

Inflectional Change in Copala Triqui*

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1 Introduction

- Copala Triqui (TRC) is an Otomanguean language of the Mixtecan branch, originally spoken only in San Juan Copala and nearby towns in western Oaxaca, Mexico. There are around 30,000 speakers.¹
- While Copala Triqui is still spoken in San Juan Copala, there are also large diaspora communities of Copala Triqui people in other parts of Mexico (Oaxaca City, Sonora, and Baja California) and in the United States (Greenfield, CA and Albany, NY, where our research is based).
- There is extensive documentation of Copala Triqui phonology (Hollenbach, 1977, 1984a, 1985), morphosyntax (Hollenbach, 1984b, 1976, 1992, 1997), and the lexicon (Hollenbach, 2005, 2015). Hollenbach's documentation was begun in the 1960s in Oaxaca with primarily monolingual populations.
- There is little documentation of younger speakers, who are primarily bilingual and often living in diaspora communities. Here we will present the results of an initial study into the inflectional system of a 27 year old living in the Albany area.

2 Basics of Copala Triqui tonal phonology

- Copala Triqui has eight phonemic tones. Five are level (5, 4, 3, 2, 1) and three are contour tones (32, 31, 13).²
- For the majority of words in the language, tone is distinctive only on the final syllable, and the tone on non-final syllables is predictable, according to the following rules (Hollenbach, 1984a):
 - If the tone of the final syllable is 5, 4, 3, 32, 31, then the tone of non-final syllables is 3.
 - If the tone of the final syllable is 1, 2, 13, then the tone of the non-final syllables is 2.
- This rule of default tone, as well as several other rules of Copala Triqui phonology, show that the tones fall into two registers: i) an upper register, composed of tones 5, 4, 3, 32, and 31 and ii) a lower register, composed of tones 1, 2, and 13. All verbs in Copala Triqui have one of the upper register tones in their underlying form.

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¹Figures are from Ethnologue (Lewis et al. 2016).

²The segmental orthography used in this paper is based on the practical orthography developed by Barbara and Bruce Hollenbach of the Summer Institute of Linguistics for their translation of the New Testament. We follow their representation of the consonants, including the following conventions: <x> = [ʃ], <xr> = [ʂ] (a retroflex alveopalatal sibilant), <ch> = [tʃ], <chr> = [tʃʂ], <c> = [k] (before front vowels), <qu> = [k] before back vowels, ' = [ʔ], [v] = [β], and <j> = [h]. <Vn> represents a nasalized vowel. 5 is the highest tone, and 1 is the lowest tone, following the same convention as that used by Hollenbach.

3 Inflection in conservative Copala Triqui

- Verbal aspect is the only inflectional category in Copala Triqui. The system as documented by Hollenbach (1984) works as follows:
 - **Stable verbs:** A small number of frequent verbs either show no aspectual inflection at all or have suppletive aspectual inflection.³
 - **Strong verbs:** About half of the verbs inflect via only change of tone register. These verbs show a two-way aspect distinction between potential aspect (used for future and irrealis) and a non-potential aspect (which can be interpreted as perfective, habitual, or progressive).
 - **Weak verbs:** The remaining verbs inflect by a combination of tone register change plus a /k(V)-/ prefix. These verbs show a three-way aspectual distinction between completive, continuative, and potential aspects.

3.1 Tonal paradigms and strong verbs

- As mentioned above, Copala Triqui has five upper register tones and three lower register tones. All verbs have two tonal forms:
 1. An **upper form** with an upper register tone (3, 4, 5, 31, 32)
 2. A **lower form** with a lower register tone (1, 2, 13).
- The general association between aspect and register is as follows
 - Verbs in aspects other than potential use their upper form.
 - Verbs in potential aspect use their lower form.
- Thus, for the great majority of verbs in Copala Triqui (all but a few stable verbs), a speaker must know the upper and lower forms of each verb. The tone paradigm is not fully predictable from either the tone of the upper form or the segmental phonology of the verb.

3.2 Final tone paradigms

- The chart in (1) shows eight final tone paradigms. By final tone paradigms, we mean verbs where the lower form is distinguished by a lower register tone on the final syllable.

