

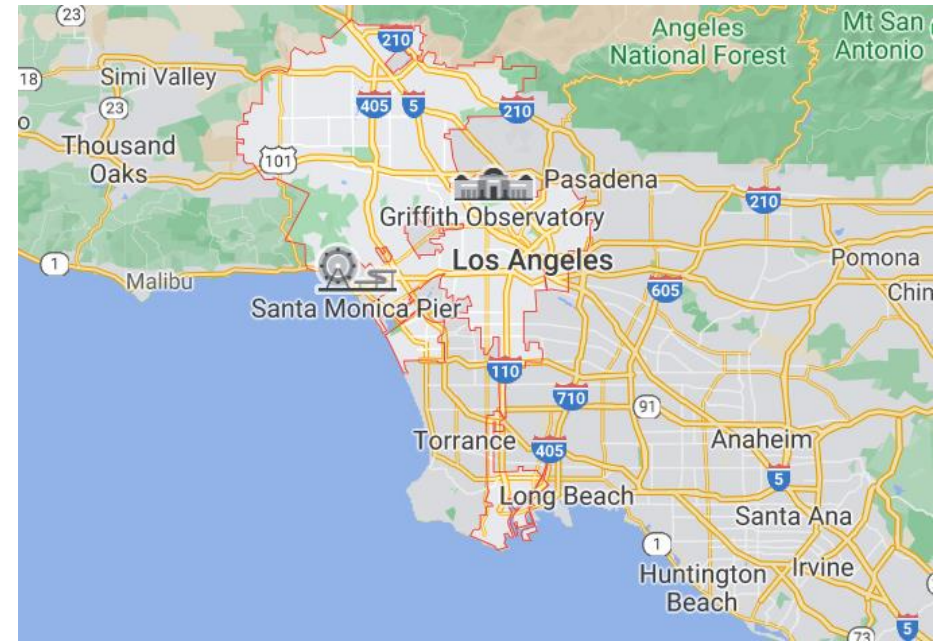
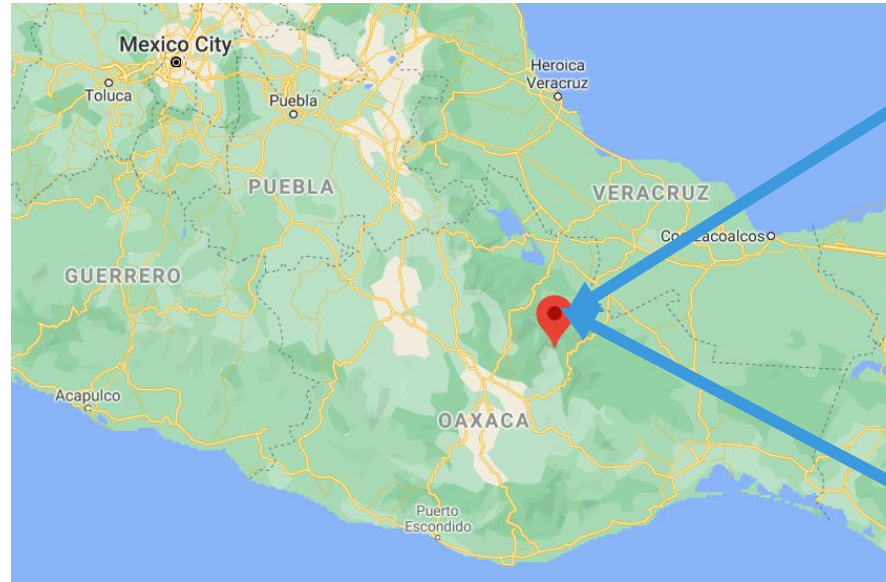


