POM 148a]	'mother'
**kwin, **kin [POM 148b]	'aunt' (R,G)
nahn (ntaHn, *naHn, *yaHn) [POM 350]	'mother (vocative)'
**ntaHn, **naHn, **yaHn [POM 350a]	'female' > 'wife'
**Yhnsan, **hyan [POM 308]	'child'
**7ntan [POM 57]	'child'
**7ntan Yhntah [POM 50(sic)]	'grandchild' (L)
**tun, **yun [POM 87]	'infant, baby'

**si7 [POM 258]	'youngster'
**nkwan, **nwan [POM 428:WM]	'(diminutive)'
**seh, **hkeh [POM 429:WM]	'grandfather' (R)
**Ynsan, **Ynan [POM 430:WM]	'grandmother' (R)
**kwe7n, **ke7n [POM 189]	'big, old'
**nu, **yu [POM 423]	'big, old'
**tu, **nu, **yu [POM 423]	'man's elder brother'
**kwaHn, *kaHn [POM 236]	'woman's elder sister'
**nsi-7ya [POM 431:WM]	'cross-sex elder sibling'
**ta7n [POM 61]	'companion' > 'sibling'
**kuHn [POM 159]	'sibling'
**nsi-kihn, **kihn-si [POM 159a]	'younger sibling'
**kah [POM 432:WM]	'son-in-law' (R,O)
**nsan, **nyan [POM 433:WM]	'daughter-in-law' (R,O)

5.7.5. My Reconstruction

My own survey of the terms has uncovered several etymologies unnoticed by Merrifield. My attempt to integrate the valid etymologies into a system as suggested at the beginning of this section has led me to revise my expectations to a certain extent. An examination of the OM kin terms from an etymological point of view shows that many of them are morphemically complex.

My proposed reconstruction of the pOM kinship system contains the following kin types:

grandparent [*si]
older female kinsman/grandmother & reciprocal:
 woman's grandchild [*⁽ⁿ⁾t(y)au]
older male kinsman/grandfather
 (?& reciprocal: man's grandchild?) [*xE; *s(y)I=yu]
'grandchild' is possibly "diminutive grandmother"
 [*k^wa=⁽ⁿ⁾t(y)au]

mother [*naH]
father [*Hm(y)e ~ *yu=wa] and father! [*ta]

child (= offspring) [*tu; *(H)(n)t(y)a(i) ~ *s(y)i]

(elder) sibling [*ko ~ *ki]
younger sibling [*⁽ⁱ⁾ta(n)]

same-sex parent's sibling [*ci7] & reciprocal [*k^wa=ci7]
 man's uncle [*ci7] & reciprocal: man's nephew [*k^wa=ci7]
 woman's aunt [*ci=ci ~ *n(y)e] & reciprocal:
 woman's niece [*k^wa=ci=ci ~ *k^wa=n(y)e]

cross-sex parent's sibling [*i7ya ~ *7we] & reciprocal:
 cross-sex-sibling's child [*k^wa=i7ya ~ *k^wa=7we]

affinal [*la]
child-in-law [*kah] (?& reciprocal: parent-in-law?)
daughter-in-law [*c(y)in]

wife [*x^w(y)e; Hyan7; *co(n)]
husband [*caH; *wa]

The pOM kinship system seems to be of the non-lineal type.

My initial typologically-based impressions did not bear fruit in two areas:

[a] There are no reconstructible terms for siblings-in-law;

[b] The reconstructible collateral terms suggest a system typologically somewhat different from those of the present millennium. The distinction of cross-sex and same-sex is aligned with uncle/aunt categories and not elder sibling categories. There is a reconstructible term for 'sibling', perhaps 'elder sibling', but it lacks any explicit sex reference either for the kinsman or for EGO.

For each of these categories there is at least one pOM term. In a few cases, it seems likely that two etymologically different but synonymous terms coexisted in the protolanguage, since in each constituent family of OM only one of the pair normally survives, and no difference in meaning can be found. What is the meaning of this complementarity? In some cases one of the terms is innovative and diffused rather than inherited. In other cases the two items may not be truly synonymous. In spite of a lack of explanations for these complementarities, it is worthwhile pointing them out, because they will eventually have to be explained. There follows a listing of the reconstructed pOM etyma, along with any known COM, WOM, and EOM reconstructions. Glosses of reconstructions are the same as the head-word unless otherwise noted.

LINEALS

'mother'

*naH [OM]

*mau [WOM]

'father'

*ta [OM] (vocative)

*Hm(y)e ~ *yu=wa [OM].

