Proto-Mixtecan and Proto-Amuzgo-Mixtecan Vocabularies: A Preliminary Cultural Analysis
Author(s): Robert E. Longacre and René Millon
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PROTO-MIXTECAN AND PROTO-AMUZGO-MIXTECAN VOCABULARIES

A Preliminary Cultural Analysis

Robert E. Longacre
Summer Institute of Linguistics

René Millon
University of California

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0.1. The purpose of this article[1] is to present a preliminary analysis of a selected portion of the reconstructed Proto-Mixtecan and Proto-Amuzgo-Mixtecan vocabularies with a view towards obtaining a sketch of some aspects of the way of life of the speakers of Proto-Mixtecan and Proto-Amuzgo-Mixtecan.[2] The resultant sketch, rough though it may be, may be considered to have some value by way of supplement to and comparison with the archeological record in Mesoamerica. In thus applying a Wörter und Sachen technique extreme care has been exercised in evaluating the linguistic evidence. In an effort to resolve in part the many problems posed by the acceptance of individual reconstructed terms, we have paid particular attention not merely to isolated terms that reconstruct in this language family but to groups of reconstructed terms that may be considered indicative of behavioral complexes. While attempting to place these reconstructed languages in history is a risky procedure at best, we believe that a horizon of some 3000 years may be safely conjectured for Proto-Mixtecan, while a somewhat earlier horizon is probable for Proto-Amuzgo-Mixtecan (500-1000 years earlier?).

The Mixtecan family assuredly includes three languages, Mixtec, Cuicatec, and Trique. The genetic relationship between the first two languages and Amuzgo has long been posited but the position of Trique has been more problematical. Longacre's monograph of 1957 was committed to the the thesis that Mixtec, Cuicatec and Trique are related on roughly the same horizon. On the basis of glottochronological counts Swadesh and Arana have challenged this thesis.

Arana in an unpublished work presents the view that Amuzgo should also be grouped with Mixtecan proper and that Mixtec-Cuicatec are more closely related than any two other languages. Swadesh, in a recent paper,[3] wants to retain the older Mixtec-Cuicatec-Amuzgo grouping, with Trique relegated to an earlier Trique-Mixtecan horizon. Longacre has examined these proposals in detail elsewhere.[4] In this article it is sufficient to note that (1) glottochronological counts do give the highest percentages of shared basic vocabulary to Mixtec-Cuicatec, but (2) while there are shared innovations that bind Mixtec and Cuicatec together, there are equally significant shared innovations that bind together Cuicatec and Trique — but noticeably few shared innovations for Mixtec and Trique. These various facts seem best accounted for on the assumption that (1) Mixtec, Cuicatec, and Trique stem from a common horizon at approximately the same time-depth; (2) that while still mutually intelligible dialects, Mixtec and Trique lost contact, while Mixtec-Cuicatec and Cuicatec-Trique retained contact with dialect borrowing between speakers of each pair of languages; (3) that subsequent to this period of dialect borrowing Cuicatec and Trique speakers lost contact while Mixtec and Cuicatec speakers retained contact; and (4) that during the period of Mixtec expansion Mixtec speakers again established a common frontier with Trique speakers who were eventually engulfed on all sides by Mixtec speaking peoples. Thus in the above scheme (2) accounts for the shared innovations of Mixtec-Cuicatec and of Cuicatec-Trique, while the fact that Mixtec and Cuicatec have never lost contact accounts for the high percentage of shared basic vocabulary between these two languages. The position of Amuzgo has not, on the other hand, been adequately considered and cannot be so considered until more work is done with the reconstruction of Amuzgo along with the other three languages. Both the Amuzgo-Mixtecan reconstructions included here and those in Arana's unpublished work[5] are too sketchy to admit of firmer conclusions. Nevertheless, Longacre feels that certain features of Amuzgo structure[6] are rather reminiscent of Proto-Popolocan and Proto-Popotecan as reconstructed by Gudschinsky.[7] For this reason it is held here that Amuzgo reflects an earlier horizon than Mixtecan proper.

The speakers of these four languages are presently concentrated in western Oaxaca and in bordering regions of eastern Guerrero and southwestern Puebla. The speakers of Cuicatec and Trique are confined to the interior highland regions of Oaxaca and occupy relatively small areas. They are not at present in geographic contact with each other. Mixtec speakers extend to the Pacific coastal regions in addition to occupying a considerably larger area in the interior. As a result Mixtec displays considerable dialect differentiation. Amuzgo speakers also occupy a part of the Pacific coastal region and extend into the interior, forming a wedge into the Mixtec-speaking zone. Amuzgo speakers are not in geographical contact with speakers of Cuicatec or Trique.

While this paper is based on the Proto-Mixtecan monograph cited above, it incorporates a substantial body of material not presented in the monograph. The interpretations offered here are drawn from this combined body of

material. Since this is in the nature of a preliminary report it does not include all the reconstructed terms which throw light on the way of life of the speakers of Proto-Mixtecan and Proto-Amuzgo-Mixtecan. Some 80 terms are presented, in general those of greatest interest to the cultural anthropologist. In order to demonstrate the method employed in arriving at the reconstruction of these terms, some of the more interesting from a cultural standpoint (or sometimes from a linguistic standpoint) have been selected for full presentation of the raw data and the critical analysis which led to their inclusion.

The material presented here which was not in the original monograph consists principally in the incorporation of Amuzgo into the reconstructions and in the presentation of reconstructed forms for the terms in Proto-Mixtecan and, where possible, Proto-Amuzgo-Mixtecan. The incorporation of Amuzgo into the reconstructions is of special importance. Amuzgo forms are cited in the monograph with little or no attempt made to incorporate them into the body of reconstructions. In this paper consonants and vowels of Amuzgo forms are reconstructed, but no attempt is made to reconstruct Amuzgan glottal stops and tones.

0.2. Impressionistically the degree of separation between Mixtec, Cuicatec, and Trique seems to be greater than that between the Romance languages but not as great as that between the main branches of the Indo-European stock. The separation of the Romance languages began some 1500 years ago. The separation of the Indo-European languages probably requires a time-depth of some 5000-6000 years. It seems therefore plausible to assume that the Mixtecan languages reflect a time depth somewhere between these two extremes, i.e., in the 2500-4000 year range. Such a conjecture is based, of course, on the assumption that gross linguistic change in the Mixtecan family has proceeded at roughly the same rate as gross linguistic change in the Indo-European family. While this assumption may as a matter of fact be erroneous some such sort of assumption of uniformity must be made if we are to conjecture dates at all.

Glottochronology, which is unabashedly uniformitarian, offers us some conclusions which may be compared with the above. Thus Arana gives Cuicatec-Mixtec counts varying from 2500 to 3100 years depending on the particular Mixtec dialect used for the count; dates varying from 3600 to 4300 years for Mixtec-Trique; and 4100 for Cuicatec-Trique.[8] Taking Arana's calculations as here given it is to be noted that while Cuicatec-Trique falls into the same general range of time-depth as Mixtec-Trique, Cuicatec-Mixtec apparently reflects a later horizon. Here, again, as in the case of the shared innovations which group Mixtec-Cuicatec and Cuicatec-Trique but do not noticeably group Mixtec-Trique a development such as that sketched above seems indicated. Unbroken contact between Mixtec and Cuicatec has worked in the direction of lexical retention and resynthesis between these two languages, while lesser contact between each of the other two pairs of languages had a corresponding negative effect.

Revision of Arana's figures according to Longacre's identification of cognates does not materially affect the above picture. Nevertheless, all the above time-depths may be shortened pursuant to Longacre's finding more cognates in the test lists than are found by Arana. Thus, for Cuicatec-Trique not 4100 years but rather some 3200-3300 years seems to be indicated. In Longacre's judgment Arana scores negatively some seventeen Cuicatec-Trique pairs of lexical items that should be scored positively and scores positively some eight pairs that should be scored negatively. The net result is a gain of around 8% to 9% in cognates in the diagnostic list. Similarly some 9% more cognates may be indicated for Mixtec-Trique than enter into Arana's calculations. Finally some 6% more Mixtec-Cuicatec cognates seem to be indicated. Thus Mixtec-Trique is brought down to some 2800-3400 years and Cuicatec-Mixtec down to some 2100-2600 years. Thus a gap of only two hundred years is left between the minimal Mixtec-Trique time-depth and the maximal Mixtec-Cuicatec time depth rather than a five hundred year gap as in Arana's calculations. But this latter consideration may not perhaps be so important as the undeniable disparity in general range of time depths.

It is perhaps relevant at this point to note the difference in dates obtained when using various 'constants' of retention within the limits indicated by empirical study. Thus with the 86% retention rate now employed by Swadesh and others, 35% of retained vocabulary between two languages indicates some 3600-3700 years time-depth. But with a retention rate of 80.5% as formerly employed by Swadesh the same percentage of retained vocabulary indicates a time-depth of but 2300-2400 years. With a retention rate of but 75% this same percentage of shared vocabulary indicates but 1800-1900 years. And finally with a retention rate of 90% some 5000 years are indicated. The last two retention rates are, admittedly, less probable that the former two. But even the variation between the time depths indicated by the former two retention rates is enough to be disconcerting. For this reason dates obtained by glottochronology as presently practiced can not be regarded as conclusive. Nevertheless, taking the more probable retention rates, dates for separation of Mixtecan languages tend to fall somewhere within the 2500-4000 year range as conjectured on other grounds in the first paragraph of this section.

In summary, a date of about 3000 years ago for the Proto-Mixtecan horizon seems to be both a plausible and a conservative one. Apparently more recent dates for Mixtec-Cuicatec may well be due to the contact factor which slowed up lexical change and made for lexical resynthesis. A Mixtec-Cuicatec grouping in any genealogical sense would violate the evidence consisting in Cuicatec-Trique shared innovation which are of no less importance than the Mixtec-Cuicatec shared innovations.

0.3. In evaluating the sets of cognates to determine what they imply about the way of life of the speakers of Proto-Mixtecan and Proto-Amuzgo-Mixtecan, greater care must be exercised than that required by even the strictest canons of the comparative method. The comparative method

requires only that a set of cognates reconstruct well without significant phonological problems. In the comparative reconstruction of any proto-language, there may be a small residue of 'phony' reconstructions not detectable for various reasons. For example, if, as in the Mixtecan stock, the proto-consonant *k and the proto-vowel *a have been subjected to very few phonological developments since the projected horizon of reconstruction, and if by chance there has been recent diffusion of a loan consisting of ka or kaka, there is no way of detecting this diffusion from an inherited item. The fact that for Proto-Mixtecan not only have vowels and consonants been reconstructed, but also glottal stops, tones, and certain grammatical features offers, to be sure, a further check on even such items as ka and kaka. Nevertheless, the possibility remains that there may be, for example, a chance correspondence of tones that fits the requirements for reconstructing a proto-tone pattern. For comparative linguistics as such, such chance residues — which would seem on grounds of mathematical probability to be only a very small percent of our proto-vocabulary — are not distressing, since comparative linguistics is primarily interested in obtaining a sketch of the phonology and to a lesser degree of the grammar of a reconstructed language. If the picture thus obtained is convincing and self-consistent, a few 'phony' sets do no harm. However, for the purposes of this analysis, it is imperative that criteria of evaluation be set up that are adequate enough to rule out to the greatest degree possible any such spurious reconstructions. To this end the following criteria are employed in the evaluation of the material presented in this paper:

(1) Sets which reconstruct in full are considered more valid for cultural analysis than sets which reconstruct only in part. Ideally a set reconstructs with (a) consonant and vowel of ultimate syllable, (b) consonant and vowel of penultimate syllable if originally present, (c) glottal stop (which offered insufficient consonantal barrier and functioned in a sort of quasi-prosodic function), (d) tone(s), and (e) grammatical pattern of proto-noun or proto-verb reconstructed from variants in reflexes of initial consonant of the forms. Sets in which one or more of these features are not reconstructable due to inconsistencies in the data are proportionally weakened for our purposes. Sets in which one or more of these features may not be reconstructed due to ambiguities in the data rather than to inconsistencies as such are not as seriously impaired. Thus it is often evident that a proto-glottal stop was present in a reconstructed form but it is sometimes impossible to state with certainty whether it occurred at the end of glottal-consonant cluster or whether it occurred in a medial position. Likewise it is sometimes possible to state that the reconstructed tone pattern of a set was one of two or three possible patterns although it is impossible to state with assurance precisely which pattern is to be reconstructed.