Yateé Zapotec phonology report

Yuan Chai, Briseida Mendez, and Adrian Fernández

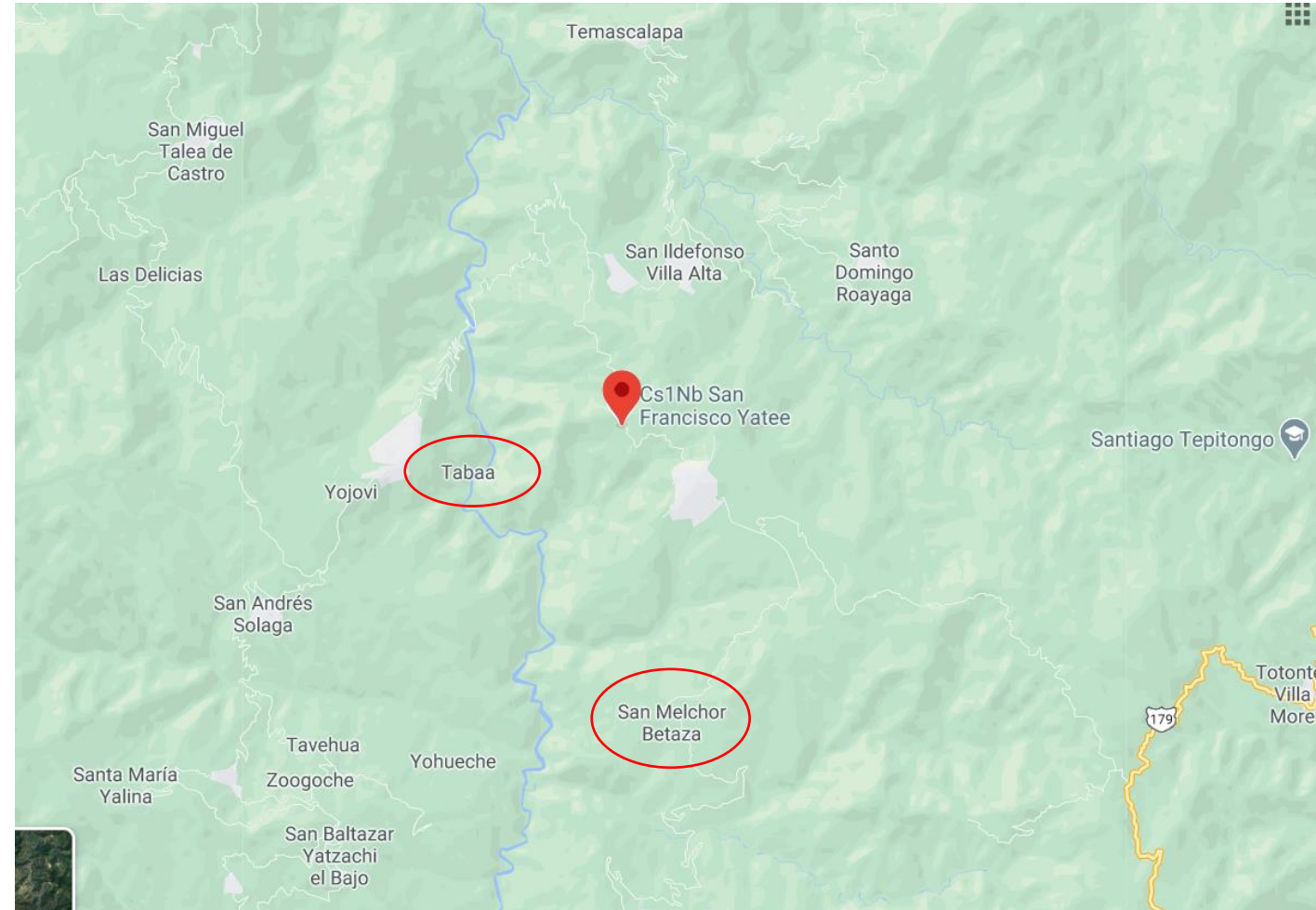
Overview

- Yateé Zapotec is spoken in San Francisco Yateé, Oaxaca, Mexico and by diaspora communities around Los Angeles, USA.
- Approximately 480 speakers in Oaxaca in 2017.