*yu=wa is made up of *yu 'elder male kinsman'
and *wa 'male'

*na [COM]

'child (= offspring)'

*(H)(n)t(y)a(i) ~ *(y)i [OM]

*tu [OM]

*ca [EOM]

*k^wa= [OM] 'diminutive prepound'

'grandmother and reciprocal; older female kinsman'

*(n)t(y)au ~ *sI [OM] 'grandmother and reciprocal'

*k^wau(n) [(E)OM] 'older female kinsman'
(+ 'wife'; ?+ 'sister-in-law')

In the meaning 'grandmother' these terms are all in complementary distribution; in the meaning '(woman's) grandchild' *(n)t(y)au predominates.

*(H)(n)t(y)a(i) (n)t(y)au [EOM] 'grandchild'
(= "child of grandmother").

This collocation is noted and reconstructed (somewhat differently) by Merrifield 1981.33). In Tlpn 'grandchild' is "child of grandmother" too, but the 'grandmother' term is different. In Otm the term descends from *7nk^wa+yV=ttyau, where *7nk^wa is from pOM *k^wa= 'diminutive'.

'grandfather; older male kinsman'

*yu [OM] 'older male kinsman'
*si [OM] 'older male kinsman' (+ 'husband')
*s(y)I=yu [OM] 'grandfather'
*xE [OM] 'grandfather'

It is probable that grandparents and elder kins(wo)men should be conflated, but it is unlikely that if *yu meant, among other things, 'grandfather', it could have been used with the reciprocal value of 'man's grandson'. The system may have been skewed, and *(n)t(y)au may have meant 'grandchild' in general, as well as 'grandmother'. It is possible that *sI 'grandmother and grandchild' and *si 'older male kinsman' should be combined into a single 'grandparent and reciprocal' category, alongside of which *s(y)I=yu exists as an explicit label for 'grandfather'. *xE 'grandfather' is limited to OP and Misn. It may be the original explicit term for this kin category, for which *s(y)I=yu is descriptive, and *sI without gender specification.

COLLATERALS

Elder sibling terms: most of these terms have found their resting places at the parent's sibling (aunt/uncle) level in the descendant systems. It is reasonable to suppose that these terms normally denoted both elder siblings of EGO and parent's siblings.

'cross-sex parent's sibling and reciprocal'

*i7ya ~ *7we [OM] Chn 'cross-sex elder sibling;
Tlpn 'woman's brother';
Kwi 'woman's uncle'// Tri 'aunt';
Otm 'mother's brother';
'cross-sex sibling' [Mis-Kwi:dim];
'sibling's child' [Masn:dim]

'same-sex parent's sibling and reciprocal'

*ci7 [OM] 'man's (elder) brother; uncle'

*npau [WOM] 'father's brother; uncle'

*ci=ci ~ *n(y)e [OM] 'woman's elder sister;
woman's mother's sister; aunt'
[with *ci=ci one of the syllables is a modifier to *ci7)

The above collateral terms fit solidly in the uncle/aunt category in most OM branches and languages. In some cases they have moved down into the elder sibling categories. Nephew/niece terms, when not descriptive, are very often reciprocals of the uncle/aunt terms.

'(elder) sibling'

*ko ~ *ki(=) [OM]

*ko=x^w(y)e [OM] 'same-sex sibling of a female'

*ki=yu [OM] 'same-sex sibling of an older male'

There is some ambiguity about whether this term encodes the concept 'elder' or whether 'elder' is contextually or explicitly marked.

'younger sibling'

*(i)ta(n) [OM]

AFFINALS

'affinal = in-law'

*la

'child-in-law (?& reciprocal)'

*kah ~ ku [OM]

*c(y)in [OM] 'female kin by marriage'

*ca(u) [EOM] 'daughter-in-law or child-in-law
and reciprocal'

'female; woman; wife'

*x^w(y)e [OM] 'female; wife'

*Hya(n)7 [OM] 'woman; wife'

*co(n) [OM] 'woman; wife'

'male; man; husband'

*caH [OM] 'male; husband'

*wa [OM] 'man; husband'

*ni [COM] 'male'

*Xwi [WOM] 'man; husband'

Wife is based on a word that means 'woman' or 'female'; *co(n) in OP and Masn; *Hya(n)7 in OP and Misn; *x^w(y)e in Chrn, Sapn, and Ams. **Husband** is based on a word that means 'man' or 'male', but only in Ams /s7ah/ < *c-7-cah, and Masn *ntawa < *wa, is 'husband' based on a pOM-level word.

Note that when EOM or WOM forms are given after OM terms, the implication is that the pOM term has been replaced by the EOM or WOM term in some languages of that division.

