Endoclitic morphophonology in Itunyoso Triqui

Linguistics 460/560

The Structure of Itunyoso Triqui

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1. What's an endoclitic?

We can distinguish between (a) the pronominal *enclitics* which simply apply to the end of a word and (b) the pronominal *endoclitics* that apply to the end of a word and alter the stem's phonology.

Enclitics

ɾa³ʔa³ = sih³	'his hand'	
ɾa³ʔa³ = ũh³	'her hand'	
ɾa³ʔa³ = tʃuh³	'its hand (anim)'	
ɾa³ʔa³ = a³niʔ²sih³	'their (masc) hand'	

Endoclitics

ɾa³ʔah⁵	'my hand'
ɾa³ʔa⁴ = ɾeʔ¹	'your hand'
ɾo³ʔoʔ⁴	'our (du) hand'
ɾa³ʔa³ = h⁵ɾeʔ¹	'your (pl) hand'

What falls into each category?

- Enclitics include *all* third person pronouns in the singular and plural as well as the 1st person exclusive and inclusive.

- Endoclitics include the 1st person singular, 2nd person singular, 1st person dual, and the 2nd person plural.

- Note that the category of *endoclitic* is also somewhat pragmatically cohesive – these are all speech act participants, or people who are part of at least a small conversation.

General principles of cliticization

- **All clitics** apply to derived stems in nouns (or verbs, when they are aspect-marked). We can think of this as either a two-stage derivational process or of nominal/verbal stem formation as "stored."

Root: $ko^3no^3\text{ʔ}o^4$ 'medicine'

Stem: $\mathbf{si^3\text{-}ko^1no^1\text{ʔ}o^1} = sih^3$ 'his medicine'

          POSS'D-medicine $= 3$M

          $\mathbf{si^3\text{-}ko^1no^1\text{ʔ}oh^1}$ 'my medicine' (endoclitic)

          POSS'D-medicine.1S

But how do you know?

When marked for 1st person singular, low register tone stems take a low tone /1/. Stems where the final syllable has a low register tone undergo this.

Root	a^3ta^3	$a^3ta\textipa{P}^3$	$ko^3no^3\textipa{P}o^4$	$ni^1ka\textipa{P}^1$
	'to load'	'to put on top'	'medicine'	'be.short'
Derived stem	ka^2ta^3	$ka^2ta\textipa{P}^2$	si^3-$ko^1no^1\textipa{P}o^1$	
	POT.load	POT.put.on.top	'POSS'D-medicine'	
1s	ka^2tah^5	ka^1tah^1	si^3-$ko^1no^1\textipa{P}oh^1$	ni^1kah^1
	POT.load.1s	POT.put.on.top.1s	'POSS'D-medicine.1s'	be.short.1s
	'I will load (it)'	'I will put (it) on top.'	'my medicine'	'I am short'

2. The 1ˢᵗ person singular

- The most complex morphophonology in Triqui.

- The major *segmental* alternation here is a *morphophonological toggle*, which involves deletion or insertion of /h/ at the end of the stem (DiCanio et al 2020). The /h/ toggle is almost exceptionless.

- **If a stem ends with /h/, delete it. If it does not, insert it (replacing a glottal stop, if need be).**
  - Many tonal alternations occur too (to be discussed).

No final /h/ in stem

so^{3}ʔo^3	'to be deaf'
so^{3}ʔoh^5	'I am deaf'
ja^{3}ʔa^{32}	'cord'
ta^{4}ʔah^4	'my cord'
tʃi^3	'ancestor'
tʃih^5	'my ancestor'

Final /h/ in stem

ja^{3}ʔah^3	'chile pepper'
ta^{3}ʔa^{43}	'my chile pepper'
sã^{3}ʔãh^2	'money'
si^3-sã^{1}ʔã^1	'my money'
tʃeh^3	'father'
tʃe^{43}	'my father'

You must know how what nominal (possessed) stems look like before you apply the rules for endoclitic marking.

Bare root	Gloss	Derived stem	Inflected stem	Gloss
(a) $a^4n\tilde{i}^{43}$	'to stop'	–	$a^4n\tilde{i}h^4$	'I stop'
(b) $so^3\textʔo^3$	'be deaf'	–	$so^3\textʔoh^5$	'I am deaf'
(c) nne^3	'plough'	$si^3\text{-}ne^3$	$si^3\text{-}neh^5$	'my plough'
(d) $ku^3\textɾu^{32}$	'granary'	$si^3\text{-}ku^2\textɾu^2$	$si^3\text{-}ku^1\textɾuh^1$	'my granary'
(e) $j\tilde{a}^{32}$	'salt'	$t\tilde{a}^{32}$	$t\tilde{a}h^3$	'my salt'
(f) $a^4n\tilde{i}h^4$	'to get dirty'	–	$a^4n\tilde{i}^{43}$	'I am getting dirty'
(g) $jo^3\textʔoh^5$	'land'	$to^3\textʔoh^5$	$to^3\textʔo^{43}$	'my land'
(h) $nneh^3$	'dream'	$si^3\text{-}neh^3$	$si^3\text{-}ne^{32}$	'my dream'
(i) ni^3nah^3	'to be tired'	–	ni^3na^{32}	'I am tired'
(j) $j\tilde{a}h^3$	'paper'	$t\tilde{a}h^3$	$t\tilde{a}^{43}$	'my paper'