Overview

- Existing documentation on Yateé Zapotec: Jaeger & Van Valin Jr. (1982, 1983)
- Elicited words from Swadesh list (Swadesh, 1955), Tabaa Zapotec (Earl, 2011), and Betaza Zapotec (Olivares, 2009).



Phoneme inventory

- In each place of articulation, the left column is fortis consonant, right is lenis consonant. The symbol in < > is the alphabet for spelling

	Bilabial		Alveolar		Postalveolar	Retroflex	Palatal	Velar	Labio- velar	Uvula r	Labio- uvula r
Stop	p <p>	b [β] 	t [t ^h , t ^w] <t>	d [ð] <d>				k <k>	g [ɣ] <g>	k ^w <kw>	
Nasal		m <m>	n: <n>	n <nh>							
Tap				r [ɹ] <r>							
Fricati ve			s <s>	z <z>	ʃ [ʃ] <chh> or <ll>	ʂ <x>	ʐ <xh>			ɣ <j>	ɣ ^w
Affric ate					tʃ <ch>						
Liqui d			l: <l>	l <lh>							
Glide							j <y>		w <w>		

Consonant

Difference between fortis vs. lenis stop (summarized based on data, also in accordance with Jaeger (1983))

	Syllable-initial	Syllable-medial	Syllable-final
Fortis	voiceless stop	voiceless stop	aspirated voiceless stop
Lenis	voiced stop	voiced fricative or approximant	voiced fricative

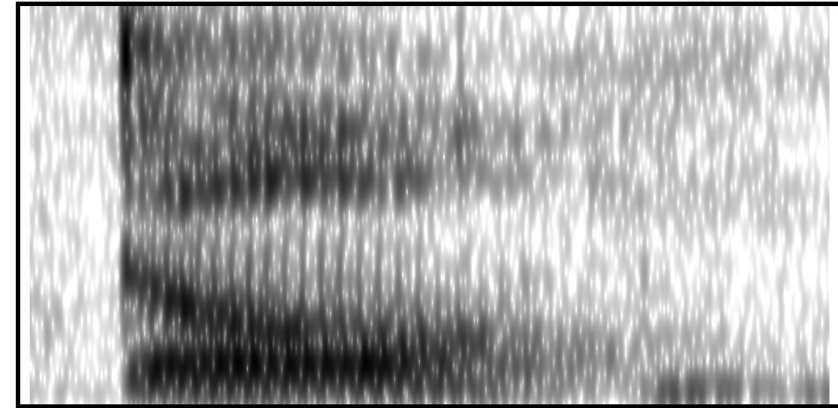
Fortis stops have longer duration than lenis stops (duration of stop is measured from the start of closure to the release of closure)

Consonant

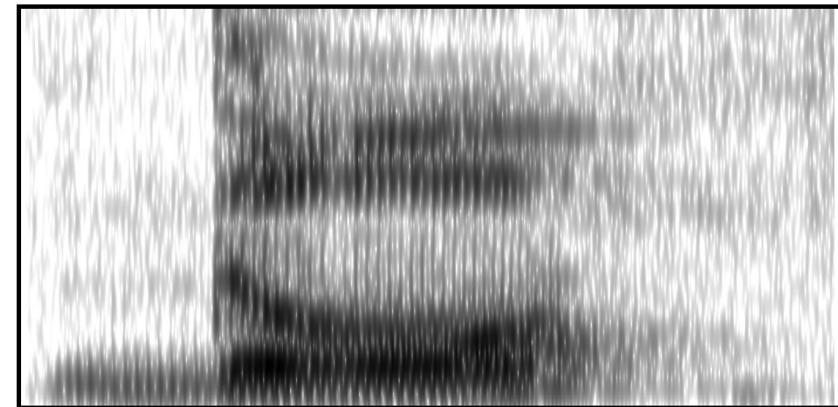
Difference between fortis vs. lenis stop

Syllable-initial: /t/ vs. /d/

(1) /tò/ [tò] to “one”



/dǒ/ [dǒ] do “rope”