(2) Sets with proto-phonemes the developments of which are distinctive and characteristic are considered stronger witnesses than sets with proto-phonemes the developments of which are comparatively non-distinctive. For

example, Proto-Mixtecan *θ > Mixtec s ~ Cuicatec d ~ Trique c before proto-front vowels is considered to be of more diagnostic value than Proto-Mixtecan *k > Mixtec k ~ Cuicatec k ~ Trique k. Any diffusion of a lexical item involving the first correspondence is presumably early enough to be for all intents and purposes on the Proto-Mixtecan horizon itself. In the comments following the sets presented in this paper a set with one or more protophonemes with distinctive and characteristic phonological developments is tagged as a set with distinctive phonology; other sets are labelled moderately distinctive or non-distinctive as to phonology. This criterion must be considered in conjunction with the first criterion above. Consequently a set which might not be considered a strong witness in terms of the first criterion is sometimes considered strengthened by the application of the second.

(3) Sets with Mixtec, Cuicatec and Trique cognates are considered to be stronger than sets with cognates occurring in but two languages.

(4) Sets with Cuicatec and Trique cognates are considered to be stronger than sets with only Mixtec-Trique or Mixtec-Cuicatec cognates. This is based on the fact that Cuicatec speakers and Trique speakers have not been in contact with each other during the historical period and possibly for some time earlier and there is therefore less likelihood of borrowing from one language to the other. There exists, of course, a remote possibility that both of these languages could have borrowed a Mixtec term now lost in the Mixtec dialects thus far studied.

(5) Sets in which there are a multiplicity of terms elaborated from the same root in Cuicatec and/or Trique are considered stronger than sets in which there is but one cognate in each language since roots well entrenched in the lexical structure of a language are less suspect of being loans from some other language.

(6) In evaluating Proto-Amuzgo-Mixtecan sets the Amuzgo cognate itself largely determines the status of the set. If the consonant and vowel of the Amuzgo cognate reconstruct well, the set would seem to be valid. Usually Amuzgo phonological developments are distinctive enough to rule out borrowing. Some attention is also given to the corroboration on the part of Amuzgo of grammatical patterns indicated by the two or three other languages of the set.

The precautions we have taken with regard to the identification of items that seem assuredly to be inherited material vs. items that are suspect of being loans are entirely proper. Nevertheless, it is well to point out that the danger that our conclusions will be vitiated by the presence of unrecognized loans may not be as great as these precautions imply. As an illustration we cite an example of a Mixtec loan in Trique with a comment on the basis by which it was so recognized. Mixtec ^{n}dūčī bean, ^{n}dūčī-yō eyes, Trique du^{4}či^{3} blind. Mixtec č does not correspond to Trique č before the vowel *i. The real cognate of the Mixtec form here given is Trique ru^{3}ne^{43} beans (see below).

Based on the above considerations, sets are classified into the following categories: (1) strong, (2) solid, (3) plausible and (4) weak. Strong sets

may be regarded as certain, solid sets as reasonably certain. Plausible sets are probably valid witnesses but are not above suspicion. Weak sets are only possible witnesses. In regard to the geographical distribution of a set, Proto-Mixtecan sets are classified as to (a) excellent spread (sets with Mixtec, Cuicatec and Trique cognates), (b) good spread (sets with Cuicatec and Trique cognates) and (c) defective spread (sets with only Mixtec and Cuicatec or with only Mixtec and Trique).

0.4. The twenty-five sets which are presented in full below include the Mixtec, Cuicatec, Trique, and Amuzgo forms on which the reconstructions are based as well as the names of the towns from which the various terms were obtained. These are abbreviated as follows:

Mixtec	San Miguel el Grande, Oaxaca	M-SM
	San Esteban Atlatláhuca, Oaxaca	(M-)SE
	Jicáltepec, Oaxaca	(M-)J
	Metlatonoc, Guerrero	(M-)M
Cuicatec	Concepción Pápalo, Oaxaca	C
Trique	San Andrés Chicahuaxtla, Oaxaca	T-Ch
	San Juan Copala, Oaxaca	(T-)Co
	San Martín Ituñoso, Oaxaca	(T-)I
	Santo Domingo del Estado, Oaxaca	(T-)SD
Amuzgo	Xochistlahuaca, Guerrero	A

In addition, Proto-Mixtecan is abbreviated as PMx and Proto-Amuzgo-Mixtecan as PAMx. Meanings of terms in Mixtec, Cuicatec, etc., are listed only when they differ from the reconstructed proto-meanings.

The phonemic symbols employed need little comment since they more or less represent the values they usually bear in current linguistic literature. Nevertheless, the following explanations may be in order. (For fuller comment see chapter 2 of Longacre, 1957).

(1) h is usually a voiceless velar fricative in Mixtec and Cuicatec but a frictionless spirant in Trique.

(2) Mixtec d and g as well as Cuicatec d are voiced fricatives in most environments but are lenis consonants in Trique where they vary from slight to full voicing and from stop to fricative.

(3) Mixtec y varies from [y] to [ž] phonetically.

(4) The Mixtec of San Esteban phoneme symbolized as N is a voiceless alveolar nasal in most environments.

(5) Trique l·, m·, n·, w· and y· are long consonants.

(6) Tone is transcribed by marks for high, mid and low in Mixtec and Cuicatec and by raised numerals numbered from high to low on five tone levels in Trique. The Mixtec of San Esteban actually has four tone levels but for basic forms it is usually possible to transcribe simply three levels since the additional level is found almost exclusively in sandhi variants — where it is nevertheless phonemic.

Several details of Amuzgo phonemics remain to be settled but the transcription employed here should be adequate for the purposes of this paper.

In the reconstructed forms cited those separated by a slash are

grammatical variants with consonantal alternation in the first or occasionally in the second syllable. These variants occurred in Proto-Mixtecan and Proto-Amuzgo-Mixtecan noun and verb paradigms. Following some of the reconstructed forms is a tone pattern in parentheses that occurred along with the tone pattern of such a reconstructed item as a tone sandhi variation. (For fuller explanation of the consonantal alternations and of the tone sandhi posited for Proto-Mixtecan see chapters 4 and 6 of Longacre, 1957.) The posited alternations of both sorts are not *ad hoc* explanations resorted to in an effort to salvage the sets as cognate but are both parts of involved and self-consistent reconstructed grammatical patterns which add to rather than detract from the plausibility of the sets.[9]

Proto-Mixtecan glottal stop *(ʔ) is indicated in medial position in reconstructed forms whenever there is evidence in a set that it occupied that position. A glottal stop indicated in final position in a reconstructed form may be either one for which there is evidence as to its occupying that position or a glottal stop that occurred somewhere in the form but the precise position of which ~~is inderterminable at the present~~ time. ~~In Proto-Amuzgo~~-Mixtecan forms the glottal stops posited in the Proto-Mixtecan forms are simply extrapolated back to the earlier horizon. At present next to nothing is known of the distribution of the glottal stop and tones in Proto-Amuzgo-Mixtecan.

In the reconstructed data ~~and in~~ Amuzgo, *-m* indicates post-vocalic bilabial consonant. Proto-Mixtecan **-m* is the main source of nasalized vowels in Mixtec, Cuicatec and Trique. Vowel *ɔ is a further vowel which must be reconstructed for Proto-Mixtecan but which now occurs as such in neither Mixtec, Cuicatec nor Trique, although a similar vowel of uncertain historical status occurs in Amuzgo.[10] Vowel **ae* is a vowel which probably should be reconstructed for Proto-Amuzgo-Mixtecan. A similar vowel occurs in Amuzgo.

1. Listed below are the data which provided the basis for the reconstruction of twenty-four of the more important cultural terms in Proto-Mixtecan and Proto-Amuzgo-Mixtecan on which we later base many of our inferences. The number in brackets following most of the terms is the set number in the Proto-Mixtecan monograph.

AVOCADO [16]. M-SM tǐčǐ. SE tǐči. J titi. C nų̄ų̄nę̄. T-Ch ru^{2}ne^{3}. A (tai) ntæʔ. PMx *ⁿdi^{32}. PAMx *nti or *nθi. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread. The phonological developments of **ⁿdi* are distinctive. The Amuzgo cognate is in every respect satisfactory.

BEAN (?) [17]. M-SM, SE ⁿdūčī. J ⁿduti. C nų̄ų̄nę̄/nų̄ų̄nį̄. (Also means *kidney* in M-SM, SE and J.) T-Ch ru^{3}ne$^{4-5}$ (ga^{4}ʔnïʔi$^{4-3}$) *large black beans*, ru^{3}ne$^{4-5}$ (gi^{4}ci^{3}) *small vari-colored beans*, zi^{3}-ru^{4}ne^{4} *kidneys*. A ntæ, ntæʔ *kidneys*. PMx *ⁿdu^{3}ⁿdi^{4}. PAMx *ⁿdi. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set. Cf. comment on

AVOCADO above and note the phonological similarity of the two sets. The basic proto-meaning here may be either bean or kidney. Note also that the first Cuicatec term listed above is identical with the Cuicatec term for avocado (see above). The Proto-Mixtecan terms for avocado and bean/kidney, originally quite similar, have fallen together in Cuicatec as homonyms. Such a convergence would tend, however, to be unstable, since the two homonyms refer to common food plants. This may account in part for the development of the second Cuicatec term with the variant vowel, although i/e vowel variation is rather common in that language.

CACAO. M-SM sū ʔà. SE sū ʔvà. Proto-Mixtec *θú ʔwa. C-Tepeuxila, Oaxaca dúú ndūūčā [probably a borrowing from Chinantec]. T ru^2wa^3 [see comment below]. A (tai) šua. PMx *θo ʔwa. PAMx *xVwa. In addition to the two terms from Mixtec listed above the term dzewa was obtained from Pimentel (1874-75, v. 2, p. 452) for the Tepuzculano dialect. The Trique term bears the following meanings: large seed, insides of, heart. Cacao is not grown in the area now occupied by the Trique and they have no word for it. They now apply this term to the seeds of large squash and watermelon. The cacao bean is a large seed and there is evidence that in parts of Mesoamerica in aboriginal times cacao pod was a ritualistic term for the human heart and chocolate a ritualistic term for blood (Thompson 1956: 101). This coupled with the fact that the Mixtec and Amuzgo cognates mean cacao makes it probable that this was its original meaning in the Trique dialects or in Proto-Trique. This is a solid Proto-Mixtecan and Proto-Amuzgo-Mixtecan set.

The ʔw/w alternation as well as the evidence for *x-(alternating probably with *y-) on the earlier horizon giving way to *θ- (alternating probably with *y-) on the later horizon give the set authentic appearance.

CHILI PEPPER (Chile) [190]. M-SM, SE, M yā ʔā. C ī- ʔyāā. T-Ch da^3 $ʔa^3h$/ya^3 $ʔa^3h$. A ts ʔa [singular], l ʔa [plural]. PMx *ʔya^{2}ʔ. PAMx *ʔθa ʔ/*ʔya ʔ. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread. While phonological developments of *ya are in themselves nondistinctive, the straightforward way in which the tones and both glottal stops reconstruct strengthens the witness of the set. The Amuzgo cognate is in every respect satisfactory.

DAY [93]. M-SM kīvì, ^{n}dúú by day, ʔa-^{n}dívî the heavens. SE kīvì, ^{n}dūú by day. J kivi, sivi name, ^{n}duvi by day, ʔa-^{n}divi the heavens. C hūūvē, nā-hūūvē the heavens. T-Ch gwi^3 (also means sun), šu^{3}gwi^3 name of. A šue [singular], nkue [plural] (also means name, fiesta, light). PMx *kɔ $^3n_gw_ī^3$/*xɔ $^3n_gw_ī^3$/*^{n}dɔ $^3n_gw_ī^3$/*tɔ $^3n_gw_ī^3$ (the first two or three forms look very much like portions of the paradigm of a Proto-Mixtecan verb). PAMx *nkwī/*xwī or possibly *nxwī/*xwī. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread. As a Proto-Mixtecan set the developments of *^{n}gwī are sufficiently distinctive to make diffusion of this item improbable. The consonantal alternations appear more like those of a proto-verb than those of a proto-noun. Possibly some sort

of adjective-like Proto-Mixtecan verb should be envisioned meaning (to be) light, (to be) day. The Amuzgo witness suggests that Proto-Amuzgo-Mixtecan forms exhibited a *(n)xw- consonantal alternation and that at this period these clusters had not as yet congealed into the characteristic Proto-Mixtecan *x^w and *$^ng^w$ phonemes.

Note that Mixtec, Trique and Amuzgo associate day with name, a possible indication of the existence at this remote period of the later and widespread practice in Mesoamerica of naming a person after the day on which he was born. This possibility is commented on in the final section of this paper.