(1) Tonal paradigms

	Group 1	Group 2	Group 3a	Group 3b	Group 4a	Group 4b	Group 5a	Group 5b
Upper register	31	32	3	3	4	4	5	5
Lower register	1	2	1	13	1	2	1	2

- Consider the verb cha⁴ ‘eat’ in (2), which is a type 4b verb, meaning it has a 4 tone in its upper form (continuative/completive) and 2 tone in its lower form (potential).

- (2) a. Cha⁴ Juan⁴
eat.NONPOT Juan
‘Juan is eating/ate.’ CONTINUATIVE/COMPLETIVE
- b. Cha² Juan⁴
eat.POT Juan
‘Juan will eat.’ POTENTIAL

³These include the copula, a few positive and negative existential verbs, and a handful of ‘equative’ predicates like ‘be named’.

- As shown in (3), the verb *ticavi*³ ‘kill’ belongs to group 3b, and has a 3 tone in the final syllable of its upper form (continuative/completive) and a 13 tone in the final syllable of its lower form (potential).

(3)	<p>a. <i>Ticavi</i>³ <i>Maria</i>⁴ <i>man</i>³ <i>racuun</i>³. kill.NONPOT Maria ACC roach 'Maria killed/is killing the roach.'</p>	CONTINUATIVE/COMPLETIVE
	<p>b. <i>Ticavi</i>¹³ <i>Maria</i>⁴ <i>man</i>³ <i>racuun</i>³. kill.POT Maria ACC roach 'Maria will kill the roach.'</p>	POTENTIAL

- Note that both *cha*⁴ ‘eat’ and *ticavi*³ ‘kill’ belong to the group of strong verbs, because they only inflect via tone.
- Many of the most frequent verbs in Copala Triqui are strong verbs, including many monomorphemic verbs (4), many repetitive forms (*n(a)*- prefix) (5), and most causative forms (*tV*- prefix) (6):

(4)	<p>a. UPPER: <i>cha</i>⁴/ LOWER: <i>cha</i>² ‘eat’ b. UPPER: <i>xcaj</i>³²/ LOWER: <i>xcaj</i>² ‘take, get’</p>
(5)	<p>a. UPPER: <i>nata</i>³/ LOWER: <i>nata</i>¹(a) ‘tell, explain’ (b) ‘be on top of’⁴ b. UPPER: <i>nago</i>³/ LOWER: <i>nago</i>¹ ‘pay’</p>
(6)	<p>a. UPPER: <i>ticavi</i>³/ LOWER: <i>ticavi</i>¹³ ‘kill’ b. UPPER: <i>tucutaj</i>⁵/ LOWER: <i>tu</i>²<i>cutaj</i>⁵ ‘wrap’</p>

3.3 Non-final tone paradigms

- In addition to the eight final tone paradigms, there are also three paradigms where there are changes to non-final tones, which are summarized below:⁵
 1. Group 2i, in which the 2 tone docks onto a non-final syllable in the lower form⁶
 - UPPER: *racuij*⁵/LOWER: *ra*²*cuij*⁵ ‘help’
 2. Group 3i, in which an irregular 3 tone in the upper form changes to a 2 in the lower form.
 - UPPER: *nu*³*cuaj*²/LOWER: *nu*²*cuaj*² ‘drag’
 3. Group 5i, in which an irregular 5 tone in the upper form changes to a 2 in the lower form.
 - UPPER: *ra*⁵*suun*³²/LOWER: *ra*²*suun*³² ‘use’
- Group 2i is by far the largest of these three non-final tone paradigms, since most causative verbs are 2i verbs.⁷

3.4 Weak verbs

- The remainder of the verbs in the language have a three-way aspectual distinction built on both tonal and segmental morphology, as shown in (7).

(7) Weak verb aspectual paradigm

⁴Hollenbach (2015) treats *nata*³ as two homophonous verbs. The sense ‘tell, explain’ appears to be bi-morphemic, composed of the repetitive prefix *na-* and the verb *uta*³ ‘be stuck to’.

⁵Most verbs in the non-final tone paradigms are probably derived diachronically from verbal compounds. Thus, for example, *ra*⁵*suun*³² comes from an older *ra*⁵ *suun*³², where *ra*⁵ is the verbal portion. The tone change on the first syllable thus shows the former inflection of the verbal head.