This can produce homophony between stems and cliticized stems

$a^4nĩ^{43}$ 'to stop' $a^4nĩh^4$ 'to get dirty'

$a^4nĩh^4$ 'I am stopping...' $a^4nĩ^{43}$ 'I am getting dirty'

$a^3tʃĩh^5$ 'to ask for' $a^3tʃĩʔ^3$ 'to bury'

$a^3tʃĩ^{43}$ 'I am asking for' $a^3tʃĩh^5$ 'I am burying...'

a^4ko^{43} 'to cry' a^4koh^4 'to peel wood'

a^4koh^4 'I am crying' a^4ko^{43} 'I am peeling wood'

Irregular segmental changes

Certain stems ending with a /ʔ/ undergo a vowel reduplication pattern rather than replacement of the glottal stop with /h/; we add /Vh/ instead.

	Bare root	Gloss	Derived stem	1s stem	Gloss
(a)	na³tʃã̃ʔ³	'to turn'	–	na³tʃã̃h⁵	'I turn'
	to³koʔ¹	'to hang (tr.)'	to⁴koʔ⁴ (SAP)	to⁴koh⁴	'I hang'
	ˀnaʔ³	'to come'	–	ˀnah⁵	'I am coming'
	ka³siʔ³	'honey'	si³-ka²siʔ³	si³-ka²sih⁵	'my honey'
	sta³ŋgaʔ³	'nape'	–	sta³ŋgah⁵	'my nape'
	kkã̃ʔ³	'corn dough'	si⁴-kã̃ʔ⁴	si⁴-kã̃h⁴	'my corn dough'
(b)	kĩ̃ʔ³	'to stink'	–	kĩ̃ʔ³ʔĩ̃h⁵	'I stink'
	na³noʔ³	'to look for'	–	na³no³ʔoh⁵	'I look for'
	na²ɾã̃ʔ³	'to pick up (mass N.)'	–	na²ɾã̃³ʔã̃h⁵	'I pick up'
	ka³ɣaʔ³	'bottle, metal'	si³-ka²ɣaʔ³	si³-ka²ɣa³ʔah⁵	'my bottle, metal'
	ka³tʃũ̃ʔ¹	'shadow'	si³-ka¹tʃũ̃ʔ¹	si³-ka¹tʃũ̃¹ʔũ̃h¹	'my shadow'
	jã̃ʔ³	'tooth'	–	jã̃³ʔã̃h⁵	'my tooth'

Tonal changes with the 1st person singular

- The tonal changes on stems marked for the 1st person singular vary depending on whether or not the /h/ is deleted or inserted.

- Several patterns are very regular, but others have some irregularity (there are weird exceptions).

- We will use an inflectional database of 970 Triqui roots/stems and their endoclitic forms to show the most common patterns.

Summary of patterns

Input stem tone/glottal	Output stem tone/glottal	Frequency in database
1, 2, 31, 1ʔ, 2ʔ, 31ʔ	1h	158/200, 79.0%
1h, 2h, 31h	1	62/65, 95.4%
3, 4, 3ʔ	5h	202/259, 78.0%
3h, 4h, 5h, 32h	43	195/235, 83.0%
43, 32, 13	4h	147/165, 89.1%

- When the stem has a lower register tone (2, 1, 31), the 1s form has a low tone /1/ (regardless of /h/ deletion or insertion).
- When a stem has an upper register tone (3, 4, 5, 32), the output tone is higher.

Low register tone changes with the 1s endoclitic.

Stem	Gloss	1s form	Alternation
na^{1}ko^1	'be dry'	na^{1}koh^1	1 > 1h
ni^{1}ka$ʔ^1$	'be short'	ni^{1}kah^1	1ʔ > 1h
a^{3}nã^{2}ʔã^2	'to hug'	a^{3}nã^{1}ʔãh^1	2 > 1h
si^3-sũ^2	POSS'D-work	si^3-sũh^1	2 > 1h
ɾa^{2ʔ}jã$ʔ^2$	'be deafmute'	ɾa^{1ʔ}jãh^1	2ʔ > 1h
na^{3}tĩ^1	'to blink'	na^{3}tĩh^1	3.1 > 3.1h
kãh^1	'be naked'	kã^1	1h > 1
kkih^2	'be ugly'	kki^1	2h > 1
si^3-ɾe^{2}koh^2	POSS'D-branch	si^3-ɾe^{1}ko^1	2h > 1
ni^{3}tʃeh^1	'mother-in-law'	ni^{3}tʃe^1	3.1h > 3.1