GOD(S) [193]. M-SM ʔī ʔà, ʔī ʔyà, -yà god, saint, sacred personage. SE yāà god, saint, sacred personage. J ya god, saint, sacred personage. C tīīlǒ ī-hą́ʔą̄ stone gods, ʔį̄ į̀ya people, ʔī ì̀ya nʔdiíkò saints. T-Ch yą^{3}ʔąhą$^{4-3}$ god, saint, sacred personage, gi^{3}ʔyąhą$^{4-3}$ holy day, festival. A tʔɔ [singular], ntʔɔ [plural] god, saint. PMx *ʔya^{23}(m) ʔ/*ʔxa^{23}mʔ. PAMx *ʔtVʔ/*ʔntVʔ. This is a strong Proto-Mixtecan set with excellent spread but only a plausible Proto-Amuzgo-Mixtecan set. As a Proto-Mixtecan set the distinctive developments of *ʔ and of *am, as well as the rather archaic *y/*x consonantal alternation, considerably strengthen the set. Note also the entrenched nature of this root in Cuicatec and Trique. As a Proto-Amuzgo-Mixtecan set it is weakened by the difficulty of the Amuzgo vowel reflex.

The Cuicatec term stone gods refers to pre-hispanic representations of Indian deities.

MAGUEY [66]. M-SM yāū. SE yāū, yāvū. J yavi. C hīīvà. T-Ch du^{3}we$^{3-4}$/w·e^{3-4-3}. Co yuwi. I yuwe. A tsua [singular], lua [plural] henequen leaves [Agave fourcroydes] or pineapple leaves, rope (made from henequen fiber). PMx *ya^{3}we^{4}/*θa^{3}we^{4}. PAMx *yVwæ/*θVwæ. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set. The presence of the Cuicatec cognate is here rather crucial to the status of this set since not only does its presence give excellent spread but the phonological developments of ultimate Proto-Mixtecan *e and of penultimate Proto-Mixtecan *yu are rather distinctive in that language. Note that the term is established in the various Trique dialects where the last vowel goes through typical dialect developments. The Amuzgo term is of considerable interest as well, since the Amuzgo terms preserve witness to a *y/*θ variation, thus corroborating the Trique witness. The Amuzgo vowel reflex a here bears witness to Proto-Amuzgo-Mixtecan *æ, a vowel which had merged with *e by Proto-Mixtecan times.

This term could have referred to another species of agave in Proto-Amuzgo-Mixtecan times since its meaning in Amuzgo today is henequen and the same term is also applied to pineapple leaves and henequen rope. Maguey itself does not at the present grow in the Amuzgo region from which our information was obtained. On the Proto-Mixtecan horizon, on the other hand, the meaning of the term — if originally broader — apparently had become limited to one or several of the species of maguey which yield pulque for this

term also reconstructs in Proto-Mixtecan (see below).

MAIZE [37]. M-SM, J nūnì̂. SE nūnī. C nį̃ĩnǫ́; nįǐnǭ ndūūčà pozole (maize dough mixed with water). T-Ch di^{3}ʔnï$^{2-1}$/ʔnï$^{1-2}$. A nna. PMx *^{n}du^{2}ʔni^{4}ʔ (~ *21). PAMx *ʔniʔ. (Note: the Amuzgo term is not listed in the Proto-Mixtecan monograph.) This is a strong Proto-Mixtecan set and a solid Proto-Amuzgo-Mixtecan one. As a Proto-Mixtecan set the spread is excellent and the phonological developments of *ni are possibly sufficiently distinctive to rule out borrowing at any very recent period. Note also that the tones reconstruct well. As a Proto-Amuzgo-Mixtecan set the Amuzgo cognate seems to be satisfactory in every respect (the a reflex of Proto-Amuzgo-Mixtecan *i seems to be conditioned by preceding *ʔn, *ʔm, and *ʔ^{n}d). In this set as in a few others the Proto-Amuzgo-Mixtecan form seems to have been shorter than the Proto-Mixtecan form — unless the Amuzgo nn is a witness to *nd (V)nV>nnV.

MAIZE DOUGH (masa) [85]. M-SM yūhą̄. SE ñųhą̄. M yušą. C yāàčè. T-Ch da^{3}kį̈$^{3-4}$h/kį̈hį̈^{3}. A tskę. PMx *ya^{3}(m)xï^{4}(m)/*θa^{3}xï^{4}m. PAMx *θVxïm. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set, established as such by the excellent spread, the distinctive character of the phonological developments involving *xïm, and the regular and frequent sort of reconstructed consonantal alternation. The tones reconstruct well.

MARKET PLACE [69]. M-SM (nū)-yáʔū at the market place, yàʔū pay, wages, čàʔū to pay, čáʔū to pay. SE yàʔū market place, wages. J tyaʔvi to pay. M čaʔvi to pay. C ʔĩĩvà market place, čĩĩʔvà wages, nā-dīĩʔvā to pay. T-Ch ʔwe^{3-4-3} market place, du^{3}ʔwe$^{4-3}$ wages, na^{3}ru^{3}ʔwe$^{3-4}$/na^{3}ru^{2}ʔwe^{5}h to pay, gu^{4}du^{4}ʔwe^{4} sell, ži^{3}ru^{3}ʔwe$^{4-3}$ rich man, catrín. Co yuʔwi market place. I yuʔwe market place. A tsʔua market place, tiam ʔlua pay. PMx *ya^{2}ʔwe^{2} (~*^{11}) market place. PAMx *yVʔwæ/θVʔwæ market place. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set in that the spread is excellent, the phonological developments are moderately distinctive (note *ʔwe>C ʔ...va), the tones reconstruct well. Furthermore, the sheer multiplicity of forms in Mixtec, Cuicatec and Trique testifies to the established nature of this root in all three languages. The Amuzgo cognate corresponds well with the reconstructed Proto-Mixtecan forms. Once again Amuzgo a ~ Proto-Mixtecan *e is a witness to Proto-Amuzgo-Mixtecan *æ. The correspondence Amuzgo l ~ Proto-Mixtecan *y is of especial validity here since it is not in a pattern of singular vs. plural formation such as characterizes nouns and is therefore less likely to have undergone analogical reshaping.

Market place would seem to be the basic meaning of this root with forms bearing related meanings developing in post-Proto-Mixtecan times.

METATE [247]. M-SM, SE yòsó. C yúúdó. T-Ch to^{3-4-3}. A (tshɔʔ) su. PMx *yɔ^{3}θo^{2} (~ *21, *31). PAMx *θo. This is a solid Proto-Mixtecan set and at least a solid and possibly a strong Proto-Amuzgo-Mixtecan set. As a Proto-Mixtecan set the phonological developments are moderately distinctive, the tones reconstruct well ~~and~~ the spread is excellent. As a Proto-Amuzgo-Mixtecan set the Amuzgo cognate has u reflex rather than o — which we might

perhaps expect if it were a borrowing from Mixtec. Note the absence of any indication of a Proto-Amuzgo-Mixtecan penultimate syllable in both Trique and Amuzgo.

OVEN (earth) [111]. M-SM hīnù oven, hānù box. SE yāù ʔīNù earth oven, yēNù box. J čitų oven, čatų box. C ---. T-Ch ži^{3}čų$^{2-1}$/ čų$^{1-2}$ earth oven, box, gu^{3}čų$^{1-2}$ oven, kiln. A ntam earth oven, oven, brick kiln. PMx *xi^{2}ta^{4}mʔ/*yi^{2}ta^{4}mʔ/ ~ (*21) earth oven. *ya^{2}ta^{4}mʔ/*xa^{2}ta^{4}mʔ box. PAMx *(n)tamʔ earth oven. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set in spite of the defective spread in that the phonological developments are very distinctive while the penultimate *y/*x alternation seems to be of a rather archaic, established variety. Notice also the peculiar M reflexes of PMx *tam (metathesized to *tma > *tna in certain early M dialect developments.)[11] The A cognate is in every respect satisfactory.

Note: in the Proto-Mixtecan monograph the meaning barbecue pit is listed erroneously in several places rather than earth oven. The meanings earth oven and brick kiln for the Amuzgo term were obtained after the preparation of the monograph and do not appear in it.

PALM TREE [256]. M-SM yūkù ñūù. SE ñūù. C hīīyó. T-Ch dų^{3}/yų^{3}. PMx *yo^{3}m/*θo^{3}m (or *^{n}do^{3}m). This is a solid Proto-Mixtecan set. The spread is excellent and the phonological developments, while not the most distinctive, include some typical developments of Proto-Mixtecan post-vocalic *-m.

PALM LEAF MAT (petate) [68]. M-SM, SE yūū, yuvii. C hīīvā. T-Ch du^{3}we^{21}/w·e^{12}. Co yuwi. A tsue [singular], lue [plural]. PMx *yu^{2}we^{4}ʔ/*θu^{2}we^{4}ʔ (~ *21). PAMx *yVweʔ/*θVweʔ. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread, distinctive phonology, good reconstruction of tones and glottal stop, and plausible consonantal alternations in which once more the Trique and Amuzgo witnesses coincide.

PLANT, TO [254]. M ---. C kuùnò, hīlnò, čīìnò, nīìnò to plant, to sow, kō-nų̄ų̄, ī-nų̄ų̄, kē-nų̄ų̄, nī-nų̄ų̄ to dress oneself. T-Ch gu^{3}nu$^{3-4}$ to plant, na^{3}nų$^{3-4}$ to dress oneself. PMx *k^{w}ano(m)/*xino(m)/*^{n}dano(m)/*kano(m) or *nano(m). Any of the following tone patterns would fit the data of this set: *23/*32/*34. This is a solid Proto-Mixtecan set. The spread is good, the phonological developments of post-vocalic *-m are somewhat distinctive, and the pattern of reconstructed consonantal alternation gives a consistent picture of a Proto-Mixtecan verb.

The basic meaning seems to be to plant or sow rather than to dress oneself. For example, the Trique term for dressing conveys the meaning 'to put oneself into one's clothes'. Possibly, however, the PMx term meant simply to insert.

POTATO, SWEET (?) or TUBEROUS ROOT (Camote) [72]. M-SM ña ʔmù. SE ña ʔmū. J ya ʔmi. C ʔmíì. T-Ch du^{3}mi$^{3-4}$/m·i^{3-4-3}; du^{3}mi$^{3-5}$ʔ/m·iʔi^{3} soap root, soap. A tshąʔ edible root. PMx *ya^{2}ʔmi^{4}/*θa^{2}ʔmi^{4}/*θa^{2}mi^{3}. PAMx *xVʔmi. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread. Here the distribution of the *ʔ of the original **ʔm cluster is crucial. Trique metathesized the cluster to m...ʔ

at some not too recent period since metathesized final *ʔ has undergone the same developments in Trique as originally final Proto-Mixtecan *ʔ. If therefore the Trique form with final -ʔ is a borrowing from Mixtec it is a borrowing of such antiquity as to approach the Proto-Mixtecan horizon itself. But notice that Trique witnesses to another form built on the same root but without the medial glottal stop (Trique du^{3}mi$^{3-4}$/m·i^{3-4-3}). Since the variation ʔC vs. C seems to have been a Proto-Mixtecan feature, the varying Trique form further strengthens the set. Cf. the set for PULQUE below. The Amuzgo cognate is in every respect satisfactory.

Whether this term originally referred to the sweet potato is impossible to say. The more general meaning tuberous root may have been the original one.

PULQUE [81]. M-SM ndī̃ši̇̃ aguardiente. SE, J ⁿdīši̇ aguardiente. C na-dı̃ʔı̃. T-Ch di^{3}ci$^{3-5}$ʔ/ciʔi^{3}. PMx ⁿdi^{2}θi^{4}ʔ (~ *21). This is a strong Proto-Mixtecan set with excellent spread and distinctive phonology (final *ʔ with reflexes in Cuicatec and Trique, the s~d~c reflexes of *θ and the straightforward tone reconstruction).

The divergent meaning of the Mixtec terms presents no problem in this case since it is easy to envision the transference of the term for pulque to aguardiente when the latter was introduced after the Conquest.

RIPEN, TO [60]. M-SM, SE kùčī, hīčī. J kuti. C kúúná (dį̄į̄), hı̃ı̃ná (dį̄į̄), čī ı̃nà (dį̄į̄), nı̃ı̃ná (dį̄į̄). T-Ch ga^{2}ne^{3}. PMx *k^{w}a^{3n}de^{2}/*xi^{3n}de^{2}/*ka^{3n}de^{2}/*ⁿda^{3n}de^{2}(~ *12). This is a strong Proto-Mixtecan set with excellent spread, distinctive phonology, and plausible reconstructed consonantal alternation indicating a Proto-Mixtecan verb.