⁶It is correct to say nonfinal, rather than penult, because for trisyllabic verbs with this pattern, the potential 2 tone docks onto the initial syllable. We also want to say non-final, rather than initial, since there are a few four syllable verbs where the low tone of the potential affects the second syllable.

⁷However, not all causatives belong to group 2i. *Ticavi*³ ‘kill’ is a causative of *avi*³ ‘die’, but it is a normal 3b verb

- a. COMPLETIVE: k(V)-verb^{upper}
 - b. CONTINUATIVE: verb^{upper}
 - c. POTENTIAL: k(V)-verb^{lower}
- Weak verbs take a prefix that usually surfaces as /ki-/ , /ku-/ , or /ka-/. One verb and its compounds (ne'en 'see') uses the /ke-/ form, and one verb and its compounds ('o 'hit') uses the /ko-/ form.
 - The allomorph /k-/ surfaces before vowel-initial roots, which is realized as [g] before monosyllabic roots and [k] before polysyllabic roots
 - The /ka-/ , /ki-/ , /ku-/ , /ke-/ , and /ko-/ forms of the prefix attach to consonant-initial verbs. The vowel is not (synchronically) predictable.
 - Below we give a few examples of different types of weak verbs.

(8) **Group 5b-KI**

- a. Naj⁵ Juan⁴
stay.CONT Juan
'Juan stays.' CONTINUATIVE
- b. Qui-naj⁵ Juan⁴
COM-stay Juan
'Juan stayed.' COMPLETIVE
- c. Qui-naj⁵ Juan⁴
POT-stay Juan
'Juan will stay.' POTENTIAL

(9) **Group 3b-K**

- a. Araa³ Juan⁴
fill.CONT Juan
'Juan fills.' CONTINUATIVE
- b. C-araa³ Juan⁴
COM-fill Juan
'Juan filled.' COMPLETIVE
- c. C-araa¹³ Juan⁴
POT-fill Juan
'Juan will fill.' POTENTIAL

► Thus, the conservative system of aspectual inflection thus shows considerable complexity. A speaker must know i) if the verb is stable, strong, or weak, ii) which of 11 tone paradigms it belongs to and iii) (for weak verbs) which prefix it takes.

4 Frequency of paradigms in conservative Copala Triqui

- To understand the relative frequency of the tonal and prefix paradigms, we constructed an analysis of all the verbs listed in Hollenbach (2015), a comprehensive dictionary of Copala Triqui.
- The data in this dictionary is primarily based on fieldwork conducted in the 1960s and 1970s, and represents a detailed documentation of verb paradigms in conservative Copala Triqui. It is also a very good match for the speech of our older language consultants.

- We constructed a list of 1348 verbs, grouped by tonal and prefix paradigms.⁸ Of these entries, 61 do not have a recorded form for the potential. We will exclude these from our analysis, leaving a remainder of 1287 verbs.

4.1 Tonal paradigms

- We obtained the following results for the frequency of different tonal paradigms in our sample ($n=1287$):

(10) Frequency of different tonal paradigms

Tone paradigm	Number of verbs	Percentage
1	31	2.41
2	178	13.83
2i	178	13.83
3a	144	11.19
3b	354	27.51
3i	69	5.36
4a	44	3.42
4b	54	4.20
5a	44	3.42
5b	131	10.18
5i	11	0.85
Continuative only	21	1.63
Imperative only	2	.16
Other Irregular	26	2.02
Total	1287	100

- We can see from these results that there is a very uneven distribution of tonal paradigms.
- To better understand the result, we can add a column to the table above, which shows the tone which is *signal of the potential* in each paradigm.
- By *signal of the potential*, we mean the tone of the final syllable for verbs with final tone docking. For verbs with non-final tone docking, the signal of the potential will be the tone which is different in the lower form.
 - For example, with a verb like UPPER: nu³cuaj²/LOWER: nu²cuaj² ‘drag’, we consider tone 2 the signal of the potential, since is the tone which differentiates the two forms.
- If we sort (10) by this result—omitting the ‘continuative only’, ‘imperative only’, and ‘other irregular’ forms—the result is shown in (11):

⁸For our database of conservative Copala Triqui, we listed every verb which constitutes a separate entry in Hollenbach (2015). Because Copala Triqui has a very large number of verbal compounds, and because the the head (first element) of the compound determines the conservative form of the paradigm, verbs which serve as the heads of many compounds, such as ‘yaj’ ‘do’ and ‘uun’ ‘become’ show up multiple times in our our count.