Interaction with the potential aspect

Root/Imperfective	Gloss	Potential form	1s of potential form
$a^3t\int ih^2$	'to grow'	$ka^2t\int ih^2$	$ka^1t\int i^1$
$a^4t\int\tilde{\imath}^{43}$	'to pass by'	$ka^2t\int\tilde{\imath}^2$	$ka^1t\int\tilde{\imath}h^1$
$u^4t\int\tilde{u}h^4$	'to smell'	$ku^2t\int\tilde{u}h^2$	$ku^1t\int\tilde{u}^1$
$t\int u^4m\tilde{a}^{43}$	'to arrive'	$ku^2\text{-}t\int u^2m\tilde{a}^2$	$ku^1\text{-}t\int u^1m\tilde{a}h^1$
$na^3\mathrm{r}i^3j\tilde{u}^3$	'to measure'	$ki^2\text{-}na^2\mathrm{r}i^2j\tilde{u}^2$	$ki^1\text{-}na^1\mathrm{r}i^1j\tilde{u}h^1$
$ʔna ʔ^3$	'to come'	$ka^2\text{-}ʔna ʔ^2$	$ka^1\text{-}ʔnah^1$
$n\tilde{a}h^5$	'to wash'	$ki^2\text{-}n\tilde{a}h^2$	$ki^1\text{-}n\tilde{a}^1$

- If the potential-marked verb has complete tonal overwrite (see last week), the 1st person form will always have tone /1/.

Stem	Gloss	1s form	Alternation
$\text{ra}^3\text{?a}^3$	'hand'	$\text{ra}^3\text{?ah}^5$	$3 > 5\text{h}$
$\text{t}\int\text{u}^{3?}\beta\text{i}?^3$	'to be afraid'	$\text{t}\int\text{u}^{3?}\beta\text{ih}^5$	$3? > 5\text{h}$
$\text{tu}^3\text{k}^w\text{a}^4$	'house of'	$\text{tu}^3\text{k}^w\text{ah}^5$	$4 > 5\text{h}$
$\text{ru}^3\tilde{\text{n}}\tilde{\text{u}}^4$	'to paint'	$\text{ru}^3\tilde{\text{n}}\tilde{\text{u}}\text{h}^5$	$4 > 5\text{h}$
a^3tah^2	'to say'	a^4ta^{43}	$3.2\text{h} > 43$
$\text{ta}^3\text{n}\tilde{\text{i}}\text{h}^3$	'to lower (TR)'	$\text{ta}^3\text{n}\tilde{\text{i}}^{43}$	$3\text{h} > 43$
$\text{a}^4\text{n}\tilde{\text{a}}\text{h}^4$	'to sew'	$\text{a}^4\text{n}\tilde{\text{a}}^{43}$	$4\text{h} > 43$
si^4tuh^4	'bellybutton'	$\text{si}^4\text{tu}^{43}$	$4\text{h} > 43$
$\text{si}^3\text{-tuh}^5$	'POSS'D-knot'	$\text{si}^3\text{-tu}^{43}$	$5\text{h} > 43$

For upper register tones:

If /h/ is inserted, /5h/.

If /h/ is deleted, /43/.

Special case: 43 > 4h

The 1st person singular form for a word with a high falling tone is not /5h/, but /4h/.

This is very regular, as loanwords usually take this tone as well.

ɾu^{3}k^{w}i^{4}ʔi^{43}	'peach'
si^3-ɾu^{3}k^{w}i^{4}ʔih^4	'my peach'
tʃu^{4}mã^{43}	'to arrive'
tʃu^{4}mãh^4	'I am arriving'
me^{4}sa^{43}	'table'
si^3-me^{4}sah^4	'my table'
tʃi^{4}lu^{43}	'knife < *cuchillo*'
si^3-tʃi^{4}luh^4	'my knife'

It's mostly regular, but complicated

When we combine the stem formation processes with their own tonal processes alongside the 1st person singular, we get quite a bit of complexity.

Root	**Stem formation**	**1s form**
$ka^3si\Omega^3$	$si^3\text{-}ka^2si\Omega^3$	$si^3\text{-}ka^2sih^5$
'honey'	'honey of'	'my honey'
Process:	$si^3\text{-}^{(2)}$	$3\Omega > 5h$ (both regular)

3. The 1ˢᵗ person dual/plural

- The first person dual can be used as a generic 1ˢᵗ person plural as well. It is distinct from the 1ˢᵗ person plural exclusive /=ũh^4/ and the 1ˢᵗ person plural inclusive /=neʔ^4/.

(1) ŋga^{13} a^{3}tʃĩ^3 ŋga^1 ki^2-nĩ^{3}ʔĩ^3=sih^3 sũ^{32} ʔjoʔ^4 tʃɾeʔ^4
When/then be.lacking with POT-know=3M work do.1P walk.1P

'So they won't know/understand the work we do, nor (where) we walk.'