SPIN, TO [131]. M ---. C ʔk^{w}āā, ʔāā, ʔkāā, nʔdāā. T-Ch wa^{3} a$^{2-3}$/ga^{3} a$^{2-3}$. A -wa (hnam) to weave (at the loom). PMx *ʔk^{w}a/*ʔwa/*ʔka/*ʔⁿda. PAMx *ʔwa. This is a strong Proto-Mixtecan set and a solid Proto-Amuzgo-Mixtecan one with good spread. Note the distribution of reflexes of *ʔ (metathesized to final position in Trique with subsequent addition of repeat vowel). The w/g alternation in Trique is a limited grammatical pattern which seems to bear witness to a 'w' conjugation found in Proto-Mixtecan but preserved as such only in Trique with corroborating traces in Cuicatec and Mixtec. The Amuzgo meaning to weave is variant. A post Proto-Amuzgo-Mixtecan shift in meaning from to spin to to weave in Proto-Amuzgo or Amuzgo seems probable here.

SQUASH (calabaza) [76]. M-SM, SE yı̃kī̃. M ʔikį. C yúúkū, yūūkù, yūùkùʔ, yúúkù. T-Ch da^{3}ką$^{2-1}$/ką^{3}. A tskę [singular], lkę [plural]. PMx *yɔ^{2}kĩ^{2}mʔ/*yɔ^{2}k^{w}ĩʔ/*θɔ^{2}kĩ^{2}mʔ. PAMx *yVkĩmʔ/*θVkĩmʔ. Note: the Cuicatec forms appear in phrases denoting specific varieties of squash. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set with excellent spread and distinctive phonology (the treatment of *ĩ and of final *-ʔ, as well as the dissimilation of labials reflected in the Cuicatec form < *-k^{w}ĩʔ vs. the Mixtec-Trique forms < *-kĩmʔ). The Amuzgo cognates are solid with a ts- initial form corresponding to the Trique d- initial form (both < * θ-) and

an l- initial form corresponding to the Mixtec, Cuicatec y- initial forms < *y-.

TOBACCO [223]. M-SM, SE ʔīnū tobacco, cigarette. J, M šanu cigarette. C yúúnǫ́ cigarette. T-Ch ko^{3}h nų^{3} tobacco [a borrowing from Mixtec], n·aha^{3} cigarette. A hnam [plural] tobacco, cigarette. PMx *yu^{3}nɔ(m)/ *xa^{3}nɔ(m)ʔ. PAMx *xVnɔmʔ. This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set. The spread is excellent and the phonological developments involving *ɔ and *ʔ are sufficiently distinctive. In regard to the latter note the rather striking difference between the inherited Trique form n·aha^{3} and the loan from Mixtec [ko^{3}h] nų^{3} in Trique. The Mixtec dialects preserve evidence of an old *y/*x alternation which is partially corroborated by the Amuzgo cognate in which nh- presumably bears witness to a metathesized *xV- element (i.e., *xVn- > nh).

Despite the solidly established meaning of cigarette the basic meaning here would seem to be tobacco.

TWENTY [238]. M-SM, SE, J ʔokð twenty, šīkō twenty (a combining form used only in the higher numerical sequences of the vigesimal system). C ndīīkū twenty, hāākū twenty (same as Mixtec above). T-Ch ko^{4}. Co iko. A ntkyu. PMx *yiko/*θiko/*^{n}diko. PAMx *nθiko. This is a solid Proto-Mixtecan and a strong Proto-Amuzgo-Mixtecan set. The Proto-Mixtecan spread is excellent, and the pattern of reconstructed consonantal alternation is convincing. The -y- of the Amuzgo form, rather than presenting a difficulty, is here probably an asset. Apparently here, as in a few other sets, Amuzgo preserves evidence of first syllable vowel in that such a form as Proto-Amuzgo-Mixtecan *nθiko > Amuzgo ntkyu with the -y- a metathesized reflex of the old penultimate vowel. It is evidence of this sort which leads us to believe that Amuzgo has regularly reduced Proto-Amuzgo-Mixtecan penultimates (by loss of first syllable vowel with the resulting consonant clusters so typical of Amuzgo).

As will be seen below this is not the only number reconstructing in Proto-Mixtecan and Proto-Amuzgo-Mixtecan. The numbers 2, 3, 4, 5, 6 and 9 also reconstruct in Proto-Mixtecan and, except for the number 4, the same is true of Proto-Amuzgo-Mixtecan. Since the Mesoamerican numerical system was a vigesimal one it is interesting that this is the only number above 9 which reconstructs on these two early horizons. This suggests the possibility that some form of the vigesimal system was in existence in Proto-Mixtecan and Proto-Amuzgo-Mixtecan times. If true, there is no reason to believe that it had been especially elaborated on these horizons for the Mixtec and Cuicatec forms do not demonstrate parallel developments. The first Mixtec term probably represents a reduplication of the Proto-Mixtecan root with loss of Proto-Mixtecan penultima in this form while the second term harks back to *θiko. The first Cuicatec term harks back to *^{n}diko while the second probably arose by addition of some obscure penultimate element in Cuicatec itself with loss of Proto-Mixtecan penultima. Notice also that the Trique term for multiples of twenty is ži^{4}a^{4} which appears to be from an entirely different root.

VILLAGE (aldea, pueblo) [170]. M-SM, J ñūù. SE ñūū. C yáą̀. T-Ch ǰi^{3}a^{2}. A tsham [singular], nham [plural]. PMx *yam/*θam (*23 or *33, ~ *11). PAMx *(xV)θam/*(xV)nam (the xV- element may be an addition in Proto-Amuzgo?) Note: the Trique form is possessed. The unpossessed form ǰu^{3}ma ʔa$^{4-3}$ apparently comes from another root for which no etymology has yet been found.

This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set. As a Proto-Mixtecan set it has excellent spread and somewhat distinctive phonology (*am > Mixtec u). The Amuzgo cognates are in every respect satisfactory The *xV- element has metathesized with reflexes of *θ and *n, thus yielding tsh and nh. The metathesized *x > h has possibly obliterated a reflex of stem initial *y-.

WEAVE, TO/LOOM [222]. M-SM, SE kūnū to weave, to run, kúnū to weave, hínū to run. J kunu to weave, to run, činu to weave, to run. M kunu to weave, to run, šinu to weave, to run. C tī ìnò (yūùdò) blanket, tī ìnō (mą̀ą̄) underwear, káánù, héénò, čéénò to run. T-Ch ga^{3}nąʔh to weave, ǰi^{3}na$^{1-2}$ loom, gu^{3}na^{2}h to run. A hnam loom, nam run. PMx *k^{w}a^{2}nɔ^{2}(m)ʔ/*xi^{2}nɔ^{2}(m)ʔ*/ka^{2}nɔ^{2}(m)ʔ/*^{n}da^{2}nɔ^{2}(m)ʔ (~ *21) to weave/loom. PAMx *xVnɔmʔ to weave/loom. Note: two homophones seem to be involved here with the meanings to weave and to run. Nevertheless the former meaning on which hangs the cultural importance of the set is well attested in all four languages.

This is a strong Proto-Mixtecan and Proto-Amuzgo-Mixtecan set. As a Proto-Mixtecan set note the excellent spread and the phonological developments involving *na(m)ʔ. Note also the Cuicatec terms for blanket and underwear which indicate that this root is firmly entrenched in the lexical structure of that language. Finally, note also how the Trique cognates with initial gu-, ga-, and ǰi- correspond to Mixtec and Cuicatec forms witnessing to *k^{w}a-, *ka- and *xi- in the Proto-Mixtecan verb paradigm. The Amuzgo cognate for loom corresponds well with the Trique cognate of the same meaning (PAMx *xVnamʔ > Trique ǰi^{3}nąą$^{1-2}$ ~ Amuzgo hnam).

2.1. In this section the majority of the terms of cultural interest which reconstruct in Proto-Mixtecan and Proto-Amuzgo-Mixtecan are presented in tabular form. The twenty-four terms presented in full above are also included in the table.

	PROTO-MIXTECAN			PROTO-AMUZGO-MIXTECAN		
	Strong	Solid	Plausible	Weak	Strong	Solid	Plausible	Weak
ASHES [191][12]	X				X			
AVOCADO [16]	X				X			
BAG, NETWORK [167]		X						

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Strong	Solid	Plausible	Weak	Strong	Solid	Plausible	Weak
BASKET, HANDLELESS, PALM-LEAF (Ténate) [251]			X				X	
BEAN [?] [17][13]	X				X			
BLACKBERRY [169] [14]	X							
BOIL, TO [197]		X				X		
CACAO		X				X		
CHANT, TO or TO RECITE PRAYERS [186]			X					
CHICLE [88]			X					
CHILI PEPPER (Chile) [190]	X							
CIRUELA [?] [183] [15]	X							
COMAL [262]				X				
DAY [93]	X				X			
FIRE [172]	X						X	
FUR, FEATHERS [246]	X				X			
FURROW, ROW [132]			X					
GOD(S) [193]	X						X	
GRAIN EAR (AMARANTH??) [198]		X						
HONEY BEE or HONEY COMB [240]			X					
KNIFE [55]		X						

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Strong	Solid	Plausible	Weak	Strong	Solid	Plausible	Weak
MAGUEY [66]	X				X			
MAGUEY FIBER (Ixtle) [148]		X			X			
MAIZE [37]	X					X		
MAIZE COB (Olote) [100]		X					X	
MAIZE DOUGH (Masa) [85]	X				X			
MAIZE EAR (Mazorca) [98]	X					X		
MAIZE EAR GREEN (Elote) [82]		X			X			
MAIZE STALK or DRIED MAIZE STALK [259]			X		X			
MARKET PLACE [69]	X				X			
MEAT [178]			X					
METATE [247]		X				X		
OBSIDIAN, FLINT, QUARTZ [55] [16]		X						
OVEN, EARTH [111]	X				X			
PALM TREE [256]		X						
PALM-LEAF MAT (Petate) [68]	X				X			
PINE TORCH (Ocote) [121]	X				X			
PLANT, TO [254]		X						
PLATE or BOWL [242]			X					X

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Strong	Solid	Plausible	Weak	Strong	Solid	Plausible	Weak
POTATO [265][17]		X						
POTATO, SWEET (?) or TUBEROUS ROOT [20] [18]	X					X		
POTTERY — See PLATE above								
PULQUE [81]	X							
RIPEN, TO [60]	X							
ROAST, TO/TO TOAST [47]				X				
SALT [99]		X						X
SANDAL (Huarache) [140]	X					X		
SEEDS [75]		X				X		
SPIN, TO [131]	X						X	
SQUASH [76]	X					X		
THORN [171]	X					X		
THREAD/YARN [180]		X					X	
TOBACCO [223]	X					X		
TORTILLA [106]			X					
TUMP LINE (Mecapal) [234]	X							
VILLAGE (Aldea, pueblo) [170]	X					X		
WEAVE, TO/LOOM [222]	X					X		
WORLD/PEOPLE [94]	X					X		
YEAR [260] [19]			X					

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Strong	Solid	Plausible	Weak	Strong	Solid	Plausible	Weak
ZAPOTE/ANONA [239]			X					
NUMBERS:								
2 [42]			X					X
3 [31]			X					X
4 [155]		X						
5 [263]			X					X
6 [173]		X				X		
9 [104]		X				X		
20 [238]			X			X		

2.2. In addition to the terms presented above there are a number of other terms of interest which are discussed peripherally or not at all in this paper. These are listed briefly here with a reference to the set number by which they may be located in the Proto-Mixtecan monograph. Their linguistic evaluations are also included.

KINSHIP TERMS - Eleven kinship terms reconstruct on the Proto-Mixtecan horizon, but, curiously, apparently none reconstruct on the Proto-Amuzgo-Mixtecan horizon. The terms which reconstruct are listed below. We have made no attempt to draw any inferences from these terms for two principal reasons. In the first place, we do not know the kinship categories covered by many of these terms among modern speakers of Mixtec, Cuicatec and Trique (e.g., aunt, nephew, etc.). In addition, the problem of semantic change is particularly acute in paleo-linguistic reconstructions of many kinship terms. As a result, we do not know with any degree of certainty the meaning of these reconstructed terms in Proto-Mixtecan.