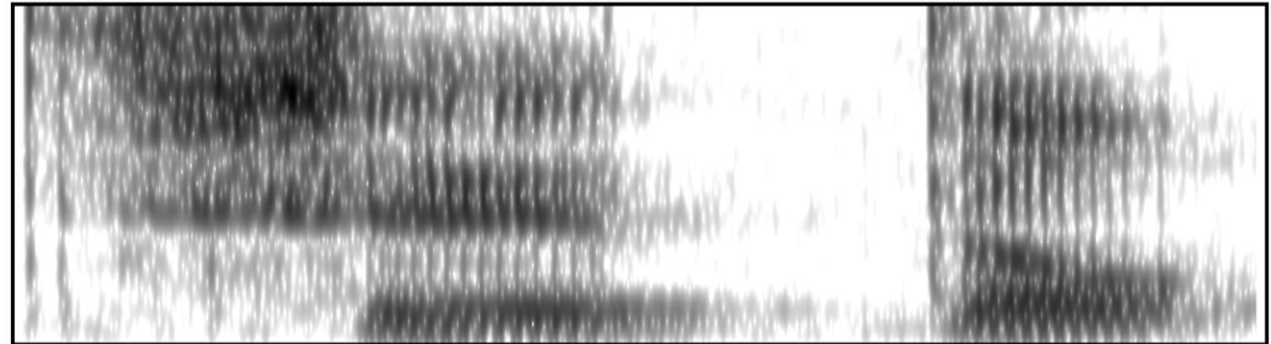


Consonant

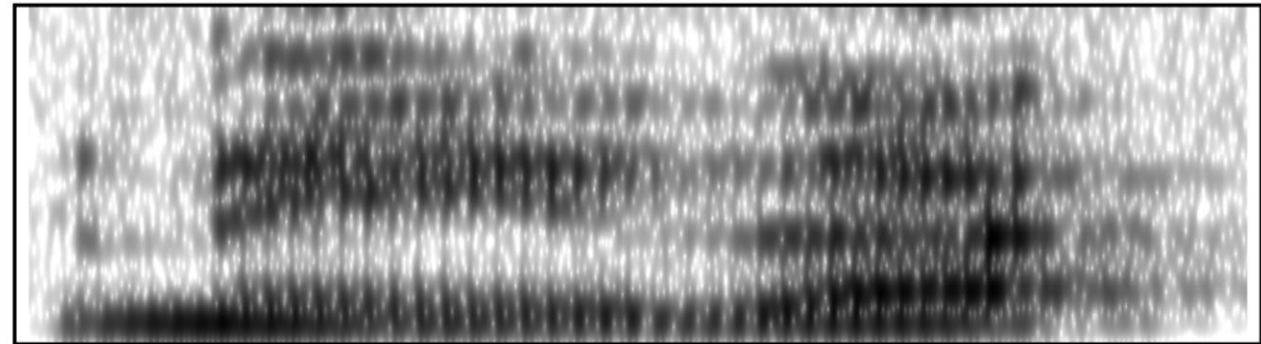
Difference between fortis vs. lenis stop

Syllable-medial: /t/ vs. /d/

(2) /tʂètóʔ/ [tʂètóʔ] cheto “our. excl”



/nèdá/ [nèďá] neda “I”