(11) Frequency of different tonal paradigms by signal of the potential

Tone paradigm	Signal of potential	Number of verbs	Percentage
2	2	178	13.83
2i	2	178	13.83
3i	2	69	5.36
4b	2	54	4.20
5b	2	131	10.18
5i	2	11	0.85
Subtotal Tone 2		621	48.25
1	1	31	2.41
3a	1	144	11.19
4a	1	44	3.42
5a	1	44	3.42
Subtotal Tone 1		263	20.44
3b	13	581	26.68
Subtotal Tone 13		354	27.51

- Thus, in conservative CT, the most common signal of the potential is the 2 tone, which either docks on the final syllable (replacing the base tone), as in groups 2, 4b, and 5b. Two less common signals are i) the 13 tone, docking on the final syllable and replacing tone 3 and ii) the 1 tone, found about half as often as the 2 tone.

4.2 Prefix paradigms

- The prefix paradigms are also very unevenly distributed in conservative Copala Triqui, as shown in (12) below. There are roughly the same number of strong and weak verbs in the language.

(12) Frequency of different prefix paradigms

Prefix	Number of verbs	Percentage
∅- (Strong)	596	44.21
k-/g-	404	29.97
ki-	114	8.46
ka-	90	6.68
ku-	56	4.15
ko-	1	0.07
ke-	2	0.15
Irregular	13	0.96
Continuative Only	72	5.34
Total	1348	100.00

- In conservative Copala Triqui, the largest group of verbs, which we call the strong verbs, takes no prefix. Approximately half of the weak verbs are vowel-initial and subsequently surface with the k-/g- form of the prefix. Among consonant-initial roots, the relative frequency is /ki-/ >/ka-/ >/ku-/. /ko-/ or /ke-/ are each restricted to one main verb.⁹

5 Innovative Copala Triqui

- We have observed some unexpected completive and potential forms from younger speakers.
- Here we present the results of a preliminary investigation into the inflectional system of one of these younger speakers. See Appendix A for a chart of the 30 verbs under consideration.

5.1 Prefix dropping

- For five verbs in our sample, the segmental prefix was dropped in either the completive or the potential aspect. This is unlike the conservative variety, where the completive and potential forms always belong to the same prefix paradigm.
- Consider the example in (13), where /ku-/ is present only in the completive, but is absent in the potential:

(13)	a.	Maria ⁴ chu'vi ³ cona ² . Maria be.afraid now 'Maria is afraid now.'	CONTINUATIVE
	b.	Maria ⁴ cu-chu'vi ³ manj ³ . Maria Com-be.afraid day.before.yesterday 'Maria was afraid the day before yesterday.'	COMPLETIVE
	c.	Maria ⁴ chu'vi ¹ a'yuj ³ . Maria be.afraid.POT tomorrow 'Maria will be afraid tomorrow.'	POTENTIAL

- A number of the verbs in our sample were recorded on two different occasions, once with temporal/aspectual adverbs and once without. Paradigms like the one in (13) – where the prefix is absent from either the completive or the potential – surface only in examples *with* adverbs, suggesting that the speaker may only optionally drop a prefix when a temporal/aspectual adverb is also present.

5.2 Weak to strong

- The most common change in our sample is a shift from classification as weak to strong. This occurred in 9 of the 27 verbs we expected to be weak based on Conservative CT.
 - Of the 9 verbs reclassified as strong, 6 appear with /ku-/ in conservative CT, 2 as /ka-/, and 1 as /ki-/.
 - So while each of the three /kV-/ allomorphs in this sample were effected by this change, /ku-/ appears to be more vulnerable than either /ka-/ or /ki-/.
 - Recall that /ku-/ is the least common of the regularly occurring /k(V)-/ allomorphs in conservative CT. Only 1 of 9 instances of /ku-/ were faithfully realized in our sample.
- Consider the different forms of the verb tu'vej 'sell' below. In the conservative variety, tu'vej 'sell' belongs to Group 5b-KI, while in our sample, tu'vej 'sell' is a 5b strong verb.