(1) Brother (male ego) [24] (Strong)
(2) Sister (female ego) [38] (Strong)
(3) Sibling of opposite sex [182] (Strong)
(4) Grandchild [27] (Strong)
(5) Son-in-law [137] (Solid)
(6) Sister-in-law [276] (Plausible)
(7) Grandmother [156] (Plausible)
(8) Aunt [51] (Plausible)
(9) Nephew (has this meaning in Cuicatec and Trique)/ Niece (has this meaning in Mixtec) [244] (Plausible)

(10) Niece (has this meaning in Cuicatec and Trique)/Nephew (has this meaning in Mixtec) [13] (Plausible)
(11) Offspring, child of [new set posited by Mak and Longacre 1961, p. 39] (Solid)

Note that of terms for the nuclear family (mother, father, son, daughter, child) only the term for child reconstructs. The terms for mother and father seem to be derived from the Nahua or Mayan roots nana/na and tata/ta respectively. Trique has apparently borrowed from Spanish padre shortened to dre^{3}h.

ANIMALS - The following terms for animals reconstruct in Proto-Mixtecan or Proto-Amuzgo-Mixtecan.

(1) ALLIGATOR/LIZARD [50] (PMx Weak). The proto-meaning of this term is uncertain.
(2) BIRD [135] (PMx Strong, PAMx Strong).
(3) COYOTE [176] (PMx Strong).
(4) CROW [120] (PMx Weak).
(5) DEER [209] (PMx Strong, PAMx Strong)
(6) DOG/FOX [165] (PMx Solid). The proto-meaning of this term is uncertain. A Proto-Amuzgo-Mixtecan word for dog can possibly be reconstructed from Trique and Amuzgo cognates not listed in the Proto-Mixtecan monograph.
(7) FISH [22] (PMx Plausible, PAMx Plausible).
(8) MOUSE [277] (PMx Strong).
(9) ROADRUNNER [224] (PMx Solid).
(10) SKUNK [95] (PMx Strong, PAMx Plausible).
(11) SNAKE [201] PMx Solid, PAMx Strong).
(12) SNAKE/LIZARD/WORM [273] (PMx Weak, PAMx Weak). The proto-meaning of this term is uncertain.
(13) SQUIRREL [225] (PMx Plausible).

INSECTS - Seven terms for insects reconstruct in addition to the term for honey bee (or honey comb) listed above:

(1) ANT (?) [200] (PMx Solid).
(2) BUTTERFLY [185] (PMx Plausible)
(3) FLEA [229] (PMx Strong, PAMx Solid)
(4) GRASSHOPPER [130] (PMx Solid).
(5) LOUSE/FLY/INSECT [245] (PMx Plausible, PAMx Solid) The proto-meaning of this term is uncertain
(6) LICE EGGS [70] (PMx Weak)
(7) MOSQUITO [49] (PMx Plausible)

EXPRESSIONS OF TIME - Three expressions of time reconstruct in addition to the term for year listed above.

(1) DAY AFTER TOMORROW [136] (PMx Plausible).
(2) PAST (YEAR) [12] PMx Plausible).
(3) YESTERDAY [79] (PMx Solid).

NATURAL PHENOMENA - The following terms for natural phenomena reconstruct.

(1) CLOUD [219] (PMx Solid, PAMx Solid).
(2) HAIL [97] (PMx Strong).
(3) ICE/FROST [179] (PMx Solid).
(4) LAND/SOIL [159] (PMx Strong, PAMx Strong).
(5) MOUNTAIN/HILL [77] (PMx Strong).
(6) PLAIN [211] (PMx Solid, PAMx Strong).
(7) RAIN [45] (PMx Strong, PAMx Strong).
(8) RIVER [78] (PMx Plausible).
(9) WATER [144] (PMx Strong, PAMx Strong).
(10) WIND [58] (PMx Strong, PAMx Strong)

MISCELLANEOUS TERMS - The following terms represent a miscellany of words of possible interest.

(1) BLACK [235] (PMx Strong, PAMx Strong)
(2) COMB [114] (PMx Weak, PAMx Plausible)
(3) CUBIT MEASURE [73] (PMx Plausible)
(4) FENCE [213] (PMx Plausible)
(5) MUSIC [192] (PMx Solid, PAMx Strong)
(6) SPAN MEASURE [195] (PMx Solid)
(7) SING, TO [105] (PMx Solid, PAMx Solid)
(8) SWEEP, TO [121] (PMx Strong, PAMx Strong)
(9) VINE or VINE/ROOT [231] (PMx Strong, PAMx Weak)
(10) WORD [22] (PMx Strong, PAMx Strong)

In addition to the above terms there are a number of other words of significance in Mixtec, Cuicatec or Trique which are mentioned in the Proto-Mixtecan monograph but their meanings do not reconstruct. One of these terms, quicklime [119], has already been mentioned (fn. 12). The set containing a number of terms for honey [5] is another such example. In this case the proto-meaning seems to have been sweet or to be sweet since the reconstructed forms exhibit a pattern of consonantal alternation characteristic of a verb or an adjective-like verb. However, since Proto-Mixtecan and Proto-Amuzgo-Mixtecan terms have been reconstructed for honey bee and honey comb, the meaning honey is not impossible.

Aside from terms of this type it is of course possible that other terms of significance exist which we have overlooked.

3.0. The linguistic evaluation of a set provides the framework for its cultural evaluation, but however strong it may be linguistically this does not provide proof that the specific aspect of Proto-Mixtecan or Proto-Amuzgo-Mixtecan life it represents actually existed on that horizon. In any given set the possibility always exists that separate but parallel semantic shifts may have taken place in all the languages under consideration in the set. While this possibility is remote, it seems to have occurred in several of the sets which reconstruct in Proto-Mixtecan and Proto-Amuzgo-Mixtecan. For example, one set, linguistically evaluated as solid, reconstructs in Proto-Mixtecan with the meaning bell or perhaps metal [23]. The existence of metal or metal bells at this early date is highly improbable on the basis of existing archeological evidence. Examination of the set suggests that the original meaning may have been rattle but it is impossible to be certain of this. Two other sets yield reconstructed meanings of sugar cane and onion (see below for discussion of these sets and their probable original meanings). We are aware of these cases only because they contradict present archeological, historical and/or botanical evidence. If any such changes occurred in other sets for which we have no such contradictory evidence we would be unable to detect them. For this reason we have had to devise a method of evaluating the sets presented here which would take this possibility into account.

This is the negative side of the picture. On the positive side is the fact that, linguistic considerations aside, there are instances where it seems reasonable to arrive at a stronger final evauation than the linguistic evaluation would indicate. The principal such instances are those in which terms occur in closely related complexes, or in both Proto-Mixtecan and Proto-Amuzgo-Mixtecan, in which instances they sometimes tend to reinforce each other. For example, a linguistic evaluation of strong in Proto-Amuzgo-Mixtecan coupled with one of plausible in Proto-Mixtecan suggests that the term in question existed on both horizons.

To cope with these and other problems the criteria discussed below have been employed in the final evaluation of the terms presented. Four ratings have been established for their classification. Two of them are positive (almost certain and probable), one is neutral (possible) and the last is negative (unlikely). The criteria are given below.

(1) If a complex of related terms can be formed, the existence of the activity or practice so designated is regarded as certain in Proto-Mixtecan or Proto-Amuzgo-Mixtecan times, since the possibility of separate but parallel semantic shifts having taken place in all of the terms seems to us to be so remote as to remove it from consideration as a possibility. For our purposes here a complex is a group of 3 or more related terms. The relationship of some terms in a complex is stronger than others. Similarly some complexes are stronger than others. The greater the number of closely related terms, the stronger is considered to be the case for the complex. This does not necessarily mean, however, that the existence of any single

member of the complex can be inferred with near certainty. In some cases, as will be seen below, there are compelling reasons for classifying specific terms in strong complexes as almost certainly having existed on the Proto-Mixtecan or Proto-Amuzgo-Mixtecan horizons. But such cases are rare and each of them is considered separately below.

(2) If a term occupies a strong position in a tight complex of closely related terms its existence is regarded as probable in Proto-Mixtecan and Proto-Amuzgo-Mixtecan times unless for specifically stated reasons it is classified as almost certain. If a term occupies a weak position in an otherwise strong complex, it is evaluated independently of its position in the complex.

(3) If a term not part of a complex reconstructs with an evaluation of strong or solid in Proto-Mixtecan or Proto-Amuzgo-Mixtecan its existence is regarded as probable on both horizons. If a term not part of a complex reconstructs with a linguistic evaluation of solid or strong in Proto-Mixtecan only, its existence is regarded as probable on the Proto-Mixtecan horizon.

(4) If a term not part of a complex reconstructs in Proto-Amuzgo-Mixtecan with a linguistic evaluation of strong but with a weaker evaluation in Proto-Mixtecan its existence is regarded as probable on both horizons.

(5) If a term not part of a complex reconstructs only in Proto-Mixtecan with a linguistic evaluation of plausible its existence is regarded as possible on the Proto-Mixtecan horizon. If a term reconstructs in Proto-Amuzgo-Mixtecan with the same linguistic evaluation its existence is regarded as possible on that horizon.

(6) If a term reconstructs with a linguistic evaluation of weak in either Proto-Amuzgo-Mixtecan or Proto-Mixtecan its existence on the relevant horizon is regarded as unlikely.

(7) If the proto-meaning of a term is questionable its evaluation is lower than it would otherwise be. How much weight should be given to such weakness is difficult to determine. What we have done is arbitrarily to drop the final evaluation one notch. An example of this is the case of the set for bean in which the meaning bean is inextricably tied to the meaning kidney. Ordinarily such a set would be given an evaluation of probable because it receives a linguistic evaluation of strong in both Proto-Mixtecan and Proto-Amuzgo-Mixtecan. However, because of the doubt which exists concerning its proto-meaning it is given a final evaluation of possible.

It is recognized that these criteria do not take into consideration all possible situations. Nevertheless, they do provide the basis for the evaluation of all the terms on a systematic if somewhat procrustean basis.

3.1.0. In this section terms are grouped together in complexes to provide a basis for their cultural evaluation. Only those terms which group indisputably into complexes are listed here and this is not therefore to be regarded as a complete listing. Interpretations of Proto-Mixtecan and Proto-Amuzgo-Mixtecan ways of life are reserved for the final section.

3.1.1. Six strong complexes may be distinguished on the Proto-

Mixtecan horizon. They are as follows:

(1) MAIZE COMPLEX: maize, maize cob, maize ear, green maize ear, maize stalk, maize dough.

The multiplicity of terms relating to maize in its various aspects makes it not only almost certain that maize was used in Proto-Mixtecan times but also that it was cultivated. The near certainty of the existence of the complex does not prove, however, that words for all of these aspects of the complex existed on the Proto-Mixtecan horizon. It seems almost certain that a word for maize existed and, as will be shown below, it also seems almost certain that a word for masa existed. The probablity of the existence of the other four terms is, of course, extremely high.

(2) MAGUEY COMPLEX: maguey, maguey fiber, pulque, thorn (?).

While this complex is not as strong as the maize complex, the existence of a term for the plant, for its fiber and for the drink made from its heart makes it almost certain that the plant was used in Proto-Mixtecan times with the strong probability that it was cultivated. The existence of a word for maguey may be regarded as almost certain on the Proto-Mixtecan horizon. The existence of a word for maguey fiber likewise may be regarded as almost certain since in addition to its position in this complex it also occupies a basic position in the weaving complex (see below).

(3) AGRICULTURAL COMPLEX: maize complex, maguey complex, to plant, to ripen. To these terms may be added the terms for the following plants for they tend to strengthen the complex even though some or perhaps even most of them may not have been cultivated. The terms themselves are not considered to be strengthened by their inclusion here. Bean (?), squash, chili pepper, grain ear [amaranth ?], sweet potato (?), tobacco, avocado, cacao. A term also exists for seeds which perhaps should also be included. In Mixtec and Trique it refers to small vegetable seeds. Finally, there is the term for furrow or row which, while it does not form a necessary part of a simple agricultural complex, nevertheless deserves mentioning here.

The existence of the maize complex alone may be regarded as virtual proof of the existence of agriculture on the Proto-Mixtecan horizon. The presence of the maguey complex and of the verbs to plant and to ripen provides additional weight. However, despite the fact that we can be certain agriculture was practiced in Proto-Mixtecan times we do not know whether a verb meaning to plant existed on this horizon because the proto-meaning of the set from which we have reconstructed this meaning may have been to dress (see TO PLANT above) or simply to insert, to put in.

(4) MASA PREPARATION COMPLEX: maize, ashes [with derivatives meaning nixtamal in Cuicatec, Trique and Amuzgo], metate, masa, comal (??), tortilla (?).

