

The internal structure of Tepehua¹ verbs includes a complicated system of

1. Tepehua is a dialect of Totonac spoken in the states of Veracruz and Hidalgo of the Republic of Mexico. Data were gathered on field trips to the village of Huehuetla, Hidalgo under the auspices of the Summer Institute of Linguistics. Chief informants were Cristina Rios (age 14) and Antonia Refugio de Huerta (ca. age 21). I am greatly indebted to my field partner among the Tepehuas, Bethel Bower, whose unpublished analyses have contributed much to this paper. I am also indebted to SIL consultants Barbara Erickson Hollenbach (for insights into the basic structure of the Tepehua verb) and Ruth Brend (for many helpful suggestions in this presentation).

affixes, only some of which can easily be isolated by traditional linear morphemic analysis. Affixes marking person, number, and tense must be isolated by some other method. The purpose of this paper is to describe these affixes in transitive and intransitive finite verbs by means of a field approach.

1. Verb Structure. A Tepehua verb is composed of a stem with obligatory and optional affixes. It is the head of a verb construction, and is simple, complex, or compound.

A simple verb stem is:

(1) Intransitive, consisting of an intransitive root, an intransitive root with one or more affixes (referent, instrumental, customary, goal), or a transitive root with intransitivizer and customary aspect² (with or without

2. Intransitivizer never occurs on finite stems without an accompanying customary aspect. Elsewhere the customary aspect only occurs on stems consisting entirely of an intransitive root.

(referent, instrumental, or goal). t'asa 'cry' ict'asai³ 'I cry';

3. The Tepehua orthography used herein parallels Spanish orthography wherever possible. Thus c and qu symbolize /k/, x /š/, j /h/, etc. Non-Spanish phonemes are lh /ɬ/ and k /k/. Length is indicated by a line above the lengthened vowel and glottal stop or glottalization by '.

lhī (ref) + ts'ī'in 'laugh' → iclhīts'ī'in 'I laugh at him'; pū (instr) + tak'aya 'grow' → pūtak'ayai 'it (food) makes him grow'; squitī 'grind' + nī (goal) → icsquitīnī 'I grind for her'; a (intr) + mispā 'know' + nan (customary) → amispānan 'he knows'.

(2) transitive, consisting of (a) a transitive root, a transitive root with one or more affixes (referent, instrumental, goal), or an intransitive root with a causative affix. mispā 'know' → icmispāī 'I know him'; pū 'instrumental' + lhī (ref) + mispā 'know' → pūlhīmispāī 'by this means he knows him as...'; nāvī 'make' + nī (goal) → nāvīnī 'he makes it for someone else'; mā (caus) + muxtu 'flow away' → māmuxtuī 'he makes it flow away'.

(3) various types of polytransitive, consisting of a transitive root with causative and goal or an intransitive root with a reduplicated causative and a goal affix. mā (caus) + mispā 'know' + nī (goal) → māmispānī 'he introduces him to...'; mā (caus) + muxtu 'flow away' + nī (goal) → māmāmuxtunī 'he makes him make it flow away'.

A complex verb stem is one of two types: noun + verb, or verb + verb. A verb stem made up of a noun + verb is constituted of a body-part noun and verb in which (a) the noun is the goal of the action of the verb, (b) the noun is the agent, (c) the noun modifies the action of the verb, or (d) the verb describes the state of being of the noun. mac 'hand' + sā 'hit' → acmacsāya 'I will hit his hand'; mac 'hand' + toc'ā 'put on top of' + nī (goal) → acmactoc'āniya 'I will hit him with my hand'; lacxtan 'cheek' + 'an 'go' → talacxtan'an 'they go with their cheeks together'; pā 'stomach' + xca 'hurt' → icpāxcai 'my stomach hurts'.

A complex verb + verb stem structure is made up of two stems in sequence in an activity-orientation relationship in which the activity describes the action of the orientation. The activity tagmeme is manifested by a limited set of verb stems of either transitive or intransitive roots. The orientation tagmeme is manifested by a small set of stems indicating position, direction, or quasi-aspect. sac 'pick' + 'an 'go' → icsac'an 'I go picking'; 'ats'ālā 'run' + t'ajun 'to be alive' → ic'ats'ālāt'ajun 'I'm continually running'.