Line 34; Derechos de mujeres triquis; 06/9/2015; Carmen López González and Nieves López González

Morphophonology

- In every context, the 1ˢᵗ person dual/generic involves the insertion of a coda /ʔ/ to the stem, replacing whatever final glottal consonant is present.

- It also is accompanied by tonal changes that are… sensitive to the tonal register of the stem.

  nĩ³ʔĩ³ 'to know'   nĩ³ʔĩʔ⁴   'we (DU) know'

  ri³² 'to take out'   riʔ³   'we are taking (it) out'

Examples

Root	Final rime	Gloss	Stem	1P form
$\beta\textrm{ɻi}^1$	V:	'be hidden'	–	$\beta\textrm{ɻi}ʔ^1$
$ni^3t\textʃe^3$	V:	'to faint'	–	$ni^3t\textʃeʔ^4$
$si^3siʔ^1$	Vʔ	'sweet' (N)	$si^3\text{-}si^1siʔ^1$	$si^3\text{-}si^1siʔ^1$
$stu^3kũʔ^3$	Vʔ	'nephew/niece'	–	$stu^3kũʔ^4$
$ti^3ku^1sih^1$	Vh	'armpit'	–	$ti^3ku^1siʔ^1$
$ɾa^4koh^4$	Vh	'to collect'	–	$ɾa^4koʔ^4$

If the stem already has a coda /ʔ/, the glottal stop applies vacuously, but the associated tonal changes *still* apply.

The back vowel alternation

$t\int a^{43}$	V:	'PERF.eat'	–	$t\int o\Upsilon^4$
$\mathfrak{r}a^3\Upsilon a^3$	V:	'hand'	–	$\mathfrak{r}o^3\Upsilon o\Upsilon^4$
$\mathfrak{r}\tilde{a}^3\Upsilon\tilde{a}^3$	V:	'mushroom	si^3-$\mathfrak{r}\tilde{a}^2\Upsilon\tilde{a}^3$	si^3-$\mathfrak{r}\tilde{u}^2\Upsilon\tilde{u}\Upsilon^3$
$a^3ja\Upsilon^3$	VΥ	'to dig'	–	$a^4jo\Upsilon^4$
$na^3t\int\tilde{a}\Upsilon^3$	VΥ	'to turn around'	–	$na^3t\int\tilde{u}\Upsilon^4$
a^3tah^2	Vh	'to talk'	–	$a^3to\Upsilon^3$
$ja^3\Upsilon ah^3$	Vh	'chile pepper'	$ta^3\Upsilon ah^3$	$to^3\Upsilon o\Upsilon^4$

If the stem has /a/, applying the 1du changes it to /o/. Similarly, if it has /ã/, it changes it to /ũ/. This co-occurs with the /ʔ/.

Summary of tonal patterns

Input stem tone/glottal	Output form	Frequency in database
1, 1ʔ, 1h, 2, 2ʔ, 2h	-ʔ (no tone change)	225/236, 95.3%
32, 32h, 43, 4h, 4ʔ	-ʔ (no change/truncation)	283/293, 96.6%
3h	3ʔ (no tone change)	39/86, 45.0%
3, 3ʔ, 3h, 5h, 31, 13	4ʔ	208/304, 68.4%

- When the stem has a lower register level tone (2, 1), no tone changes occur.
- Tones /32, 43, 4/ undergo truncation or no tone change.
- Most upper register tones /3, 5, 31, 13/ raise to /4ʔ/.

No tonal change with low register tones

Root	Gloss	Stem	1P form
$\beta\text{:}i^1$	'be hidden'	–	$\beta\text{:}i\text{ʔ}^1$
na^1ka^1	'new'	–	$na^1ko\text{ʔ}^1$
$ni^1ko\text{ʔ}^1$	'hanging'	–	$ni^1ko\text{ʔ}^1$
$ku^{1\text{ʔ}}nah^1$	'to be called' (*llamarse*)	–	$ku^{1\text{ʔ}}no\text{ʔ}^1$
$ni^2n\tilde{i}^2$	'separate, different'	–	$ni^2n\tilde{i}\text{ʔ}^2$
$nu^3k^w\tilde{a}\text{ʔ}^3$	'word'	$si^3\text{-}nu^2k^w\tilde{a}\text{ʔ}^2$	$si^3\text{-}nu^2k\tilde{u}\text{ʔ}^2$
$k\text{:}ih^2$	' be ugly'	–	$k\text{:}i\text{ʔ}^2$
$a^3t\int ih^2$	'to grow'	$ka^2t\int ih^2$ 'POT.grow'	$ka^2t\int i\text{ʔ}^2$
$a^3t\int ih^2$	'to grow'	–	$a^3t\int i\text{ʔ}^3$

No tonal change with upper register level tones

Root	Gloss	Stem	1P form	Alternation
tʃi^{3}ʔi^4	'to pee'	–	tʃi^{3}ʔiʔ^4	4 > 4ʔ
stĩ^4	'fingernail'	–	stĩʔ^4	4 > 4ʔ
na^{3}no^{4}ʔoh^4	'to pray'	–	na^{3}no^{4}ʔoʔ^4	4h > 4ʔ
ja^{2ʔ}nã^3	'mask'	ta^{2ʔ}nã^3	ta^{2ʔ}nũʔ^3	3 > 3ʔ
tʃu^{3}kʷi^{3}ʔih^3	'sister (of woman)'	–	tʃu^{3}kʷi^{3}ʔiʔ^3	3h > 3ʔ

Truncation of falling tones

- Recall that we never observe contour tones before a coda /ʔ/. Insertion of the glottal stop truncates falling tones so that they are level.