5.7.6. Conspectus of TK and WM Etymologies/Reconstructions.

This list is perhaps not quite complete, due to the frequent inclusion by WM of several distinct etymologies within putative single etymologies (similar to what Rensch does for the general OM vocabulary in Rensch 1966/1976). The large number of forms that have to be sifted through creates the potential for oversights. The main thing to be noticed right now is that WM (and Rensch) often unite in a single set more than one distinct etymology.

- TK *x^w(y)e 'female'
= WM **kwin, **kin, **win 'female, mother, aunt'
- TK *mau 'mother' = WM **kwin, **win 'female/mother'
and **nahn 'mother' (voc)
- TK *n(y)e 'woman's aunt' = WM **ntaHn, **naHn, **yaHn 'female'
and **siHn, **niHn 'mother'
- TK *Hya(n)7 'woman'
= WM **ntaHn, **naHn, **yaHn 'female, mother, aunt'
- TK *naH 'mother' = WM **nahn 'mother' (voc),
and **ntaHn, **naHn, **yaHn 'female, mother, aunt',
and **siHn, **niHn 'mother'
- TK *co(n) 'woman' = WM **suHn, **nuHn 'female/mother/aunt'
and **siHn, **niHn 'female'
- TK *c(y)in 'female kinswoman by marriage'.
not recognized by WM;
included in **siHn, **niHn 'mother, aunt'
- TK *ni 'male'. Not recognized by WM
- TK *sI 'grandmother'. Not recognized by WM.
- TK *k^wau(n) 'older female' = WM *kwaHn, **kaHn 'woman's aunt'
- TK *xE 'grandfather' = WM **seh, **hkeh 'grandfather'
- TK *si 'older male' = WM **seh, **hkeh 'grandfather'
and **sehn, **yehn 'male, husband'

TK *caH 'male' = WM **sehn, **yehn 'male, husband'
and **nsan, **nyan 'daughter-in-law' (R)

TK *la 'affinal'. Not recognized by WM; included in following.

TK *ca(u) 'child-in-law/parent-in-law'
= WM **nsan, **nyan 'daughter-in-law' (R)

TK *s(y)I=yu 'grandfather'. Not recognized by WM.

TK *na 'father'. Not recognized by WM; included in following.

TK *ta 'father' = WM *Ytah 'father (voc)'

TK *7we 'cross-sex parent's sibling'
= WM **kwin, **kin, **win 'uncle'

TK *npau 'man's uncle' = WM **kwin, **kin, **win 'uncle'

TK *Xwi 'man'. Not recognized by WM; included in following.

TK *Hm(y)e 'father' = WM **kwin, **kin, **nwin 'male'

TK *wa 'man' = WM **kwa, **ka, **wa 'male'

TK *yu=wa 'father' ("older male kinsman-man")
= WM **yu-wa 'person male'
(for WM **yu is 'person', not 'elder male kinsman')

TK *ki=yu 'man's (elder) brother'. Not recognized by WM;
partly = WM **kwin-yu-wa, **kin-yu-wa, **nwin-yu-wa
partly = WM **tu, **nu, **yu 'man's uncle'

TK *yu 'older male'
= WM **tu, **nu, **yu 'big, old' > 'man's uncle'

TK *(H)(n)t(y)a(i) 'child' = WM **7ntan 'child'

TK *(H)(n)t(y)a(i) (n)t(y)au 'grandchild' = WM *7ntan Yhntah

TK *ca 'child' = WM **Yhnsan, **hyan 'child'

TK *(n)t(y)au 'grandmother/grandchild'
= WM **Ynsan, **Ynan 'grandmother/grandchild'

TK *syi 'child' = WM **si7 'youngster'

TK *k^wa= 'diminutive' = WM **nkwan, **nwan 'diminutive'

TK *tu 'child' = WM **tun, **yun 'infant, baby'

TK *(i)ta(n) 'younger sibling' = WM **ta7n 'companion' >
'sibling'

TK *ko '(elder) sibling' = WM **kuHn 'sibling'

TK *ko=x^w(y)e 'woman's sister' = WM **kuHn-kwin "sibling female"

TK *i7ya 'cross-sex parent's sibling'
= WM *nsi-7ya 'cross-sex sibling'

TK *ki(=) '(elder) sibling'
= WM *nsi-kihn, **kihn-si 'younger sibling'

TK *ci7 'man's uncle'
= WM **nsi-kihn, **kihn-si 'younger sibling'

TK *ci=ci 'woman's aunt' = WM **nsi-nsi 'aunt'

TK *kah 'child-in-law' = WM **kah 'son-in-law' (R)

TK *ku 'child-in-law' = WM **kah 'son-in-law' (R)

5.7.7. **Conspectus of Reconstructed Kinship Structures.**

The following chart shows the kinship structures proposed by Casasa, Merrifield, and myself.