A compound stem consists of two coordinate verb roots which agree in transitivity. lhtata 'sleep' + cuj 'wake up' → iclhtatacuj 'I take a nap'; chakx 'chop' + 'ula 'place' → icchakx'ulai 'I stack chopped wood'.

A Tepehua verb is finite or participial. Verbal affixes include: (1) peripheral affixes such as t'ā (accompaniment), putun (desiderative), and choko (repetitive), and (2) a special system of affixes marking person, tense, and number. Peripheral affixes are beyond the scope of this paper.

2. Person-tense-number. Person-tense-number inflection can best be described in terms of three system of affixes. Each system shows intricate restrictions of occurrence between prefixes and suffixes. System One marks person and number of subject and tense; System Two further marks person and number of subject and of goal; System Three marks person and number of goal only.

2.1 System One inflection is handled conveniently by a field approach in which the conflation of prefix and suffix formatives,⁴ rather than each

4. See Kenneth L. Pike, "Theoretical Implications of Matrix Permutation in Fore (New Guinea)", *Anthropological Linguistics*, 5,8.1-23 (November, 1963), and Kenneth L. Pike and Barbara Erickson, "Conflated Field Structures in Potawatomi and in Arabic", *IJAL*, 30.201-212 (July 1964).

individual formative, signals the relevant information. Person and number of subject and tense are signalled primarily by the interplay of four sets of prefix formatives and four sets of suffix formatives. System One prefix sets are shown in matrix 1. Note that in matrix 1, no prefix by itself is unambiguous as to subject and only xa- marks tense unambiguously.⁵

5. However, see the morphophonemic rules in 2.2 for the environment in which xa- is ambiguous as to tense.

	1 (conditional) (future)	2 (past perfect) (imperfect) (contr-fact)	3 (past contin.)	4 (preterite) (present) (perfect)
A 1s lex	ac	xac		ic
B 1in 3s 3p 2s 2p	ca	ix	xa	∅
	a			

Matrix 1: System One prefixes

	1 (conditional) (contr-fact) (preterite)	2 (past perfect) (perfect)	3 (future)7	4 (past contin.) (present) (imperfect)
A 2s 3p 3s 1s	t'i	ta	ya'	ī
	lh			
B lex 1in 2p	∅	tā	yā	
			yā'i	

Matrix 2: Intransitive System One suffixes

	1-1 cond	1-3 fut	2-1 C-F	4-1 pret	2-4 impf	3-4 p.con	2-2 p.perf	4-2 perf	4-4 pres
A-A 1s	ac-lh	ac-ya'	xac-lh	ic-lh	xac-ī		xac-ta	ic-ta	ic-ī
A-B lex	ac-∅	ac-yē	xac-∅	ic-∅	xac-yē		xac-tē	ic-tā	ic-yā
B-B 1in 2p	ca-∅	ca-yā	ix-∅	∅-∅	ix-yā	xa-yā	ix-tā	∅-tā	∅-yā
	a-∅	a-ya'i							
B-A 2s 3s 3p	a-t'i	a-ya'	ix-t'ī	∅-t'ī	ix-ī	xa-ī	ix-ta	∅-ta	∅-ī
	ca-lh	ca-ya'	ix-lh	∅-lh					

Matrix 3. System One prefixes and suffixes

Matrix 2 shows System One suffix sets⁶ as they occur in the intransitive

6. In general, person-tense formatives have allomorphs whose distribution is based on whether the preceding segment is a consonant or a vowel. For greater clarity in presentation, only the allomorphs which follow a vowel are presented in the body of this paper. The allos which occur following a vowel, or consonant, respectively are $\bar{i} \sim \emptyset$, $y\bar{a} \sim \bar{a}$, $ya' \sim a'$, $y\bar{a}'\bar{i} \sim \bar{a}'\bar{i}$, and $lh \sim lhi$.