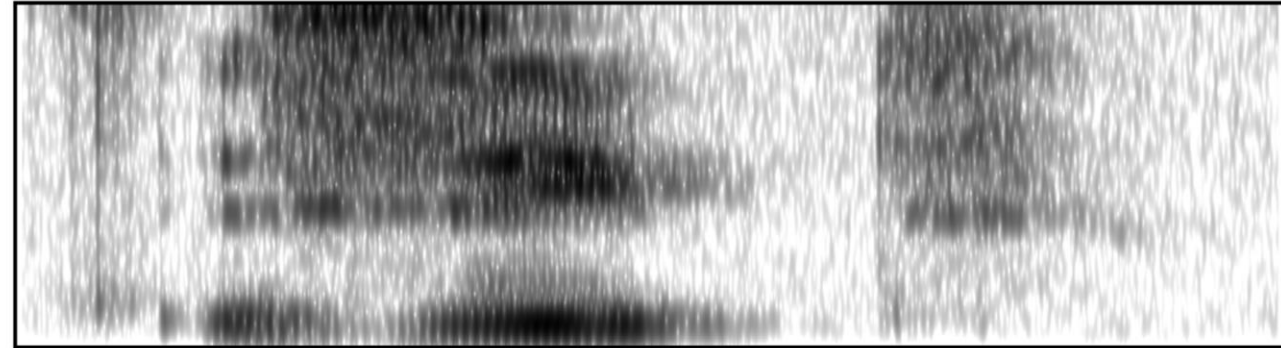


Consonant

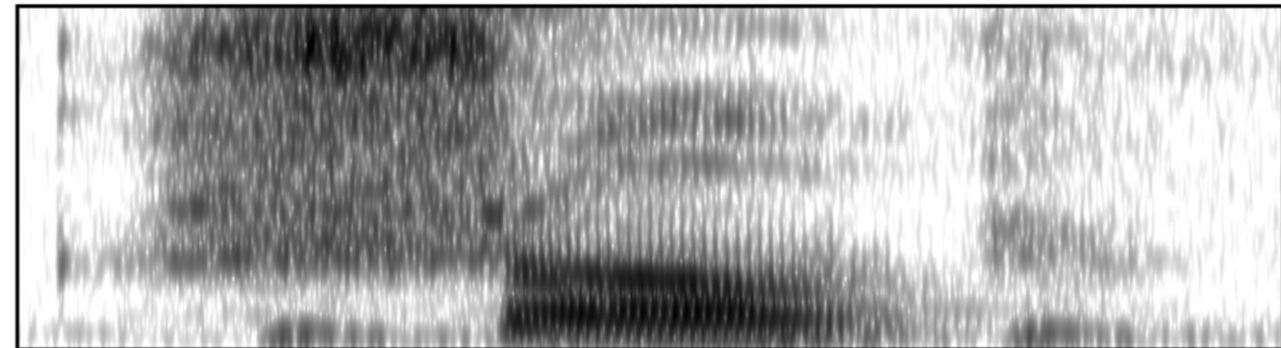
Difference between fortis vs. lenis stop

Syllable-final: /t/ vs. /b/

(3) /ʒit/ [ʒit^h] chhit “egg”
or llit



/ʒób/ [ʒób] xob “pull”