ɾe^{3}to^{32}	'blanket'	–	ɾe^{3}toʔ^3	32 > 3ʔ
a^{3}βi^{32}	'to ascend'	–	a^{3}βiʔ^3	32 > 3ʔ
a^{3}tah^2	'to say'	–	a^{3}toʔ^3	3.2h > 3ʔ
ɾu^{4}ne^{43}	'avocado'	si^3-ɾu^{4}ne^{43}	si^3-ɾu^{4}neʔ^4	43 > 4ʔ

Tonal raising of many stems to /4ʔ/

Root	Gloss	Stem	1P form	Alternation
$t\int i^3 ɾah^5$	'back'	–	$t\int i^3 ɾoʔ^4$	$5h > 4ʔ$
$ʔn\tilde{i}h^5$	'corn'	$ti^{3ʔ}n\tilde{i}h^5$	$ti^{3ʔ}n\tilde{i}ʔ^4$	$5h > 4ʔ$
$a^3 ta^3$	'to load/carry'	–	$a^3 toʔ^4$	$3 > 4ʔ$
$t\int a^3 kih^3$	'ear'	–	$t\int a^3 kiʔ^4$	$3h > 4ʔ$
$t\int eh^3$	'father'	$t\int eh^4$ (SAP)	$t\int eʔ^4$	$3h > 4h > 4ʔ$
$n\text{:}\tilde{a}h^3$	'woven bag'	$t\int i^4 n\tilde{a}h^4$ (SAP)	$t\int i^4 n\tilde{u}ʔ^4$	$3 > 4h > 4ʔ$
$t\int a^{31}$	'head'	$t\int a^4$ (SAP)	$t\int oʔ^4$	$31 > 4 > 4ʔ$
$j\text{:}o^{13}$	'quickly, light'	–	$j\text{:}oʔ^{14}$	$13 > 14ʔ$

What's going on with tone /3/? /31/?

- Some words with stem tones /3/ and /31/ have some irregularity. We have a story coming up…

$ni^3t\int i^1$	'to be near'	$a^{3ʔ}m\tilde{i}h^3$	'to speak'
$ni^4t\int iʔ^4$	'we are near'	$a^{3ʔ}m\tilde{i}ʔ^3$	'we are speaking'
na^3ne^1	'air, voice'	ni^3jah^3	'to be wet'
$si^3\text{-}na^1neʔ^1$	'our voice(s)'	$ni^3joʔ^4$	'we are wet'

But first... more accidental homophony

Root	Gloss	Stem	1P form
$t\int a^{31}$	'head'	$t\int a^4$ (SAP)	$t\int o\Omega^4$
$t\int a^{43}$	'PERF.eat'	–	$t\int o\Omega^4$
$t\int a\Omega^3$	'music'	$si^4\text{-}t\int a\Omega^4$ (SAP)	$si^4\text{-}t\int o\Omega^4$
$tu^{3\Omega}\beta a^3$	'mouth'	–	$to^3\Omega o\Omega^4$
$ja^3\Omega a^3$	'brush'	$ta^3\Omega a^3$	$to^3\Omega o\Omega^4$
$ja^3\Omega ah^3$	'chile'	$ta^3\Omega ah^3$	$to^3\Omega o\Omega^4$
$a^3n\tilde{\imath}\Omega^3$	'to push aside'	$a^4n\tilde{\imath}\Omega^4$ (SAP)	$a^4n\tilde{\imath}\Omega^4$
$a^3n\tilde{\imath}^1$	'to explode'	$a^4n\tilde{\imath}^4$ (SAP)	$a^4n\tilde{\imath}\Omega^4$
$a^4n\tilde{\imath}^{43}$	'to stop'	–	$a^4n\tilde{\imath}\Omega^4$
$a^4n\tilde{\imath}h^4$	'to get dirty'	–	$a^4n\tilde{\imath}\Omega^4$

4. The 2nd person singular

- The 2nd person singular has an associated clitic /=ɾeʔ[1]/, but it is categorized as an endoclitic because it conditions tonal changes on the stem it attaches to.

- In spontaneous speech, this clitic may simply be produced as /=ɾ̥/, where the rime portion is missing. This is more common in the context where it induces tone raising (DiCanio 2022).