In set {4}, when /i/ is preceded by /i/ or /ī/, a portmanteau /ī/ simultaneously marks the two slots. Stem alternates occurring with suffix {1} are not discussed here. Exceptions to the above pattern are found only in suffix set {1} and are as follows:

- (a) Following a short vocoid. The second singular formative is \emptyset .
- (b) Second singular is n following $n\bar{i}$ (goal).
- (c) With certain consonant-ending intransitive verbs which otherwise always occur with the customary aspect marker, second singular is marked by \emptyset and the customary aspect marker is dropped; e.g., $pix\bar{i}y\bar{a}lh$ 'walk around' + nan (customary) → $pix\bar{i}y\bar{a}lhnan$ 'he goes walking around'; but $j\bar{a}$ (interrog) + $qu\bar{i}$ 'go and return' → $j\bar{a}q'u\bar{i}p'ix\bar{i}y\bar{a}lh$ 'did you go walking and return'.
- (d) Following certain peripheral suffixes and certain stems ending in vowels, lh is replaced by \emptyset .

Among the forms listed in Matrix 2, certain distributional limitations exist: $t'\bar{i}$ occurs only in the presence of System Two glottalization of consonants (see below), lh never does; plural non-third forms are always word non-final, singular forms and third plural forms are always word final.

From matrix 2 it can be seen that, in general, within each suffix set, all singular person and the third plural suffixes have one phonetic form and the first plural, exclusive and inclusive, and second plural suffixes have another form. Exceptions are $t'\bar{i}$ (second singular) in set {1} and $y\bar{a}'\bar{i}$ (second plural) in set {3}. Whereas a traditional morphological analysis fails to give an unambiguous semantic referent for any one prefix or suffix except for $y\bar{a}'\bar{i}$ (second plural future), conflation of the person of subject and tense prefixes and suffixes in a field approach does reveal the meanings. Matrix 3 presents a conflation of the prefix and suffix matrices.

The intersection of prefix and suffix, as shown in Matrix 3, gives tense meaning; e.g. prefix set {1} intersecting with suffix set {3} marks future tense.

Matrix 4 presents the same information as Matrix 3, but more clearly indicates how the intersection of prefix and suffix sets with results in tense meanings; e.g. ac of prefix set {1} intersecting with ya' of suffix set {3} signals first singular person and future tense.

2.2. System Two inflection marks person and number of subject and of goal. It consists of a set of prefixes, a set of suffixes, and glottal modification of certain consonants.

System two prefixes are presented in Matrix 5: la denotes that agent and goal are both non-third person, with either or both being plural;⁸ ta is

7. When occurring with a peripheral₅ morpheme marking spatial removal, suffix set {3} has the following membership: \emptyset (1s, 3s, 3p) and (future), and ta (2s, 2p, 1in, 1ex) and (future).

	Suffix 1	Suffix 2	Suffix 3	Suffix 4
Prefix 1	Conditional	-----	Future	-----
Prefix 2	Contr-fact	Past perfect	-----	Imperfect
Prefix 3	-----	-----	-----	Past contin.
Prefix 4	Preterite	Perfect	-----	Present

Matrix 4. System One denotation of tense

	3p	3s	1s	2s	2p	lex	lin
3p	ta						
3s	a	∅			la		
1s		∅					
2s	∅			la			
2p	∅						
lex	∅			la			
lin	∅						

Matrix 5. System Two prefixes

	3p	3s	1s	2s	2p	lex	lin
3p	∅			n			
3s	∅			n			
1s	∅			n			
2s	∅			n			
2p	t'it			n			
lex	∅			ū			
lin	∅						

Matrix 6. System Two suffixes

8. Reflexive forms are not part of the system being presented in this paper. In order to simplify the 'reading' of the matrices here presented for systems two and three, however, the reflexive 'areas' of the matrices are not blocked out. The statements necessary to block out these areas are assumed. In matrices 5-9, person of subject is marked in the vertical axis, person of goal in the horizontal.

disjunctively defined as denoting a third plural subject, or a third singular subject with plural non-third person goal; and a denotes a third plural goal except when the agent is third plural.