lineal kin categories	Casasa	Merrifield	TK
mother	x	x	x
father - referential	x	x	x
father - vocative	#	x	x
daughter	x		
offspring	}	x	x
son	x		
grandparent	#	#	x
grandmother	x	x	x (R)
grandfather	x	x	x (R?)
woman's grandchild		(x)	(x) = GrMo
grandchild	x	(x)	(x) = GrMo
man's grandchild		(x)	(x) ?=

affinal kin categories [Casasa does not discuss affinals]

affinal/in-law		#	x
daughter-in-law		x	x
child-in-law		}	x (R?)
son-in-law		x	
wife		x = woman	x =
female			
husband		x = man	x = male

Casasa Merrifield TK

	Casasa	Merrifield	TK
collateral kin categories			
cross-sex parent's sibling	#	#	x (R)
cross-sex elder sibling	x	x	#
woman's aunt	#	#	x (R)
woman's elder sister	x	x	#
aunt	x	= female	#
man's uncle	#	#	x (R)
man's elder brother	x	x	#
uncle	x	= male	#
sibling (elder?)	#	x	x
younger sibling	#	x	x
nephew/niece PaSb	x	#	= R of
	Casasa	Merrifield	TK

Note that Casasa does not include Tlapaneko-Sutiaba or Huave in Oto-Mangean, and Merrifield includes both. Tlapaneko-Sutiaba is Oto-Mangean, and Huave is not. I now discuss the differences among the various reconstructed systems.

5.7.7.1. **Casasa (PC).**

Casasa reconstructs 'nephew' and 'niece' to the pOM system of kin types, but to the extent that the labels for these types are not descriptive, they are reciprocals of aunt/uncle terms, and not separate terms in their own right.

She sets up a 'grandchild' category and does not notice that it is expressed either descriptively or as the reciprocal of the 'grandparent' terms.

What I call aunt/uncle terms Casasa calls same-sex and cross-sex sibling terms, and she does not even specify them as being elder. She does not note or account for the fact that the

same-sex and cross-sex sibling terms she recognizes are often/usually etymologically related to or the same as uncle/aunt terms.

She apparently does not notice that virtually all OM languages distinguish 'son' and 'daughter' by attaching modifiers to a lexeme that means 'offspring'.

She does not note or account for the fact that most OM kinship systems contain a term that means either 'sibling' or 'younger sibling'.

She does not note that several languages have special vocative forms for 'father' and 'mother', and that in the case of 'father', a distinction between vocative and referential forms can be established.

5.7.7.2. Merrifield (WM).

WM (passim) makes constant reference to the forms **tata** for 'father' and **nana** for 'mother' as "lingua franca" forms that are found throughout MA and, even though not OM words as such, may have diffused into many OM languages at very early post-pOM dates. It is well-known that such forms are found in European languages: corresponding to **tata** we have Yiddish /tate/, English and Romani /dad/, Welsh /da:d/, and Spanish /tata/; corresponding to **nana** we have English /nani/ and Spanish /nana/. When we consider that in OM languages forms like **tatit(a)** 'grandfather' and **nanit(a)** 'grandmother' are also found, and that all four of these terms are found throughout MA in campesino Spanish, it seems quite likely that all these forms are of Spanish origin. Compare also Qhechwa /tayta/ 'father'.

WM notes the reciprocal function of the grandparent terms. The grandparent terms optionally combined with a diminutivizing clitic served to denote grandchildren: 'little grandfather' meant 'man's grandchild' (later 'grandson') and 'little grandmother' meant 'woman's grandchild' (later 'granddaughter'). Except in OP, only the '(little) grandmother' terms have survived in the meaning 'grandchild' (See Merrifield 1981.34-36). Several languages encode 'grandmother' and 'grandfather' as 'big/old mother' and 'big/old father', and some encode 'grandchild' as 'child of grandmother', although WM interprets this latter as 'child of child' (See Merrifield 1981.33-34).

WM reconstructs a 'son-in-law' versus a 'daughter-in-law' distinction, both with reciprocal usage, but according to my interpretation of the data the 'daughter-in-law' category lacks evidence for reciprocal use.

While I recognize more OM etyma among the kin terms than WM does, the set of distinctions that he reconstructs is borne out by my own interpretation of the data, with the following exceptions: I reconstruct a 'grandparent' term and an 'affinal/in-law' term where he does not; what he calls 'elder sibling' terms I call 'aunt/uncle' terms.

WM (41) notes that only in OP are collaterals distinguished by the sex of the linking kinsman (e.g, MoBr vs. FaBr, MoSi vs. FaSi), and the terms are self-reciprocal. He, like I, thinks this is probably the result of contact with non-OM populations: he thinks of UtoAztecan; I think of Mayan. The syntactic and lexical evidence referred to earlier supports the Mayan hypothesis.