Except for the last two terms, this is the strongest single complex on the Proto-Mixtecan horizon and it exists as well on the earlier Proto-Amuzgo-Mixtecan horizon. It is the strongest because it records each of the steps necessary to transform maize into masa. The maize kernels are soaked in a solution made by leaching ashes in water to produce nixtamal which is

ground on the metate to produce the masa. Because of this the existence of terms for maize, ashes, metate and masa may be regarded as certain on both horizons. If the set for comal were stronger (its linguistic evaluation is weak) we might be tempted to classify all six terms as certain. The tortilla, however, is not the necessary end product of this process for the masa may be and is still today prepared in other ways for final consumption. Furthermore, archeological evidence suggests that the comal may not have been widely used as a basic pottery form in Mesoamerica until post-Classic times (i.e., from ca. 800 A.D. onwards).

(5) WEAVING COMPLEX: maguey, maguey fiber, to spin, thread/yarn, thorn, to weave/loom.

This complex is sufficiently strong to make it almost certain that weaving was practiced in Proto-Mixtecan times. As in the case of the masa preparation complex above, the steps in the process whose end product is weaving are represented, although not in so detailed a form. The existence of terms meaning to spin and either loom or to weave on the Proto-Mixtecan horizon seems certain.

(6) PALM COMPLEX: palm tree, palm leaf mat (petate), palm leaf basket, handleless (tenate).

While this is not as strong a complex as any of the above, the importance of the palm tree to man in Proto-Mixtecan times seems almost certain.

3.1.2. Five of the above six complexes survive on the presumably earlier Proto-Amuzgo-Mixtecan horizon. Only the palm tree complex drops out because of the lack of a term for palm tree.

(1) MAIZE COMPLEX: maize, maize cob, maize ear, green maize ear, maize stalk, maize dough.

The Proto-Mixtecan maize complex reconstructs in its entirety on this horizon and there can be little doubt that maize was also cultivated in Proto-Amuzgo-Mixtecan times. The existence of a term for maize itself seems virtually certain.

(2) MAGUEY COMPLEX: maguey (or another species of agave), maguey fiber (or the fiber from another species of agave), thorn (?).

The term for pulque drops out in Proto-Amuzgo-Mixtecan, thus depriving the complex of its third strong term on this horizon. As it stands it must be regarded as a weak complex, and were it not for the weaving complex which also includes all three of these terms, we would have excluded it from this horizon. Nevertheless it seems reasonable to postulate the existence of words for both maguey and its fiber (or some species of agave and its fiber) in Proto-Amuzgo-Mixtecan times. That it was a cultivated plant on this horizon as well seems likely.

(3) AGRICULTURAL COMPLEX: maize complex, maguey complex. These are the only terms surviving from the Proto-Mixtecan agricultural complex. In addition the following terms, as in the case of Proto-Mixtecan, may be considered to provide some additional strength to the complex: bean (?), squash, chili pepper, sweet potato (?), tobacco, avocado, cacao, seeds.

As in the case of the Proto-Mixtecan agricultural complex the strength of the maize complex alone may be regarded as virtual proof of the existence of agriculture on the Proto-Amuzgo-Mixtecan horizon.

(4) MASA PREPARATION COMPLEX: maize, ashes, metate, masa.

For reasons already mentioned the existence of all four of these terms may be regarded as almost certain on the Proto-Amuzgo-Mixtecan horizon.

(5) WEAVING COMPLEX: maguey (or another species of agave), maguey fiber (or the fiber from another species of agave), to spin, thread/yarn, thorn, to weave/loom.

The weaving complex reconstructs as strongly on this horizon as it does on the Proto-Mixtecan horizon and the existence of a term meaning loom or to weave may be regarded as almost certain. The existence of a term on this horizon meaning to spin is not so certain (see TO SPIN above).

3.2. In this section are presented all of the terms listed previously with final evaluations of their relative strength.

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Almost Certain	Prob-able	Pos-sible	Un-likely	Almost Certain	Prob-able	Pos-sible	Un-likely
ASHES	X				X			
AVOCADO		X				X		
BAG, NETWORK		X						
BASKET, HANDLE-LESS PALM LEAF (Tenate)		X					X	
BEAN			X				X	
BLACKBERRY			X					
BOIL, TO		X				X		
CACAO	X					X		
CHANT, TO or TO RECITE PRAYERS			X					
CHICLE			X					
CHILI PEPPER		X				X		

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Almost Certain	Prob-able	Pos-sible	Un-likely	Almost Certain	Prob-able	Pos-sible	Un-likely
CIRUELA			X					
COMAL				X				
DAY		X				X		
FIRE		X					X	
FUR, FEATHERS		X				X		
FURROW, ROW			X					
GOD(S)		X					X	
GRAIN EAR (Amaranth)			X					
HONEY BEE or HONEY COMB			X					
KNIFE		X						
MAGUEY	X					X[20]		
MAGUEY FIBER (Ixtle)	X					X[21]		
MAIZE	X				X			
MAIZE COB		X				X		
MAIZE DOUGH	X				X			
MAIZE EAR		X				X		
MAIZE EAR, GREEN		X				X		
MAIZE STALK or DRIED MAIZE STALK		X				X		
MARKET PLACE		X				X		
MEAT			X					
METATE	X				X			
OBSIDIAN, FLINT, QUARTZ		X						
OVEN, EARTH		X				X		
PALM TREE		X						
PALM LEAF MAT		X			X			

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Almost Certain	Prob-able	Pos-sible	Un-likely	Almost Certain	Prob-able	Pos-sible	Un-likely
PINE TORCH (Ocote)		X			X			
PLANT, TO			X					
PLATE or BOWL			X					X
POTATO		X						
POTATO, SWEET (Camote)			X				X	
[POTTERY --See PLATE above]								
PULQUE		X						
RIPEN, TO		X						
ROAST, TO/ TO TOAST				X				
SALT		X					X	
SANDAL		X				X		
SEEDS		X				X		
SPIN, TO	X					X		
SQUASH		X				X		
THORN		X				X		
THREAD/YARN		X				X		
TOBACCO		X				X		
TORTILLA			X					
TUMP LINE		X						
VILLAGE[22]		X				X		
WEAVE, TO/ LOOM	X				X			
WORLD/PEOPLE		X				X		
YEAR			X					
ZAPOTE/ANONA		X						
NUMBERS:								
2		X				X		
3		X				X		

	PROTO-MIXTECAN				PROTO-AMUZGO-MIXTECAN			
	Almost Certain	Prob-able	Pos-sible	Un-likely	Almost Certain	Prob-able	Pos-sible	Un-likely
4		X						
5		X				X		
6		X				X		
9		X				X		
20		X				X		

Six other terms have been excluded from the above list for various reasons. They are as follows:

(1) BANANA [115] (PMx Weak). This set is based only on Mixtec and Cuicatec terms. In addition to its defective spread it is phonologically non-distinctive. This taken together with the fact that the banana is not believed to have been a New World plant (although the plantain may have been), led us to exclude it from the list (Sauer, 1950: 526-27).

(2) BELL/METAL [23]. This set has already been discussed. (See section on criteria of final evaluation above.)

(3) CAT [272] (PMx Weak). This is another set with a defective spread, being based only on Mixtec and Trique terms. It is likewise phonologically non-distinctive. In view of this and the fact that the term refers in both Mixtec and Trique to the domestic cat, a post-Conquest importation, rather than to any wild variety, it has also been excluded from the main listing of terms.

(4) CHICKEN [53] (PMx Plausible). This set is also characterized by defective spread, being based only on Mixtec and Trique terms. Its phonology is moderately distinctive. If valid, there can be little doubt that the original root referred to an animal other than the chicken (probably to some wild fowl) since other Mixtec dialects use two roots to refer to chicken.

(5) ONION [80]. Because of the problems involved in its interpretation this set is reproduced in full: M-SM ^{n}dïkï. SE tï-kūū. J ^{n}di-kumi. M tiko. C ndūūtē ʔyāākū. T-Ch kwe^{3}h ki$_{ʔ}^{3}$. PMx *k^{w}ï/*kïm. This is a solid Proto-Mixtecan set with excellent spread — in spite of the statement in the Proto-Mixtecan monograph that 'this set contains several phonological problems'. These phonological problems seem to arise from two sources: (1) an alternation *k^{w}ï/*kïm resultant from late Proto-Mixtecan dissimilation of labials. Possibly at an earlier period a common Proto-Mixtecan form *k^{w}ïm existed. (2) the addition of final -i in Mixtec dialects at a time when final *-m had not yet disappeared. Thus the Mixtec of Jicáltepec would hark back to the second alternate, viz. *kïm > kumi, while the Mixtec of San Esteban would hark back to the first alternate, viz., *k^{w}ï > kūū. These developments, if the above analysis be correct, strengthen rather than weaken the witness of this set.

The strength of this set is noteworthy because the onion (allium) is not thought to have been a New World plant. This term may have originally referred to some species of edible bulb with separate but parallel semantic shifts having taken place in the three languages after the introduction of the onion in post-Conquest times. Among the Trique today this term is applied to a wild edible plant with a flavor somewhere between that of onion and garlic, as well as to the onion proper. (The preposed Trique element kwe^{3}h is a clipped form of kwehe^{3} edible herb.

(6) SUGAR CANE [249]. This is an extraordinary set. It provides what is perhaps the most dramatic example of detectable semantic change in the sets so far reconstructed in the Mixtecan family. Because of its interest the set is presented in its entirety.

M-SM, SE, J ^{n}dōð. C ndúú. T-Ch do$^{3-4}$/yo^{3-4-3} sugar cane, maize stalk. A tsho [singular], lho [plural]; nto cane leaves. PMx *yo^{23}/*^{n}do^{23} (~ *l). PAMx *yo/θo.

This is a solid Proto-Mixtecan set and probably a strong Proto-Amuzgo-Mixtecan set. As a Proto-Mixtecan set it has excellent spread but is somewhat lacking in phonological distinctiveness (except for the rather typical development of *o to Cuicatec uu when the vowel of that language is doubled). The Amuzgo cognates meaning sugar cane considerably strengthen the set since they diverge noticeably from the Mixtec and Cuicatec cognates, display reflexes of the same sort of Proto-Mixtecan consonantal alternation as those reflected in the Trique forms and have at least been in Amuzgo long enough to have been subject to the typically Amuzgo metathesis of some *xV- element with the first consonants of the stem, thus yielding tsh- and lh-.

Of interest is the fact that this set contains clues which enable us not only to suggest what its former meaning must have been but also how that meaning was developed in separate but parallel fashion in all four languages. The Trique cognate provided the first clue with its double meaning of sugar cane/maize stalk.^{23} This lead to an examination of another set meaning exclusively maize stalk and it became apparent that the two roots were closely related (see set 259 in the Proto-Mixtecan monograph). Since the stalks of the two plants closely resemble one another, a shift in meaning to sugar cane must have occurred in this root in all four languages when the plant became important after the Conquest.

It was evidence like this that forced us to develop a method for the final evaluation of terms over and above their purely linguistic determinations. But even the criteria we have employed provide no protection against a set like this if there is no other reason to suspect its validity. Since it receives a linguistic evaluation of solid in Proto-Mixtecan and solid or strong in Proto-Amuzgo-Mixtecan it would have received a final evaluation of probable in the absence of other evidence to the contrary. It would be difficult to cite a better example of the semantic dangers involved in cultural inference from linguistic reconstruction. Of course the probability that very many such sets exist in our tabulations is very low. We feel that the great majority of our evaluations are well-founded and we will draw our conclusions from them

on this basis. To have made our criteria still more rigorous would have resulted in the down-grading of many items which are undoubtedly sound. Nevertheless the possibility exists that several sets of this type are included in the material we have presented and this possibility should be taken into consideration in the evaluation of both our tabulations and our conclusions.

4.1.1. The terms which reconstruct in Proto-Mixtecan permit us to draw certain inferences concerning the way of life of the speakers of this language on a time level of ca. 1000 B. C. or earlier. These inferences are summarized below.

The speakers of Proto-Mixtecan were agriculturists. Maize was almost certainly fully domesticated. Maguey was probably domesticated as well. Squash, chile, the seeds of various plants and the avocado were almost certainly utilized as food plants and the probability that at least the first two were cultivated is high. Other plants probably utilized and perhaps cultivated were the sweet potato and cacao, and possibly a variety of beans. Amaranth may also have been utilized. Fruits utilized seem to have been the zapote or anona, the ciruela (jocote) and berries (perhaps the blackberry). A wild potato may also have been used as a food plant. Tobacco seems to have been utilized and perhaps chicle as well; the palm tree seems also to have been an important wild plant.