Summary of tonal changes (and your HW)

Input stem tone/glottal	Output tone	Frequency in database
1, 1ʔ, 1h, 2, 2ʔ, 2h, 4, 4h, 5h	no conditioned changes	319/410, 77.8%
32, 32h, 43, 4h	low tone spreading	233/264, 88.3%
3, 3h, 3ʔ	/4/ on stem-final syllable	207/294, 70.4%
3h, 3ʔ, 31	SAP roots	76/224, 33.9%

- When the stem has a falling tone or /4h/, the 2s conditions low tone spreading one syllable to the left.

- When the stem has tone /3/, it conditions a tone /4/ one syllable to the left.

- Otherwise, no changes occur.

Low tone spreading

Root	Gloss	Stem	2s form	Alternation
u^{4}tʃũh^4	'to smell (intr)'	–	u^{4}tʃũh^1=ɾeʔ^1	4.4h > 4.1h; low tone spreading
jã^{4}ʔãh^4	'guitar'	tã^{4}ʔãh^4	tã^{4}ʔãh^1=ɾeʔ^1	4.4h > 4.1h; low tone spreading
ɾu^{3}nũ^4	'to paint'	–	ɾu^{3}nũ^4=ɾeʔ^1	3.4 > 3.4; no change
a^{3}kʷah^4	'to yell'	–	a^{3}kʷah^4=ɾeʔ^1	3.4h > 3.4h; no change
tʃãh^4	'to push'	–	tʃãh^4=ɾeʔ^1	4h > 4h; no change
u^{4ʔ}jũ^{43}	'to get used to'	–	u^{4ʔ}jũ^1=ɾeʔ^1	4.43 > 4.1; low tone spreading
ni^{4}mã^{43}	'chest'	–	ni^{4}mã^1=ɾeʔ^1	4.43 > 4.1; low tone spreading

There is no tone change with words with a /3.4/ melody, but low tone spreading when the word has a tone /4.4h/ melody. Maybe the latter is secretly /4.3/?

This pattern is *only* found in Itunyoso Triqui.

Tone raising /3 > 4/

Root	Gloss	Stem	2s form	Alternation
na^{3}ka^3	'to sharpen'	–	na^{3}ka^4=ɾeʔ^4	3 > 4
jo^3	'forehead'	–	jo^4=ɾeʔ^1	3 > 4
a^{3ʔ}ŋgaʔ^3	'to laugh'	–	a^{3ʔ}ŋgaʔ^4=ɾeʔ^1	3ʔ > 4ʔ
kĩʔ^3	'to smell'	–	kĩʔ^4=ɾeʔ^1	3ʔ > 4ʔ
tʃa^{3}kih^3	'ear'	–	tʃa^{3}kih^4=ɾeʔ^1	3h > 4h
jãh^3	'paper'	tãh^3	tãh^4=ɾeʔ^1	3h > 4h
jːo^{13}	'to be light, hurried'	–	jːo^{14}=ɾeʔ^1	13 > 14
ja^{1}ko^3	'to be poor'	–	ja^{1}ko^4=ɾeʔ^1	1.3 > 1.4
nu^{2}k^{w}ah^3	'to have strength'	–	nu^{2}k^{w}ah^4=ɾeʔ^1	2.3h > 2.4h

This pattern is found in all Triqui varieties.

No tone changes – is it now an enclitic?

- Where the 2s clitic does not condition any stem tonal changes, is it suddenly an enclitic?

- What would Haspelmath (2023) say?

Root	Gloss	Stem	2s form	Stem tone
$k\tilde{a}^3 \text{ʔ}\tilde{a}^1$	'breath'	$si^3\text{-}k\tilde{a}^1\text{ʔ}\tilde{a}^1$	$si^3\text{-}k\tilde{a}^1\text{ʔ}\tilde{a}^1\text{=}ɾe\text{ʔ}^1$	Tone /1/
$^{\text{ʔ}}jah^3 \text{ } t\text{ːu}^2$	'to rob' (lit. *do robbery*)	–	$^{\text{ʔ}}jah \text{ } t\text{ːu}^2\text{=}ɾe\text{ʔ}^1$	Tone /2/
na^3sih^4	'to complete, fulfill'	–	$na^3sih^4\text{=}ɾe\text{ʔ}^1$	Tone /4/
$t\text{ʃːũ}^3$	'tree, wood'	$t\text{ʃi}^3ɾ\tilde{u}h^5$	$t\text{ʃi}^3ɾ\tilde{u}h^5\text{=}ɾe\text{ʔ}^1$	Tone /5/

5. The 2nd person plural

- For non-1st person pronouns, plural number is marked several ways:

plural   **nĩʔ²** + clitic   tʃa⁴³ = nĩʔ² = sih³   'they (masc) ate'

           (a³nĩ²ʔĩ³ ~ **nĩ²ʔĩ³** ~ **nĩʔ²**)

generic/   **neh³** + (clitic)   tʃa⁴³ = neh³ = sih³   'they (masc) ate'

plural   tʃa⁴³ = neh³   'they (generic) ate'