⁹For ke-, we counted both the verb ne'en³ 'see' and its compound ne'en³ na'aj¹ 'feel shame', thus yielding 2 instances in table (12) above.

(14) Conservative and innovative forms of tu'vej 'sell'

Inflectional category	Conservative (5b-KU)	Innovative (5b-STR)
Continuative	tu'vej ⁵	tu'vej ⁵
Completive	cutu'vej ⁵	tu'vej ⁵
Potential	cutu'vee ²	tu'vee ²

- Examples of the innovative variety are given in (15)

- (15) a. Maria⁴ tu'vej⁵ rnee³² cona².
 Maria sell beans now
 'Maria is selling beans now.' CONTINUATIVE
- b. Maria⁴ tu'vej⁵ rnee³² manj³.
 Maria sold.Com beans day.before.yesterday
 'Maria sold beans the day before yesterday.' COMPLETIVE
- c. Maria⁴ tu'vee² rnee³² a'yuj³.
 Maria sell.POT beans tomorrow
 'Maria will sell beans tomorrow.' POTENTIAL

5.3 Prefix change

- Rather than losing their prefix, 3 verbs in our sample were realized with a /k(V)-/ allomorph that is different from the conservative variety.
- For two roots, the prefix changed from /ku-/ to /ka-/, and for the other root, the prefix changed from /ki-/ to /ka-/.
- Consider the forms of the prefix associated with the verb maan³² be angry.

(16) Conservative and innovative forms of maan³² be angry

Inflectional category	Conservative (2-KU)	Innovative (2-KA)
Continuative	maan ³²	maan ³²
Completive	cumaan ³²	camaan ³²
Potential	cumaan ²	camaan ²

- Examples of the innovative variety are given in (17)

- (17) a. Maria⁴ maan³² ra⁴ cona².
 Maria angry PSYCH now
 'Maria is angry now.' CONTINUATIVE
- b. Maria⁴ ca-maan³² ra⁴ manj³.
 Maria Com-angry PSYCH day.before.yesterday
 'Maria was angry the day before yesterday.' COMPLETIVE
- c. Maria⁴ ca-maan² ra⁴ a'yuj³.
 Maria POT-angry PSYCH tomorrow
 'Maria will be angry tomorrow.' POTENTIAL

5.4 Tone change

- For the most part, our sample is faithful to the tonal paradigms of conservative CT, especially in comparison to differences in segmental morphology.
 - While nearly half the sample showed differences in the realization of the aspectual prefix, only 6 verbs showed any tonal discrepancies.
- In one instance a 3b verb (xnuj³ ‘cramp’) switched to the 3a group, i.e. instead of a 13 tone, the potential was realized with a steady 1 tone. However, other 3b verbs, such as ne³ ‘live’ maintained the 13 tone in the potential.
- In another instance a 3a verb (chu'vi³ ‘be afriad’) switched to the 3b group. However, other 3a verbs, such as nari³ ‘learn’ maintained the 1 tone in the potential.
- The other four tonal changes represent a shift from 4a to 4b and 5a to 5b, as shown below.

(18) Conservative and innovative forms of naan⁵ wash

Inflectional category	Conservative (5a-KI)	Innovative (5b-KI)
Continuative	naan ⁵	naan ⁵
Compleitive	quinaan ⁵	quinaan ⁵
Potential	quinaan ¹	quinaan ²

- Examples of the innovative variety are given in (19)

- (19)
- a. Maria⁴ naan⁵ mango⁴ cona².
 Maria wash mango now
 ‘Maria is washing the mango now.’ CONTINUATIVE
- b. Maria⁴ qui-naan⁵ mango⁴ manj³.
 Maria COM-wash mango day.before.yesterday
 ‘Maria was washing the mango the day before yesterday.’ COMPLETIVE
- c. Maria⁴ qui-naan² mango⁴ a'yuj³.
 Maria POT-wash mango tomorrow
 ‘Maria will be washing the mango tomorrow.’ POTENTIAL

- Note that all of the 4a/5a forms in the sample display this change. If further investigation confirms that this is a pervasive tone change, it is likely due to the fact that the tone 2 is more than twice as likely to signal the potential as tone 1, as shown by the figures in (11).