The people on this horizon probably lived in permanent or semi-permanent villages. The composition of households is not inferrable but some of the activities of daily life are. Maize was almost certainly prepared as a food by soaking the maize kernels in an ash solution to produce nixtamal. This was probably ground on a metate to produce masa. How the masa was prepared for final consumption is not inferrable but it seems probable that one of the ways of preparing it was to boil it. In this form it may have been flavored with cacao.[24] Tortillas may also have been made from the masa but the case for this is not strong. If they were made it is unlikely that any specialized dish such as the comal was used in cooking them. While the basic way in which maize was consumed was probably in the form of masa prepared in various ways, it also seems likely that green ears of maize were eaten during part of the year. These were perhaps roasted in some fashion. Other foods were probably made with squash, beans, avocados, and perhaps sweet potatoes. Chile and salt were probably used in the flavoring of foods. Some foods, both plant and animal, were probably steamed in earth ovens with heated stones, but whether meat formed a significant part of the diet is not inferrable. It seems likely that deer,[25] birds and other animals were hunted, but aside from the inference that knives of obsidian or flint were probably made, evidence on implements specific to hunting is absent.[26] Fish and perhaps honey may also have formed part of the diet. Pulque, the fermented juice obtained from the heart of the maguey plant, was probably an important drink.

Pottery may have been made and used but the case for this is not strong. If not, palm leaf baskets probably were the principal objects used for

storage. Net-work bags were probably used for carrying small objects and the tump-line for heavier loads. In all probability these people slept on the ground on palm leaf mats (petates) covered by woven blankets or garments. Pine torches probably provided what light was needed after dark. Sandals and woven clothing of some sort were probably worn. The principal fiber used in weaving seems to have been the fiber of the maguey plant. Perhaps its thorns were utilized as needles. There is no evidence for the use of cotton. The maguey fiber was probably spun into a yarn and then woven on a loom. Other garments, decorative items of dress, or perhaps blankets may have been made from fur and/or feathers.

Beyond this very little can be inferred about the way of life of these people. The fact that a term for market place reconstructs on this horizon, as well as on the earlier Proto-Amuzgo-Mixtecan horizon, suggests the possibility that this institution, of such great importance in later times, was already in existence at this time. However, since the term is an isolated one and not part of a complex, the possibility exists that separate but parallel semantic shifts from an earlier term of unknown meaning occurred in post-Proto-Mixtecan times, as was the case with the set for sugar cane, discussed above. It is possible, for example, that the term originally referred to a central, open meeting place in a village, and that it continued to be applied to such an area after it developed into a market place. In such a case, separate, parallel semantic shifts might more easily take place than in the case of the set for sugar cane because there are possible functional reasons which might have favored such parallel shifts.

Few other inferences are possible. A simple form of the vigesimal system may have been used. It is possible that we may have a fragmentary glimpse of the 'world view' of the speakers of Proto-Mixtecan in the term for both world and people which literally means peopled village. We may have an instance here of the ethnographic truism that a people's 'world view' is often centered on and restricted to its own social group, with the members of a society frequently regarding only themselves as 'truly human'. As might be expected, the world of the Proto-Mixtecans also seems to have been populated by deities, perhaps related to natural phenomena,[27] who may have been supplicated by prayers and chants.

4.1.2. A substantial number of our inferences for the Proto-Mixtecan horizon may also be made for the speakers of Proto-Amuzgo-Mixtecan for which horizon we have provisionally suggested a time depth of 1500-2000 B.C. These inferences are summarized below.

The speakers of Proto-Amuzgo-Mixtecan were also agriculturalists and maize was also their principal crop. Maguey or another species of agave was probably domesticated as well. Squash, chili, the seeds of various plants and the avocado were probably other food plants on this horizon. Squash and chile were probably cultivated. Other food plants probably utilized were the sweet potato and cacao, and perhaps a variety of bean.

The people of this horizon probably also lived in permanent or semi-permanent villages.

Some of the activities of daily life are also inferrable on this horizon. Maize was probably prepared as we suggest it was in Proto-Mixtecan times and the resulting masa, perhaps boiled or prepared in various other ways. Cacao may perhaps have been used as a flavoring in maize foods. The bulk of the maize grown was probably consumed in this fashion but, as on the later horizon, green corn may also have been eaten. Other foods were probably prepared with squash, avocados and, possibly, beans and sweet potatoes. Chili was probably used in the flavoring of foods, and perhaps also salt. Certain foods were probably prepared by steaming in earth ovens. Fish may also have been consumed.

Pottery may have been made but the case for this is weaker on this horizon than in Proto-Mixtecan times. Baskets were probably the prinicpal objects used for storage. As on the later horizon, we may reasonably infer that the people of this time level slept on the ground on petates, covered by woven blankets or garments. Pine torches were probably also used for lighting. Sandals and woven clothing of some sort were probably worn. The principal fiber used in weaving was probably the fiber of the maguey plant or some other species of agave. Yarn was spun from this fiber and woven on a loom. Again there is no evidence for the use of cotton. Fur and/or feathers were probably used in the making of other garments, decorative items of dress, or blankets. A simple form of the vigesimal system may have been in use.

Finally, the comments we made on markets and on 'world view' for the Proto-Mixtecan horizon would also apply to the earlier Proto-Amuzgo-Mixtecan horizon.

4.2. Evidence from our reconstructed vocabularies suggests that the speakers of these languages were living in what we now call Mesoamerica on both these horizons. The case for this is stronger on the Proto-Mixtecan than on the Proto-Amuzgo-Mixtecan horizon but is still sufficiently strong on the latter to make such a suggestion reasonable. Our suggestion is based principally on some of the terms for flora which reconstruct on both horizons. On the Proto-Mixtecan horizon the following floral terms are suggestive: avocado, ciruela or jocote, cacao, chicle, chile, maguey, palm tree, pine tree, zapote or anona, and possible sweet potato and wild potato. Three topographic and climatic terms are also suggestive: mountain or hill, plain, and ice or frost. No faunal terms of possible geographic significance reconstruct except perhaps the term for roadrunner.

The terms for avocado, cireula (?), chile, palm tree, zapote or anona, sweet potato (?) and wild potato (?) are all terms for plants of Mesoamerica or South America. Maguey, chicle and cacao, and especially the latter, are more specifically Mesoamerican. Taken together they suggest that the speakers of Proto-Mixtecan were living in what we now call Mesoamerica. The terms for pine tree, ice or frost, mountain or hill and plain further suggest that they may have been living in a highland region of Mesoamerica characterized by such topographic differences that they had access to tropical, semi-tropical and temperate flora — that is to say, a region similar

to the one they now occupy. The term for avocado tends to strengthen this assumption because the Mexican avocado, which may be the basic form of this plant, is normally cultivated at altitudes of between 1500 to 2000 meters (5000-8500 feet) (Sauer, 1950: 528).[28] The set for the word plain may even be interpreted as suggesting that the speakers of Proto-Mixtecan were then occupying part of the same area which Mixtecan peoples occupy today. This is so because it includes a place name which reconstructs in Proto-Mixtecan. In Mixtec this place name is Yosonduchi (yōsō ^{n}dūčī) and this is how it appears on present-day maps, even though it is a Trique town. The Trique term for this town is Dastune ($da^{3}zdu^{3}ne^{3}$) and corresponds in both constituents to the Mixtec place name. The term means plain of the bean and is one of the richest agricultural regions among the Trique today. It reconstructs as *yɔθɔ ʔ $^{n}du^{3}$ $^{n}di^{4}$. The reconstruction of this place name does not necessarily imply of course that it referred to the same place in Proto-Mixtecan times. Nevertheless, the possibility that it might deserves archeological investigation.

Fewer floral terms of possible geographic significance survive on the Proto-Amuzgo-Mixtecan horizon. Those which do are avocado, chile, cacao, maguey (or another species of agave), pine tree and sweet potato (?). Of the topographic or climatic terms only the term plain survives on this horizon. The floral evidence still seems sufficient to suggest that the speakers of Proto-Amuzgo-Mixtecan may already have been in what we now call Mesoamerica ca. 1500-2000 B.C. (?), whether or not they may have been living in a highland area. The evidence for pine tree and perhaps the avocado coupled with tropical and sub-tropical plants may be taken to suggest a highland area but this evidence is weaker than the possible evidence for this on the later horizon.

4.3. Some years ago Kirchhoff proposed that designated portions of Middle America be given recognition as a distinct culture area at the time of the Spanish Conquest (Kirchhoff 1943: 92-107; English translation in Tax, 1952: 17-30). He proposed the term Mesoamerica for this area, and the term has since been widely accepted, though often with modifications and reservations. Kirchhoff used the trait list approach in his paper, listing a number of traits which he believed to be characteristically Mesoamerican, as well as a number of other traits which peoples of Mesoamerica shared with one or another of the aboriginal peoples of North and South America.

Kirchoff's approach was a pioneering one and admittedly limited in many respects. It raises many problems, both substantive and methodological. Nevertheless, it does reflect what seems clearly to be a fact, namely, that Mesoamerican civilization had a distinctive quality of its own. This quality is not only evident on the ideological level in the form of a distinctive 'world view' and associated concepts; it is also manifest in a number of practices and activities, both prosaic and esoteric, which serve to set apart the way of life of many of the peoples in Middle America from that of peoples in other parts of the world.

For this reason the problem of when this distinctive Mesoamerican way of life came into being is of interest. For example, Kirchhoff has stated that "...Mesoamerica is undoubtedly a cultural unit which has had its own history for a long time, common to all its inhabitants, even with respect to those traits which are not basic to it" (Tax, 1952: 28).[29] Our evidence is fragmentary and admittedly provides almost no material for inferences concerning the distinctive aspects of Mesoamerican ideological systems on our two early horizons. Nevertheless, it does contain material which bears on the problem of the antiquity of the Mesoamerican way of life, sufficiently so that we feel warranted in commenting on it here. We have phrased our comments in terms of practices or activities whose existence we have inferred which correspond to certain of the traits distinguished by Kirchhoff.

On the Proto-Mixtecan horizon we infer the following activities and practices which correspond in whole or in part to traits designated by Kirchhoff as characteristically Mesoamerican: (1) the grinding of maize softened with ashes; (2) the utilization and probable cultivation of maguey for its fiber and the making of pulque; (3) the probable utilization but not necessarily the cultivation of cacao; (4) the possible existence of a simple vigesimal system; (5) the possible association of the word for day with the word for name.

The presumed existence of the first three or even the first two of these activities and practices on the Proto-Mixtecan horizon suggests that at this time period (ca. 1000 B.C.)peoples occupying parts of Middle America had become differentiated from their neighbors in ways which were characteristic of Mesoamerican populations at the time of the Spanish Conquest. The evidence for the existence of a simple vigesimal system is suggestive and interesting but is not strong enough to indicate anything by itself. The association of the word for day with the word for name is difficult to interpret. It is perfectly possible that this association developed at a later time in all three of the languages concerned once a calendar system had been established. The fact remains however that this association between day and name seems to have existed on the Proto-Mixtecan horizon and it is therefore possible that a formal calendar of some sort existed in Mesoamerica ca. 1000 B.C.

All five of these activities and practices reconstruct on the Proto-Amuzgo-Mixtecan horizon[30] and we may reasonably infer that at this time period (ca. 1500-2000 B.C.?) at least certain aspects of the characteristically Mesoamerican way of life were in existence or in the process of formation.

The five items listed above are not of course the only Mesoamerican traits which reconstruct on our horizons. They are the only ones which may be regarded as characteristically Mesoamerican but there are many others which were common to Mesoamerica and other areas which reconstruct. Except for the ciruela and zapote or anona all of the following reconstruct on both horizons: (1) the cultivation of maize, beans (?) and squash —also utilized by other cultivators in North and South America; (2) the cultivation

of the sweet potato (?) — also cultivated by South American peoples and peoples of southeastern North America; (3) the cultivation or utilization of chile, avocado, zapote or anona, spondias (ciruela) (?) [and the potato ?] — also utilized by peoples of highland South America; (4) markets (?) — also found in highland South America and the northwestern Amazon region; (5) the use of the earth oven — also utilized by the food gatherers and hunters of North and South America.

The distribution of maize, beans and squash is so widespread as to be non-distinctive for the purposes of the present discussion.[31] Botanical evidence (Sauer, 1950: 511-12) and the distribution of the sweet potato[32] are such that it may be regarded as probable that it reached southeastern North America from South America (or perhaps Mesoamerica). The remainder of the above terms, with the exception of the earth oven, show links only with South America and almost entirly with highland South America, although the avocado does not ever seem to have been a plant of basic importance in South America. This lends support to the view that on our early horizon (ca. 1500-2000 B.C. ?) a common agricultural way of life based on maize, beans and squash but also including chile and perhaps the avocado (and the sweet potato ?) existed from Middle America south to the highlands of South America (cf. Steward, 1947; Willey, 1955, 1960; Willey and McGimsey, 1954; Reichel-Dolmatoff, 1957; Evans and Meggers, 1957; MacNeish, 1958; Coe, 1960). If true our evidence suggests that important differences had already developed in Middle America itself which served to separate its peoples culturally from the peoples of the area or areas to the south with which they may otherwise have been connected.