Morphophonology

- The 2nd person clitic /$=$ɾeʔ^1/ conditions a tone raising process on tone /3/ stems, e.g. ɾa^{3}ʔa^3 'hand' > ɾa^{3}ʔa^4$=$ɾeʔ^1 'your hand'

- The 2nd person plural does something similar when it attaches to an overt plural, but it carries tone /5/ and the accompanying /h/.

      k-a^{4}tʃĩ^{43}$=$nĩ^{2}ʔĩ$^{(3)}$$=$h^{5}ɾeʔ^1　　[ka^{4}tʃĩ^{43}$=$nĩ^{2}ʔĩh^{5}ɾ̥eʔ^1]

      PERF-pass$=$PL$=$2P

      'you all passed by'

Application with and without the plural

- The previous example has both a plural enclitic and then the 2nd person plural *endoclitic*, but the inclusion of the plural is optional except for in one context.

k-a^{4}tʃĩ$^{(43)}$h^{5}ɾeʔ^1

PERF-pass.2P

[ka^{4}tʃĩh$^{(4)5}$ɾ̥eʔ^1]

'you all passed by'

The tones on the stem-final syllable are replaced with /5h/ (*or half-replaced?*). The form is /=h^{5}ɾeʔ^1/.

Examples with different stem types

Form without person marking	Gloss	2P form	Gloss
k-a^{4}tʃĩ^{43}	PERF-pass	ka^{4}tʃĩ^{5}hɾeʔ^1	'you (pl) passed by'
k-a^{2}tʃĩ^2	POT-pass	ka^{2}tʃĩ^{5}hɾeʔ^1	'you (pl) will pass by'
nĩ^{3}ʔĩ^3	'to know'	nĩ^{3}ʔĩ^{5}hɾeʔ^1	'you (pl) know'
k-a^{3}ne^{32}	PERF-bathe (INTR)	ka^{3}ne^{5}hɾeʔ^1	'you (pl) bathed yourselves.'
k-a^{3}tʃi^{1}ʔi^1	PERF-begin	k-a^{3}tʃi^{1}ʔi^{5}hɾeʔ^1	'you (pl) began (to do something)'
tʃa^{43}	PERF.eat	tʃa^{45}hɾeʔ^1	'you (pl) ate/have eaten'
si^3-me^{4}sa^{43}	'table'	si^3-me^{4}sa^{45}hɾeʔ^1	'your (pl) table'
ɾi^{3}ki^3	'stomach/under'	ɾi^{3}ki^{5}hɾeʔ^1	'your (pl) stomachs'

Is the entire final tone replaced?

- I don't know! It's really hard to tell. There is sometimes a noticeably lengthening of the final vowel, suggesting to me that it is trimoraic or something.

- On single syllable words like tʃa^{43} 'PERF.eat / ate', I hear the 2P form as distinct.

tʃa^4 = (a)^{5}hɾeʔ^1 ≠   ttʃah^5 = ɾeʔ^1

'you all ate'   'your (sg) tortilla'

Anti-homophony effects

What happens if you apply the 2nd person plural to a stem that *already* has a tone /5/ at the end? You can't! The plural clitic is required here.

The 2P *would* be synonymous with the 2S. This is avoided.

Root	Gloss	Stem	2S form	2P form
a^{3}tʃeh^5	'to walk'	–	a^{3}tʃeh^5=ɾeʔ^1	a^{3}tʃeh^5=nĩ^{2}ʔĩ^{5}hɾeʔ^1
a^{3}kĩh^5	'to call'	k-a^{3}kĩh^5 (PERF-call)	ka^{3}kĩh^5=ɾeʔ^1	ka^{3}kĩh^5=nĩ^{2}ʔĩ^{5}hɾeʔ^1
tʃːa^3	'tortilla'	tʃːah^5	tʃːah^5=ɾeʔ^1	tʃːah^5=nĩ^{2}ʔĩ^{5}hɾeʔ^1
kːã^3	'squash'	ta^{3}kãh^5	ta^{3}kãh^5=ɾeʔ^1	ta^{3}kãh^5=nĩ^{2}ʔĩ^{5}hɾeʔ^1

6.   SAP stems

- Where apparent exceptions occur in the endoclitic morphophonology in Itunyoso Triqui, these are mostly principled.

- A set of about 100 roots seem to act altogether differently. These roots take an alternate stem shape *only with the* 1s, 1DU, 2s endoclitics.

- We call these stems are called "speech act participant stems," or SAP stems. In all cases, they take tone /4/ or /43/ as the stem shape only with the SAP clitics.