5.7.8. Proto-Oto-Mangean Kinship Space.

The following chart shows the hypothesized ranges of application of the reconstructed pOM kinship terms.

LINEALS	COLLATERALS	AFFINALS
XX		
xx	xx	xx
xx	xx GrPa	xx
xx	xx	xx
xx	xx xx	Un/Au terms extended here
xx	xx	xx
xx	GrFa xx GrMo	xx
xx	xx	xx
XX		
xx	xx	xx
xx	Fa xx Mo	xx mUn xx wAu xx xPaSb xx PaLa xx
xx	xx	xx [R] xx
XX		
xx	xx	xx
xx	xx (e) Sb	xx
xx	xx	xx
xx	EGO xxxxxxxxxxxxxxx	Sb terms extended here xx La xx
xx	xx	xx
xx	xx ySb	xx
xx	xx	xx
XX		
xx	xx	xx SoLa xx
xx	Ch xx mNe xx wNi xx xSbCh	xx xx
xx	xx [R] xx [R] xx [R]	xx DaLa xx
XX		
xx	xx	xx
xx	mGrCh xx wGrCh	xx Ne/Ni terms extended here xx
xx	[R] xx [R] xx	xx
XX		

5.8. **Color** [See MacLaury 1988ms]

*ka= [OM] color classifier

*we [OM:Chp,Tri,Ams] `(dark) red`

*k^waHn [OM:OP,Misn,Masn-Sapn] `red` [MacLaury `yellow [Mis],
red [OP,Mis],
purple [Tri,Masn-Sapn]:
warm(2)';
or, `red, yellow`]

*n(y)ai [OM:Chn,Masn-Sapn] [MacLaury `yellow, red..
warm(1)']

*c(y)e [OM] `yellow` [Sapn,Chrn]; `red` [Masn,Chrn];
`white` [Ams,Sapn,Chrn,?Tl]
[MacLaury `red, yellow, white: light-warm']

Except for the Masn forms this set would be reconstructed
as *ci, with the gloss `yellow-white`.

*tyuwa [OM] `white` [MacLaury `white']

*w(y)e7 [OM] `raw/unripe` [Chn,Masn]
`green/blue` [Masn,Ams-Misn,?OP];
[MacLaury `unripe,
(?green, blue, black): ?dark-cool]

* (n)sa [OM:Tl,Misn,Sapn] [MacLaury `green [Tl,Misn],
blue [Misn,Tl],
black [Sapn,Misn]:
`dark-cool`

* (n)t(y)un [OM] `black` [OM:Ams-Misn,Chrn];
`dark` [Tl-Chrn]
[MacLaury wants to relate this to `oven, soot']

*sawI [EOM] `dark` [Sapn]; `shadow` [Misn]

Commentary. Maclaury identified the sets reconstructed *n(y)ai 'yellow-red' and *(n)sa 'green-blue-black'. He is apparently unaware of *we 'dark red' and *sawI 'dark-shadowy'. There are no color categories found here outside the typical MA set WHITE-RED-YELLOW-GRUE-BLACK, but some of the terms cover more than one color. Adjacent terms separated by single hyphen may share a name.

5.9. Magic and Ritual

*uHwa [OM:Chrn,Ams-Misn] 'witchcraft/shamanry'

*Si [OM:Chrn,Ams] 'medicine'

*me [OM] '(herbal [Chn]) medicine' [Chn,Masn];
'curing/healing' [Masn]

*lya [OM] '(herbal [Masn]) medicine' [OP,Masn];
'curing' [Chn,Sapn]

The difference between these two is not clear.

*7i7ya [OM] 'to honor' [Misn];
'to observe, care for' [Chn];
'saint/god/sacred person' [Misn]

*Hwai [OM:Misn,Chn] 'fear'; (+ 'holy' [Chn])

*k^wi [OM:OP,Sapn] 'fear'

The difference between these two is not clear.

SHAME *na [Ams-Misn] '(a)shame(d)'

*syu(n) [OM] 'incense'

*ta [OM:OP,Ams-Misn] 'to sing'

*unla [OM:Chrn,Sapn] 'to sing'

The difference between these two is not clear.

*sai [OM] 'music' [EOM:Ams,Sapn]; 'to sing' [Masn];
'to pray' [OP]

*tai [OM:Chn,Masn,Misn] 'to dance'

*neah [OM:OP,Ams] 'to dance'

The difference between these two is not clear.