The term for earth oven deserves special comment. As noted above, the use of this type of oven is a practice which Mesoamerican peoples shared with the food gatherers and hunters of North and South America but which is lacking among the other agricultural peoples of North and South America. Kirchhoff has discussed the problem posed by the distribution of this practice in the New World (Tax 1952: 27-28). Our evidence suggests that it was a practice which was ancient in Middle America and which persisted after the development or introduction of agriculture in contrast to the situation in South America where agricultural populations evidently abandoned it after agriculture became established.

4.4. Our data suggest that peoples practicing a sedentary agricultural way of life, which was already characteristically Mesoamerican in a number of respects, lived in Mexico ca. 1500-2000 B.C., perhaps in a highland area. There is nothing in this suggestion which is particularly surprising in terms of present archeological interpretations of the beginnings of an agricultural way of life in Middle or South America (see Willey, 1960, for a recent synthesis). Nevertheless, it is interesting that paleo-linguistic evidence both supports and supplements the archeological record in a number of respects.

In addition, the linguistic evidence we have examined provides us with important leads which may be exploited by future archeological and linguistic

studies.

For example, the evidence for the existence of markets on both horizons is of great interest. In view of the special integrative potentialities of the market in Pre-Conquest Mesoamerica, the problem of when the market as an institution came into being is of paramount importance. The possibility exists that an intimate connection between temple and market place provided one of the integrative bases for the rise of civilization in Mesoamerica (cf. Steward, 1955: 61-65, 69-70; Wolf, 1959: 17-18; 81-83). The appearance of temples can be determined archeologically, but the identification of market places is a much more difficult matter. Paleo-linguistic evidence is particularly valuable in problems such as these, which do not yield readily to archeological analyses. Unfortunately, as we have seen, the evidence we now have in Proto-Mixtecan and Proto-Amuzgo-Mixtecan is no more than suggestive.

However, further studies designed to clarify this particular problem might well be productive. Two avenues of approach might be particularly fruitful. One would be to determine whether or not a complex of terms relating to the market and market activities can be reconstructed in one or more of the language families of Mesoamerica. Another approach would be to determine in how many of the language families of Mesoamerica a single term such as market place reconstructs. This approach has been used with terms for cacao in the languages of Oaxaca (Millon, in press). The two approaches supplement each other, of course, and if carefully employed might contribute to the solution of the problem of the time-depth of the market as an institution in Mesoamerica. In view of the importance of the problem, the effort seems justified.

Also of interest in this connection is the apparent strength of the reconstruction for cacao on both horizons. Cacao was one of the most important cultivated plants in Mesoamerica at the time of the Conquest because of its special role as a luxury, and its peculiar role in exchange played an important but still incompletely defined role in the development of civilization in Middle America. But until now no one has suggested that it might have been a plant of cultural importance in the area as long ago as 4000 years. That this reconstruction may well be sound, however, is suggested by the fact that terms for cacao also reconstruct in Proto-Zapotec, Proto-Chinantec, Proto-Popoloca and Proto-Mazatec (Millon, in press). None of these horizons appears to approach the antiquity of our horizons. But the presence of reconstructed terms for the plant in all four of them lends credence to our reconstruction.

In sum, we feel that our inferences from paleo-linguistic evidence have resulted in a modest enlargement of our understanding of the early periods of Mesoamerican prehistory. This supports the view that linguistic data when cautiously employed can both supplement the archeological record and provide leads for future archeological research.

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NOTES

1. This paper was originally written in 1956-7 for delivery at the Semana Lingüística held at the Academia Mexicana de la Historia in Mexico City in June, 1957. While the text published here contains a number of revisions and additional citations, the format and the bulk of the text are presented as read in 1957. If we were to embark on this project today, the result would be a quite different paper. In spite of this, we feel that our original approach is of sufficient interest to warrant its belated publication at this time. While the paper was being written, Millon received financial support from the Henry and Grace Doherty Foundation and from the National Science Foundation. This support is gratefully acknowledged.

2. R. E. Longacre, 1957. By the term Proto-Amuzgo-Mixtecan is meant a grouping consisting of Mixtec, Cuicatec, Trique, and Amuzgo. This group has been referred to by Longacre previously as 'Macro-Mixtecan' but in view of Swadesh's recent use of the latter term for a grouping including most of what has been called 'Oto-Manguean' we have dropped the former usage of 'Macro-Mixtecan' in favor of the more unambiguous term here employed.

3. Swadesh, 1960.

4. Longacre, 1961.

5. Arana, 1957.

6. Longacre, 1961, pp. 19-21.

7. Sarah Gudschinsky, Proto-Popotecan, IUPAL 15 (1958).

8. The revised figures for minimal centuries of separation given in Swadesh's article of 1960 do not materially differ from those given here. Thus on page 86b of his recent article he gives under 'Arana II' 26 minimal centuries for Mixtec-Cuicatec, 35 minimal centuries for Mixtec-Trique, and 41 minimal centuries for Cuicatec-Trique.

9. In Swadesh's recent article he has attempted to dispose of these Proto-Mixtecan consonantal alternations as chimerical. In pages 14-17 of Longacre's rebuttal to Swadesh's article he summarizes again the evidence for positing such alternations, although the evidence is implicit in his Proto-Mixtecan study of 1957.

10. A few phonemes originally posited by Longacre for Proto-Mixtecan need no longer be reconstructed in that they may now be explained as allophones of other reconstructed phonemes. He is now ready to retract *ɔ but wantsto discuss this matter more fully in an article devoted to that purpose. However, the explanation offered by Swadesh in his recent article (p. 104) is not adequate to explain away *ɔ. Longacre's elimination of this phoneme will proceed on lines quite different from those suggested by Swadesh. Meanwhile, pending the appearance of this projected article, we retain *ɔ in the present paper. On the basis of the joint paper of Mak and Longacre (1960) *ñ is also eliminated from the inventory of Proto-Mixtecan phonemes. Longacre has considered combining *y and *l with elimination of the latter but is not yet fully prepared to do so.

11. On the basis of the Mak-Longacre article (1960) the cluster *tn is also eliminated from the inventory of Proto-Mixtecan.

12. This term has been included because of its possible significance in connection with the maize complex. Cuicatec, Trique, and Amuzgo use it as a root in the formation of the word meaning nixtamal, the term applied to maize kernels after they have been softened in ash or lime water preparatory to grinding them on the metate. This process was one of the characteristics of Mesoamerican culture at the time of the Conquest. No term for lime reconstructs although there is one set in the Proto-Mixtecan monograph, 119, in which the term quicklime appears in several languages. The proto-meaning of this term, however, seems to have been burn.

13. See set for bean in section above in which the problem concerning the proto-meaning of this term is discussed.

14. Whether or not this term referred to a species of blackberry is difficult to say. A number of species of blackberry are native to the New World and it is possible that this term refers to a wild variety. No species of the plant are known to have been cultivated in Mesoamerica in pre-hispanic times.

15. The present Mixtec term from this set is applied to the plum. The Trique term is applied to the peach. Neither of these is native to the New World. What seems most likely is that the term originally referred to the ciruela or jocote which belongs to the genus spondias and is not related to the several varieties of the plum (prunus).

This set may now be rated as strong rather than merely solid or plausible in that the apparently aberrant Cuicatec form (meaning fruit/peach) can now be fitted in quite well pursuant to our present better understanding of the vowel phenonemon formerly symbolized as PMx *ɔ. The apparent irregularity of the Cuicatec reflex now appears as simply 'distinctive phonology' which strengthens the set. (This set will be discussed in Longacre's projected revision of PMx vocalism; cf. footnote 10.)

16. The reconstruction of this term depends on material not in the Proto-Mixtecan monograph, used in conjunction with the set for knife [55].

17. The case for the reconstruction of a word for potato in Proto-Mixtecan is reasonably strong. No cultivated species of potato is known to have existed in pre-Conquest times in Mesoamerica and North America. However, approximately 30 wild species of potato grow in Mexico and Guatemala today and at least one of these is found as far north as Arizona. In addition there is a cultivated variety, little removed from the wild state, grown on a large scale in the Cuchumatanes mountains of Guatemala which appears to be a pre-hispanic plant (Solanum andigenum f. guatemalense) (McBryde, 1947: 139-40). It seems likely therefore that this term referred to a wild variety of the potato, although it is of course possible that it originally referred to quite another tuber (Dressler, 1953:147).

18. See the set on sweet potato in section above for discussion of the semantic problem involved here.

19. This is a reconstruction based only on Cuicatec and Trique cognates. However, the case for it is strengthened by the presence of a set for past year [12] (not included here) in which the Mixtec term for past year (or year past) contains an abbreviated form of Mixtec $k^{w}\bar{i}\grave{a}$ year. This suggests that the present Mixtec term for year is rather old and lessens the possibility that the Cuicatec andTrique terms were borrowed from some lost Mixtec cognate.

20. Or another species of agave.

21. Or the fiber from another species of agave.

22. The case for this term is strengthened by the set for WORLD/PEOPLE which means literally peopled village.

23. Since we wrote this article, K. L. Pike has pointed out that M-SM ndōò means maize stalk as well as sugar cane.

24. After the preparation of this paper it was discovered that a term for tamale reconstructs in Proto-Mixtecan. It is a set with only Mixtec and

Trique cognates but is linguistically evaluated as solid because of the distinctive phohological changes which the terms exhibit.

25. There are certain restrictions today among the Trique surrounding the use of deer meat. Deer meat may not be put on the comal. The water used in cooking deer meat or in washing the dishes on which it was eaten must not come into contact with the comal. If these proscriptions are not observed it is believed than no deer will be killed on the next hunting trip.

26. Terms meaning arrow or dart exist in Mixtec and Cuicatec [154] but the proto-meaning of this root may have been to jump.

27. See Monzón (1945:3-9) for a description of the Trique pantheon of Copala in the late 19th century. His text includes terms for gods of earth, fire, moon, sun, water, wind, frost, death, and hell. The Trique today still have terms for gods of the sun and moon and rain. The god Rain or Rain/Thunder is still an important agricultural deity among these people. They also preserve a legend of a pilgrimage to the plain of Puebla (presumably Cholula) to the shrine of the Wind god (probably the temple of Quetzalcoatl). The Mixtec of Ocotepec use the pronoun for deity when referring to the fall of rain. The Mixtec of Metlatonoc make offerings to the Rain god on the fiesta of St. Mark (in the spring).

The failure of the terms for sun and moon to reconstruct is curious. Trique associates the word for sun with the word for day (see set for DAY above) while the Cuicatec term for sun is derived from another root, the root for fire [172]. The Mixtec term for sun is of obscure origin. A Mixtec-Cuicatec set containing terms for moon and month [250] reconstructs but the proto-meaning of this term was not necessarily moon.

The snake should perhaps be mentioned in connection with the terms listed above since the Trique and Mixtec preserve legends of the ubiquitous Mesoamerican feathered serpent. The feathered serpent is also regarded by these people to be a living animal today, possessing the power to produce drought if offended. Its feathers are believed to be extraordinarily valuable and would enrich anyone who found one.

28. The term for cacao need not necessarily suggest a lowland habitat for the speakers of Proto-Mixtecan even if it be assumed that they utilized or cultivated cacao themselves rather than obtaining it in trade. Cacao was successfully cultivated at Huaxtepec in the state of Morelos only 40 air miles from Tenochtitlan in the Valley of Mexico in aboriginal times (Millon, 1955: 60-2). The altitude of Huaxtepec is 1350 meters (4400 feet) above sea level. While this is an exceptionally high altitude for the cultivation of cacao, there are many other instances in the historical record of its cultivation at altitudes considerably above sea level.

29. While our evidence, discussed below, lends support to Kirchhoff's

estimate of the cultural antiquity of Mesoamerica, it lends little support to his view that speakers of Macro-Otomanguean languages do not have a long history in Mesoamerica (Tax, 1952: 21). Our evidence suggests rather that the speakers of Proto-Amuzgo-Mixtecan and Proto-Mixtecan participated in the formation of this distinctively Mesoamerican way of life, probably during the second millennium B. C.

30. The term for pulque does not reconstruct in Proto-Amuzgo-Mixtecan.

31. The same is true of the term for sandal (not listed above).

32. The case for the existence of the sweet potato in Mesoamerica on this horizon (and also on the Proto-Amuzgo-Mixtecan horizon) is not strong because of the possibility that the term referred to another tuberous root (see set for SWEET POTATO above).