SAP stems

	Non-SAP verb (regular)		SAP verb	
	$na^4\text{ʔ}n\tilde{\text{i}}\hbar^4$	'to revive/open'	$na^3\text{ʔ}ne\hbar^3$	'to untie'
1s	$na^4\text{ʔ}n\tilde{\text{i}}^{43}$	'I revive'	$na^4\text{ʔ}ne^{43}$	'I untie'
2s	$na^4\text{ʔ}n\tilde{\text{i}}\hbar^1{=}\text{ɾe}\text{ʔ}^1$	'you revive'	$na^4\text{ʔ}ne\hbar^1{=}\text{ɾe}\text{ʔ}^1$	'you untie'
1du	$na^4\text{ʔ}n\tilde{\text{i}}\text{ʔ}^4$	'we revive'	$na^4\text{ʔ}ne\text{ʔ}^4$	'we untie'
3m	$na^4\text{ʔ}n\tilde{\text{i}}\hbar^4{=}si\hbar^3$	'he revives'	$na^3\text{ʔ}ne\hbar^3{=}si\hbar^3$	'he unties'
3f	$na^4\text{ʔ}n\tilde{\text{i}}\hbar^4{=}\tilde{\text{u}}\hbar^3$	'she revives'	$na^3\text{ʔ}ne\hbar^3{=}\tilde{\text{u}}\hbar^3$	'she unties'
anim	$na^4\text{ʔ}n\tilde{\text{i}}\hbar^4{=}t\int u\hbar^3$	'it revives'	$na^3\text{ʔ}ne\hbar^3{=}t\int u\hbar^3$	'it unties'

How do you determine the tones here?

	Root –> SAP Stem	Pronominal marking	Gloss
Tone /43/	$t\int e^3 ke^1$ –> $t\int e^4 ke^{43}$ 'to demand' Clitic (non-SAP stem) –>	$t\int e^4 keh^4$ $t\int e^4 ke^1 = re\textʔ^1$ $t\int e^4 ke\textʔ^4$ $t\int e^3 ke^1 = \tilde{u}h^3$	'I demand' 'you demand' 'we demand' 'she demands'
Tone /4/ + /h, ʔ/	$na^3 m\tilde{i}h^3$ –> $na^4 m\tilde{i}h^4$ 'to get fat' Clitic (non-SAP stem) –>	$na^4 m\tilde{i}^{43}$ $na^4 m\tilde{i}h^4 = re\textʔ^1$ $na^4 m\tilde{i}\textʔ^4$ $na^3 m\tilde{i}h^3 = \tilde{u}h^3$	'I got fat' 'you got fat' 'we got fat' 'she got fat'

Examples

Root	Gloss	SAP stem (abstract)	1s	2s	1p
$a^3ja\Omega^3$	'to dig'	$a^4ja\Omega^4$	a^4jah^4	$a^4jah^1{=}\textrm{re}\Omega^1$	$a^4jo\Omega^4$
$kka\Omega^3$	'candle'	$si^4\text{-}ka\Omega^4$	$si^4\text{-}kah^4$	$si^4\text{-}ka\Omega^1{=}\textrm{re}\Omega^1$	$si^4\text{-}ko\Omega^4$
$^\Omega jah^3$	'to do'	$^\Omega jah^4$	$^\Omega ja^{43}$	$^\Omega ja^4{=}\textrm{re}\Omega^1$	$^\Omega jo\Omega^4$
$t\int eh^3$	'father'	$t\int eh^4$	$t\int e^{43}$	$t\int eh^4{=}\textrm{re}\Omega^1$	$t\int e\Omega^4$
$t\int e^3ke^1$	'to demand'	$t\int e^4ke^{43}$	$t\int e^4keh^4$	$t\int e^4ke^1{=}\textrm{re}\Omega^1$	$t\int e^4ke\Omega^4$
$to^3ko\Omega^1$	'to hang (TR)'	$to^4ko\Omega^4$	to^4koh^4	$to^4ko\Omega^1{=}\textrm{re}\Omega^1$	$to^4ko\Omega^4$
$mm\tilde{i}^{32}$	'sweet potato'	$tu^4m\tilde{i}^{43}$	$tu^4m\tilde{i}h^4$	$tu^4m\tilde{i}^1{=}\textrm{re}\Omega^1$	$tu^4m\tilde{i}\Omega^4$
$t\int i^3\textrm{r}oh^2$	'pants'	$t\int i^4\textrm{r}oh^4$	$t\int i^4\textrm{r}o^{43}$	$t\int i^4\textrm{r}oh^1{=}\textrm{re}\Omega^1$	$t\int i^4\textrm{r}o\Omega^4$

7. Clitics, revisited

- Recall our conversation last week about whether pronouns in Triqui were properly clitics or suffixes.
- How does the current data fit in with this perspective? with the theoretical discussion?
    - Complex segmental/tonal alternations with the 1S, 1DU pronouns
    - The 2S and 2P pronouns condition tonal changes on stems for *some* stems, but not all. Is the former type of allomorph an endoclitic while the latter is an enclitic? What does it mean for a pronoun to be both an enclitic and an endoclitic?
    - SAP roots!
- If one can model the phonological alternations in stems via concatenative rules in autosegmental-metrical theory, is this concatenation?
- Are clitics definitionally concatenative?