System two suffixes are presented in Matrix 6: t'it denotes a second plural subject and third person goal; otherwise, n denotes a plural non-third person goal with third person subject, or second singular goal with singular or third plural subject; otherwise, ū denotes plural non-third agent or goal, or both.⁹

9. ū, which only follows a vowel, alternates with uī following a consonant.

System Two glottal modification is presented in Matrix 7. Glottal modification consists in all stops in the verb being glottalized and any glottal fricative becoming a glottal stop. It denotes second person subject and third person goal, or second singular subject and first singular goal. (Another way of stating the meanings of glottal modification might be that it denotes second person subject except when goal is first person and there are more than three individuals referred to--that is, either agent or goal is plural.)

2.3. System Three inflection is only marginally different from System Two in that it marks goal only, regardless of person and number of subject. It consists of a single prefix quī which denotes first person goal, as indicated in Matrix 8.¹⁰

10. quī occurs before glottal stop and continuants; it alternates with quīm and quīn, which occur before labial and alveolar consonants, respectively. Some speakers prefer quīn before glottal.

2,4. Conflation of the three inflection systems described above results in the denotation of person and number categories of subject and of goal as indicated in Matrix 9 (with reflexive areas blocked out).¹¹

11. Further morphophonemic alternations are as follows:

- (1) ca becomes a when followed by quī, or in the presence of glottalization of consonants. ca'ulāniya' 'he will forget him,' aquī'ulāniya' 'he will forget me', a'ulānit'ī 'you would forget him'.
 - (2) ix becomes xa when followed by quī. ix'ulānilh 'he would have forgotten him', xaquī'ulānilh 'he would have forgotten me'.
-

It is apparent from Matrix 9 that, when all three inflectional systems are considered together, certain person and number categories of person and number of subject and of goal remain ambiguously marked in the verb. Plurality of person is ambiguous in three places: with first person subject and second person goal, with second person subject and first person goal, and with third person subject and second person goal. In these combinations, the verb is not marked to distinguish whether it is subject or whether it is goal that is plural, or whether both are plural. The distinction between inclusive and exclusive first person plural is seen not to be marked in the verb in respect

	3p	3s	1s	2s	2p	lex	lin
3p							
3s							
1s							
2s							
2p							
lex							
lin							

Matrix 7. System Two second person

	3p	3s	2p	2s	1s	lex	lin
3p							
3s							
2p							
2s							
1s							
lex							
lin							

Matrix 8. System Three prefix

	1s	lex	lin	2s	2p	3s	3p
1s				n			a
lex				A-B	lā - ū	A-A	A-A
lin				A-B		ū	a - ū
2s	quī - ?					ū	a - ū
2p	B-A					?	a - ?
3s	quī					? - t'it	a - ? - t'it
3p	B-A					B-B	B-B
lex							
lin							
2s	quī - ta			n			a
2p	B-A			B-B	ta - n	B-A	B-A
3s	quī - ta	quī - ta - n					ta
3p	B-A	B-B		B-B		B-A	

Matrix 9. Person and number of agent and goal

to person of goal. Finally, the singular-plural contrast is not marked in two places: subject person is ambiguous as to number with a plural first person goal, and third person goal is ambiguous as to number with a third person plural subject. All other combinations of person and number categories are explicitly marked by the interplay of the three inflectional systems.

3. The following formula indicates where the person, number, and tense systems occur within the verb in relation to the verb stem and the peripheral affixes mentioned in §1 above. p_1 - p_3 indicate the prefixes of the three systems, s_1 s_6 indicate the peripheral affixes.

$$p_1m_1p_3m_2p_2m_3\text{-stem-}m_4s_1m_5s_2m_6$$

The intransitive verb differs from the transitive, as far as the formula is concerned, in the non-occurrence of p_3 , the restriction of p_2 to ta, the restriction of s_2 to \bar{u} and t'it. and restriction of membership of m_3 .