6 Discussion

- In sum, Copala Triqui has a complex aspectual system that relies on both tonal and segmental morphology.
 - Stable verbs have no inflection or suppletive inflection.
 - Strong verbs show a distinction between potential and non-potential aspect. In the potential, the verb has a lower register tone. In the non-potential, the verb has an upper register tone. The relationship between upper and lower register tones is mostly regular, but not necessarily predictable.
 - Weak verbs display the same tone morphology as strong verbs, and in addition, potential and compleitive aspect is marked with a /K(V)-/ prefix. The allomorphy of this prefix is mostly unpredictable.
- Our lexical study revealed a number of patterns pertaining to both the tonal and segmental paradigms of the conservative variety of the language.

- Approximately 76% of the sample ($n=1287$) fell into one of the major tone groups.
 - Tone 2 (48.26%) was approximately twice as likely to signal potential aspect as either Tone 1 (20.44%) or Tone 13 (27.51%).
 - There are approximately as many strong verbs (44.2%) as weak verbs (49.48%) in the lexicon.
 - Among the weak verbs with unpredictable prefixes /ki-/ (8.46%), /ka-/ (6.68%), and /ku-/ (4.15%) were the most common.
- Our initial investigation into the speech of a younger, bilingual generation suggested that a number of changes to the aspectual system are underway.
 - One third of the weak verbs in the sample became strong verbs.
 - For 3 of the weak verbs in the sample, the prefix was realized as /ka-/ instead of the /ku-/ or /ki-/ form found in conservative CT.
 - 4a and 5a verbs in conservative CT were realized as 4b and 5b verbs in our sample.
 - Going forward we will document more verbs from more younger speakers. If apparent changes are confirmed, there are a number of possible explanations:
 - **Regularization** could explain why i) weak verbs are being reclassified as strong, ii) why in some cases /ka-/ is replacing other allomorphs of /k(V)-/, and iii) why the distinct 4a/5a and 4b/5b paradigms are collapsed into a single Group 4 and 5.
 - **Frequency** might play a role in i) moving weak verbs into the strong category as opposed to vice versa, since there are more \emptyset - aspectual prefixes than any one of the /k(V)-/ allomorphs, ii) it's not immediately clear why /ka-/ would be a more of a default allomorph than the more frequent /ki-/, but lexical frequency could play a role, and iii) changing 4a/5a verbs to 4b/5b as opposed to vice versa, because the low register tone of the b group, i.e. tone 2, is more frequently associated with the low register form of verbs.
 - **Spanish** is widely used by Copala Triqui speakers and most speakers under 30 are bilingual. If Spanish were the primary force behind these changes, one might expect less stable tonal as opposed to segmental morphology. Nonetheless, the *rate* of natural language change may be accelerated in a contact situation.

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A A comparison of 30 conservative and innovative CT verbs