DRUM *tian [WOM] 'drum [WOM] (< pOM 'skin')

PULQUE *si [EOM] '*pulque' > 'liquor'

*ka [OM:OP,Sapn] 'to play'

*ku [Ams-Misn] 'to play'

These two items may share a morpheme.

5.10. Counting and Trade

*to [OM] 'just, only' [OP-Chn,Masn]; ('one' Sapn)

*k^wia [OM:OP,Misn,Masn-Sapn] 'one'

*ta [OM] 'half' [WOM:Chn,Tlpn];
'pair' [EOM:Misn,Sapn]

*wi [OM:Ams-Misn,OP] 'two'; > 'dual' [OP]

*yu ~ *ya [OM]
~ *yau? 'twins < *two'

*yu=tu ~ *ya=tu
or *yau=tu [OM] 'seven' (2 + 5)

*tu probably means 'five' here.
Compare pOM *tu 'complete' [OP *twi; Misn *ntu].
Compare also pOM *to 'just, only; one'

*ha +u [OM:WOM+Masn] 'two'

Note that there are several expressions for 'two'.
*ha +u seems to be the latest.

*ne [OM] 'three'

*hau(n) [OM:WOM+Masn] 'three'

Of these two terms, the second seems to be the latest.

*(n)x^wau(n) [OM] 'four'

*hau7 +un [OM:Chrn,Masn,Misn] 'five'

*nyaun [Ams-Misn] 'six'

*(h-)n-yau [OM:Chn,Masn,Ams] 'eight'

*han [OM] 'nine'

*te [OM:OP,Chrn,Masn-Sapn,Misn] 'ten'

Like 'five', 'ten' may be derived from a word meaning 'complete',
pOM *te [OP *tek; Ams ka nd3h(7)].

*ko [OM] 'twenty'

*ka [Masn-Sapn] 'twenty'

These two items are probably related.

SPAN *tau [Ams-Misn] 'span'

*7wai [OM] 'market' [Chn,Tl,Ams-Misn];
'to sell' [OP,Masn]; 'to pay/wages' [Chn,Misn]

*tea [OM:Chn,Masn,Ams] 'to sell'

*ce [OM] 'to buy' [Tl,Ams,Sapn]; 'to sell' [Misn];
'to pay' [OP,?Sapn]

*k(y)e [OM] 'to pay' [Chn,Masn]; 'to give' [Misn];
'to lend' [Masn]

*(h)we [OM] 'poor' [Chn,Misn]; 'to owe' [EOM:Sapn,Misn]

WORK *7ta [OP-Chn] 'work'

Commentary. Although terms for **twenty** and most numerical values from **one** through **ten** can be projected back to pOM, not all descendants have monomorphemic expressions above **four**. The reconstructible term for **seven** is an obvious compound, and no term for **six** has yet been found earlier than Ams-Misn. OP starts counting again at **five**. It is also suspicious that so many of the reconstructions between **two** and **nine** begin with *h. **Three, four, five, six, and eight** all have *au. Why? All this suggests that the pOM or pre-pOM numeral system originally had ***one, *two, *three, (*four), *completion**.

6. Summary of Results of Cultural and Habitat Reconstruction.

The terms reconstructible to Level 1 are compatible with a somewhat dry highland habitat after the domestication of some plants and before the rise of full-blown agriculture and village life. Somewhere within the area where the Tehuac n Tradition was manifested seems most likely for the home of the proto-Oto-Mangeans.

7. Directions for Further Research.

A sizeable number of specific research goals in the OM field can be set forth.

Descriptive studies. Many OM languages, language areas, and language complexes are poorly known. Some of them are poorly known and soon to be dead. The list below shows that few are really well known. Endangered languages have priority 1. Well-described and dead languages have priority 5. Non-endangered languages with grammars have priority 4. Non-endangered languages with dictionaries have priority 3. Non-endangered languages with neither a grammar or a dictionary have priority 2.

PRIORITY	VOCABULARY	GRAMMAR	ENDANGERED	
Chichimeko	no	no	yes	1
Pame	no	no	yes	1
Otomí	yes	no	no	3
Masawa	yes	no	no	3
Matlatzinka	no	no	yes	1
Ocuilteco	no	no	yes	1
Chinanteko	no	?	no	3
Tlapaneko	yes	yes	no	5
Chiapaneko	no	no	DEAD	5
ChochoPopoloka	no	no	no	2
Iskateko	no	no	yes	1
Masateko	no	?	no	2?
Sapoteko	yes	?	no	3?
Chatino	no	no	no	2
Amusgo	no	no	no	2
Misteko	yes	yes	no	5
Kwikateko	yes	no	?	3
Triki	no	no	?	2?

There are five languages of priority 1: these are urgent! There are five languages of priority 2: these should be attended to. There are five languages of priority 3, and there are no languages of priority 4. There are **only three** languages of priority 5!

Note. Starting in 1995 the Project for the Documentastion of the Languages of Meso-America started documenting several Oto-Mangean languages. In 2010, when the project's field research sessions ended, 2 Chatino languages, 6 Sapoteko languages, and Matlatzinka had been lexically documented to the extent of at least 6000 items. Several other OM languages were less completely documented.

Comparative studies. Work that will advance our knowledge of the history of the languages and cultures of the OM peoples include the following:

1. Documenting more fully the lexicons of the various member languages.
2. Establishing more etymologies and making an etymological dictionary.
3. Reconstructing the branch protolanguages more fully.
4. Doing more grammatical reconstruction, especially with nouns, numerals, pronouns, relational nouns, sentence and clause level syntax, constituent order, and case-marking systems.
5. Doing adequate glottochronological counts.
6. Doing language contact/diffusion studies.
7. Reconstructing/accounting for tone in the daughter languages.

Adequate studies of the type foreshadowed in the present study will require and build on all the previous kinds of research mentioned.

NOTE.

A first draft of this study was presented at the Fourth Pacific Linguistics Conference, 19-21 May 1989, at the University of Oregon, Eugene, under the title 'Early Otomangue homelands and cultures: some premature hypotheses'.

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I wish to note that in developing my ideas about early Oto-Mangean culture, habitat, and diversification I have profited greatly from discussions with Kathryn Josserand and Nicholas A Hopkins. I have been inspired by the insights of the brilliant, if erratic, Morris Swadesh. I have profited tremendously from Calvin Rensch's ground-breaking work of assembling Oto-Mangean etymologies, even though I often differ with him, sometimes radically, in the proper interpretation to be made of the data. The work of making initial reconstructions for the OM branch protolanguages by Doris Bartholomew (OtoPame), Stanley Newman (Otomian), Robert Weitlaner (Otomian and Mangean/Chorotegan), Calvin Rensch (Chinanteko), Cathleen Cake (Tlapaneko), María Teresa Fernández de Miranda (Mangean/Chorotegan, Chochoan, and Sapoteko), Sarah Gudschinsky (Masatekan), Morris Swadesh

(Sapoteko), Jorge Suárez (Sapoteko), Joseph Benton (Sapoteko), X. Upson (Chatino), Robert Longacre (Chatino, Mistekan, and Amusgo-Mistekan), Henry Bradley (Misteko), and Kathryn Josserand (Misteko), have all been valuable, and in some cases (Bartholomew, Rensch, and Josserand) have been outstanding. Merrifield's 1981 study of comparative Oto-Mangean kinship contains a wealth of mostly reliable kinship data, and, even if I do not accept the specific contents of Merrifield's and Rensch's proposed etymologies and phonological reconstructions, most of the relevant data for doing a satisfactory job is present in it. In April 1989 I was able to spend a day talking with Nick Hopkins about comparative OM kinship and as a result modified noticeably some of my original formulations.

ABBREVIATIONS.

The following abbreviations are used in this study.

OM	Oto-Mangean
EOM	Eastern Oto-Mangean
Ams-Misn	"AmuMisteko" (?AM)
Ams	Amusgo
Misn	Mistekan
Tri	Triki
M-C	Misteko-Kwikateko
Kwi	Kwikateko
Mis	Misteko
Masn-Sapn	"Masa-Sapotekan"
Masn	Masatekan
Mas	Masateko
Ccn	Chochoan
Isk	Iskateko
ChP	Chocho-Popoloka
Sapn	Sapotekan
Sap	Sapoteko
Cht	Chatino
WOM	Western Oto-Mangean
OP-Chn	"OtoChinanteko" (?OCh)
OP	OtoPame
NOP	Northern OtoPame
Chi	Chichimeko
Pam	Pame
SOP	Southern OtoPame
M-O	Matlantzinka-Okwilteko
Mtl	Matlantzinka

Okw	Ocuilteco
O-M	Otomí-Masawa
Msw	Masawa
Otm	Otomí
Chn	Chinanteko
Tlpn-Chrn	"TlapaChorotegan"
T-S	Tlapaneko-Sutiaba
Tlp	Tlapaneko
Sut	Sutiaba
Chrn	Chorotegan, aka Chiapaneko-Manue [Mangean]
Chp	Chiapaneko
Mng	Mange
lg area	language area (See Kaufman 1990.69 for definitioon)
lg cplx	language complex (See Kaufman 1990.70 for definition)
MA	Meso-America(n)
p	proto-

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Abbreviations for journals, series publications, and institutions.