Root	Inflectional category	Conservative	Innovative	Change(s)
1. <i>natsiin</i> ³¹ ‘sing’	Continuative	<i>natsiin</i> ³¹	<i>natsiin</i> ³¹	1-KU → 1-∅, weak to strong
	Completive	<i>cunatsiin</i> ³¹	<i>natsiin</i> ³¹	
	Potential	<i>cunatsiin</i> ¹	<i>natsiin</i> ¹	
2. <i>nacaj</i> ³² ‘have’	Continuative	<i>nacaj</i> ³²	<i>nacaj</i> ³²	2-∅ → 2-∅, no change
	Completive	<i>nacaj</i> ³²	<i>nacaj</i> ³²	
	Potential	<i>nacaj</i> ²	<i>nacaj</i> ²	
3. <i>otoj</i> ³² ‘sleep’	Continuative	<i>otoj</i> ³²	<i>otoj</i> ³²	2-K → 2-K, no change
	Completive	<i>cotoj</i> ³²	<i>cotoj</i> ³²	
	Potential	<i>cotoj</i> ²	<i>cotoj</i> ²	
4. <i>ataj</i> ³² ‘sleep’	Continuative	<i>ataj</i> ³²	<i>ataj</i> ³²	2-K → 2-K, no change
	Completive	<i>cataj</i> ³²	<i>cataj</i> ³²	
	Potential	<i>cataj</i> ²	<i>cataj</i> ²	
5. <i>a'mii</i> ³² ‘speak/talk’	Continuative	<i>a'mii</i> ³²	<i>a'mii</i> ³²	2-K → 2-K, no change
	Completive	<i>ca'mii</i> ³²	<i>ca'mii</i> ³²	
	Potential	<i>a'mii</i> ²	<i>a'mii</i> ²	
6. <i>maan</i> ³² ‘be angry’	Continuative	<i>maan</i> ³²	<i>maan</i> ³²	2-KU → 2-KA, prefix change
	Completive	<i>cumaan</i> ³²	<i>camaan</i> ³²	
	Potential	<i>cumaan</i> ²	<i>camaan</i> ²	
7. <i>xuun</i> ³² ‘pull’	Continuative	<i>xuun</i> ³²	<i>xuun</i> ³²	2-KU → 2-∅, weak to strong
	Completive	<i>cuxuun</i> ³²	<i>xuun</i> ³²	
	Potential	<i>cuxuun</i> ²	<i>xuun</i> ²	
8. <i>nuu</i> ³² ‘wear’	Continuative	<i>nuu</i> ³²	<i>nuu</i> ³²	2-KU → 2-∅, weak to strong
	Completive	<i>cunuu</i> ³²	<i>nuu</i> ³²	
	Potential	<i>cunuu</i> ²	<i>nuu</i> ²	
9. <i>nari</i> ³ ‘learn’	Continuative	<i>nari</i> ³	<i>nari</i> ³	3a-KI → 3a-∅, weak to strong
	Completive	<i>quinari</i> ³	<i>nari</i> ³	
	Potential	<i>quinari</i> ¹	<i>nari</i> ¹	
10. <i>chu'vi</i> ³ ‘afraid’	Continuative	<i>chu'vi</i> ³	<i>chu'vi</i> ³	3a-KU → 3b-KU, tone change
	Completive	<i>cuchu'vi</i> ³	<i>(cu)chu'vi</i> ³	
	Potential	<i>cuchu'vi</i> ¹	<i>cuchu'vi</i> ¹³	

Root	Inflectional category	Conservative	Innovative	Change
11. <i>nanuu</i> ³ ‘wake up’	Continuative	nanuu ³	nanuu ³	3b-∅ → 3b-∅, no change
	Compleative	nanuu ³	nanuu ³	
	Potential	nanuu ¹³	nanuu ¹³	
12. <i>uno</i> ³ ‘understand’	Continuative	uno ³	uno ³	3b-K → 3b-K, no change
	Compleative	cuno ³	cuno ³	
	Potential	cuno ¹³	cuno ¹³	
13. <i>uun</i> ‘want’	Continuative	uun	uun	3b-K → 3b-K, no change
	Compleative	guun ³	guun ³	
	Potential	guun ¹³	guun ¹³	
14. <i>nicun</i> ³ ‘stand’	Continuative	nicun ³	nicun ³	3b-KA → 3b-KA, no change
	Compleative	canicun ³	canicun ³	
	Potential	canicun ¹³	canicun ¹³	
15. <i>ne</i> ³ ‘live’	Continuative	ne ³	ne ³	3b-KA → 3b-KA, no change
	Compleative	cane ³	(ca)ne ³	
	Potential	cane ¹³	cane ¹³	
16. <i>noco</i> ³ ‘follow’	Continuative	noco ³	noco ³	3b-KA → 3b-∅, weak to strong
	Compleative	canoco ³	noco ³	
	Potential	canoco ¹³	noco ¹³	
17. <i>xnuj</i> ³ ‘cramp’	Continuative	xnuj ³	xnuj ³	3b-KU → 3a-∅, prefix and tone change
	Compleative	cuxnuj ³	xnuj ³	
	Potential	cuxnuj ¹³	xnuj ¹	
18. <i>nano</i> ⁴ ‘worry’	Continuative	nano ⁴	nano ⁴	4a-∅ → 4b-∅, tone change
	Compleative	nano ⁴	nano ⁴	
	Potential	nano ¹	nano ²	
19. <i>no</i> ⁴ ‘be on the wall’	Continuative	no ⁴	no ⁴	4a-KU → 4b-KA, prefix and tone change
	Compleative	cuno ⁴	cano ⁴	
	Potential	cuno ¹	cano ²	
20. <i>naman</i> ⁴ ‘return’	Continuative	naman ⁴	naman ⁴	4a-KU → 4b-∅, weak to strong and tone change
	Compleative	cunaman ⁴	naman ⁴	
	Potential	cunaman ¹	naman ²	

Root	Inflectional category	Conservative	Innovative	Change
21. <i>cha</i> ⁴ ‘eat’	Continuative	<i>cha</i> ⁴	<i>cha</i> ⁴	4b-∅ → 4b-∅, no change
	Compleative	<i>cha</i> ⁴	<i>cha</i> ⁴	
	Potential	<i>cha</i> ²	<i>cha</i> ²	
22. <i>achron</i> ⁴ ‘write’	Continuative	<i>achron</i> ⁴	<i>achron</i> ⁴	4b-K → 4b-K, no change
	Compleative	<i>cachron</i> ⁴	<i>cachron</i> ⁴	
	Potential	<i>cachron</i> ²	<i>cachron</i> ²	
23. <i>naan</i> ⁵ ‘wash’ (clothes)	Continuative	<i>naan</i> ⁵	<i>naan</i> ⁵	5a-KI → 5b-KI, tone change
	Compleative	<i>quinaan</i> ⁵	<i>quinaan</i> ⁵	
	Potential	<i>quinaan</i> ¹	<i>quinaan</i> ²	
24. <i>unanj</i> ⁵ ‘run’	Continuative	<i>unanj</i> ⁵	<i>unanj</i> ⁵	5b-K → 5b-K, no change
	Compleative	<i>cunanj</i> ⁵	<i>cunanj</i> ⁵	
	Potential	<i>cunanj</i> ²	<i>cunanj</i> ²	
25. <i>achraa</i> ⁵ ‘sing’	Continuative	<i>achraa</i> ⁵	<i>achraa</i> ⁵	5b-K → 5b-K, no change
	Compleative	<i>cachraa</i> ⁵	<i>cachraa</i> ⁵	
	Potential	<i>cachraa</i> ²	<i>cachraa</i> ²	
26. <i>chee</i> ⁵ ‘walk’	Continuative	<i>chee</i> ⁵	<i>chee</i> ⁵	5b-KA → 5b-KA, no change
	Compleative	<i>cachee</i> ⁵	(ca) <i>chee</i> ⁵	
	Potential	<i>cachee</i> ²	<i>cachee</i> ²	
27. <i>ranj</i> ⁵ ‘buy’	Continuative	<i>ranj</i> ⁵	<i>ranj</i> ⁵	5b-KI → 5b-KA, prefix change
	Compleative	<i>quiranj</i> ⁵	(ca) <i>ranj</i> ⁵	
	Potential	<i>quiraan</i> ²	<i>caraan</i> ²	
28. <i>tu'vej</i> ⁵ ‘sell’	Continuative	<i>tu'vej</i> ⁵	<i>tu'vej</i> ⁵	5b-KU → 5b-∅, weak to strong
	Compleative	<i>cutu'vej</i> ⁵	<i>tu'vej</i> ⁵	
	Potential	<i>cutu'vee</i> ²	<i>tu'vee</i> ²	
29. <i>ra⁵chej³²</i> ‘breathing’	Continuative	<i>ra⁵chej³²</i>	<i>ra⁵chej³²</i>	5i-KA → 5i-∅, weak to strong
	Compleative	<i>ca⁵chej³²</i>	<i>ra⁵chej³²</i>	
	Potential	<i>ca²chej³²</i>	<i>ra²chej³²</i>	
30. <i>yaan</i> ⁵ ‘live’	Continuative	<i>yaan</i> ⁵	<i>yaan</i> ⁵	5i-KA → 5i-KA, no change
	Compleative	<i>cayaan</i> ⁵	(ca) <i>yaan</i> ⁵	
	Potential	<i>ca²yaan</i> ⁵	<i>ca²yaan</i> ⁵	