AAA = American Anthropological Association
 AL = Anthropological Linguistics
 BAE-B = Bureau of American Ethnology, Bulletin
 CAIL = Conference on American Indian Languages
 CTL = Current Trends in Linguistics
 ENAH = Escuela Nacional de Antropología e Historia
 HMAI = Handbook of Middle American Indians
 IJAL = International Journal of American Linguistics
 INAH = Instituto Nacional de Antropología e Historia
 Lg = Language
 P-ICA = Proceedings of the International Congress of Americanists
 RMEA = Revista Mexicana de Estudios Antropológicos
 SIL = Summer Institute of Linguistics
 SWJA = Southwestern Journal of Anthropology
 UCPL = University of California Publications in Linguistics
 UTA = University of Texas at Arlington

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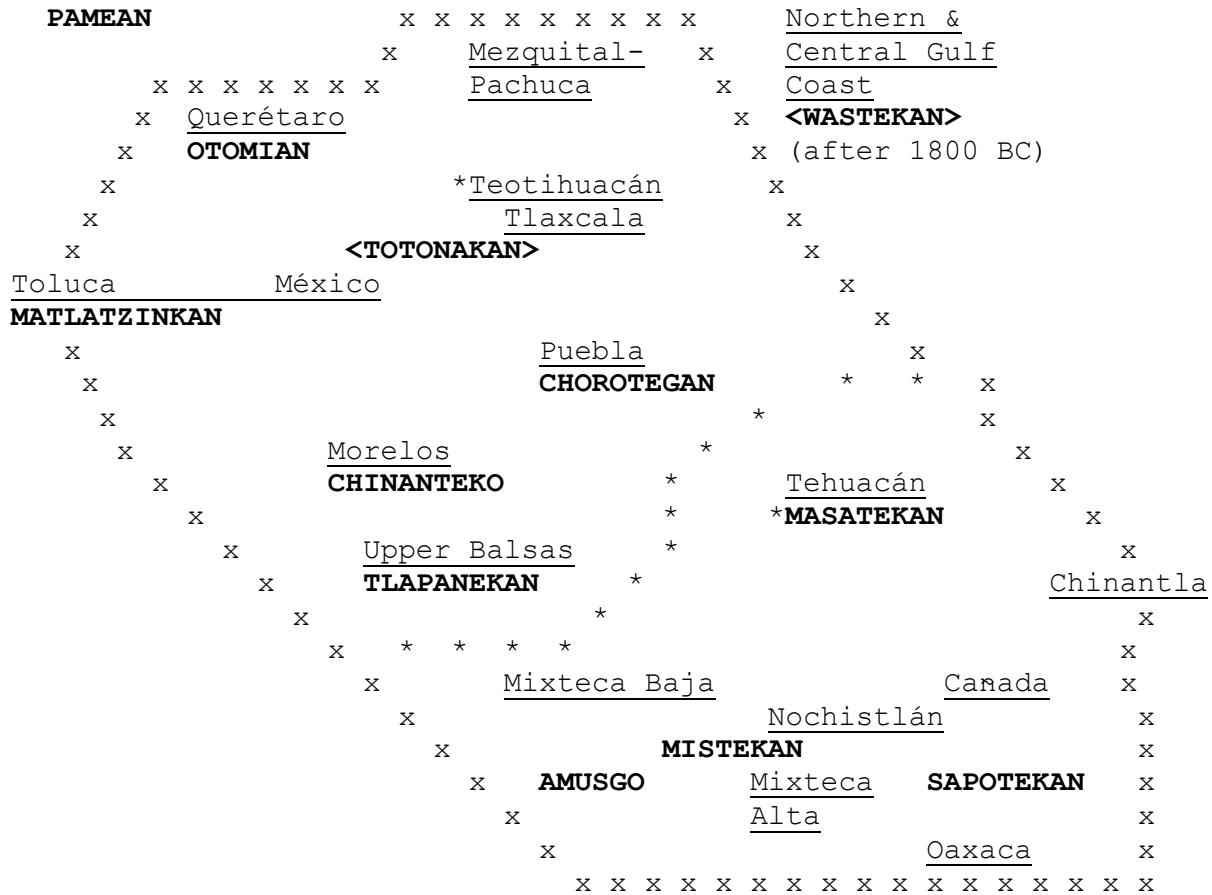
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Schematic chart/diagram of culture areas/geographic zones and probable locations of linguistic groups during the Tehuacán Tradition, 5000-2300 BC.

Italics = culture area/geographic zone

BOLD CAPS = Oto-Mangean linguistic group

<BOLD CAPS> = non-Oto-Mangean linguistic group

x x x x x x x x x x = boundary of Tehuacán Tradition

* * * * * = boundary between Western and Eastern Oto-Mangean