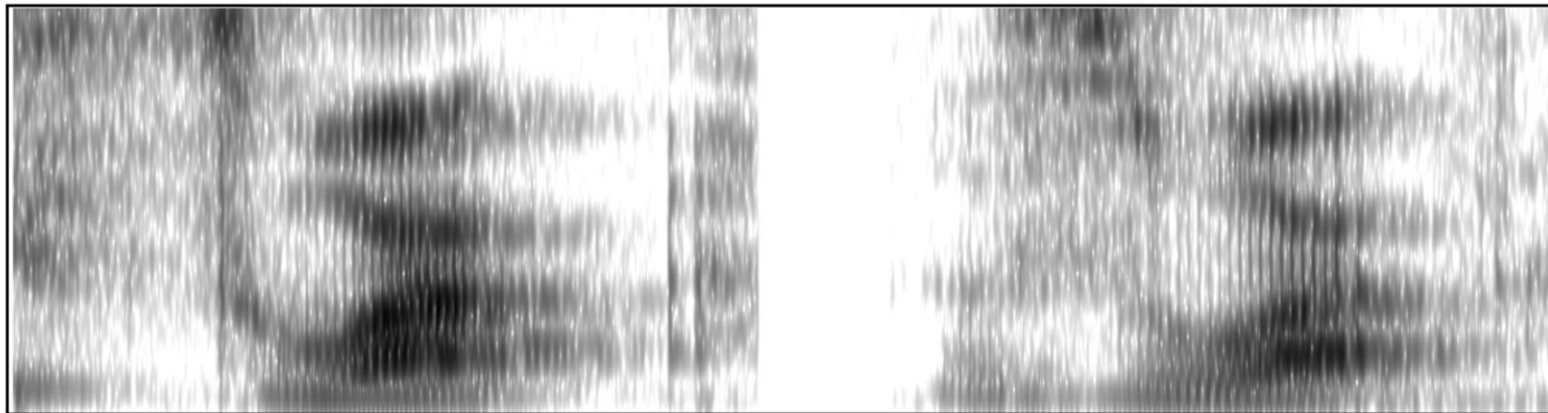
Consonant

Difference between fortis vs. lenis fricative:

Fortis fricative is voiceless; lenis fricative is voiced. Fortis fricative is longer than lenis fricative.

(4) /swáʔ/ [swáʔ] swa' "I will live"

/zwàʔ/ [zwàʔ] zwa' "I live"

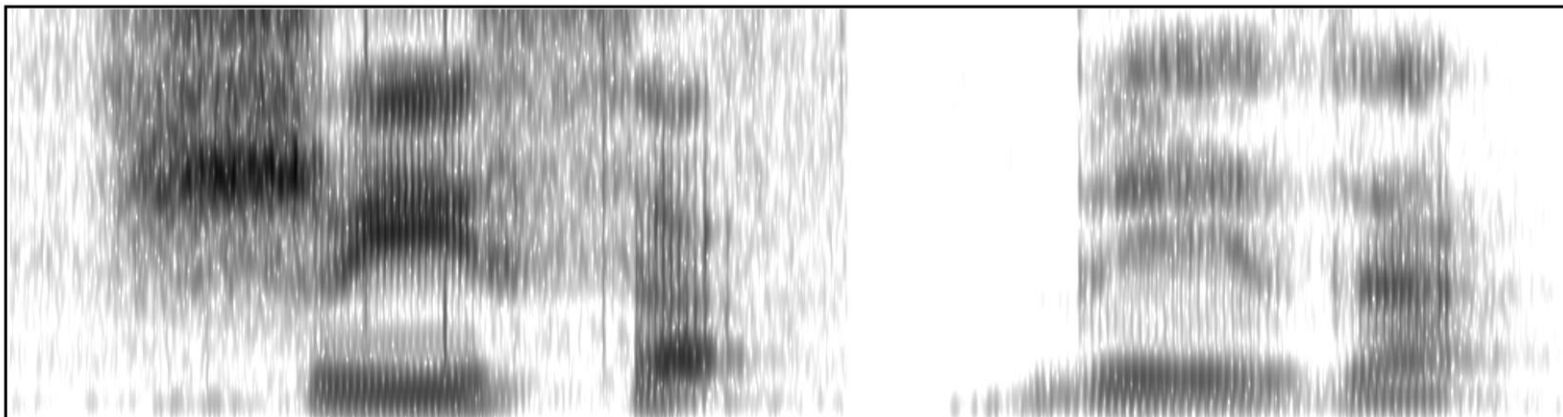


Consonant

Difference between fortis vs. lenis fricative:

Fortis fricative is voiceless; lenis fricative is voiced. Fortis fricative is longer than lenis fricative.

(5)	/ʃísàʔ/	[ʃísàʔ]	xisaʔ	“my water”
	/bèzáʔ/	[bèzáʔ]	bezaʔ	“fox”



Consonant

Affricate:

/tʃ/ does not have a lenis counterpart

Hypothesis: The lenis part of /tʃ/ is /ʒ/

Evidence:

- /tʃ/ is spelled as **ch**; /ʒ/ is spelled as **chh**; <h> represent lenis in the writing system.
- There is a correspondence between /tʃ/ and /tʃ/, and /ʒ/ and /dʒ/ in Yateé and Betaza.

	Betaza	Yateé	Betaza	Yateé	Betaza	Yateé
fortis	[tʃàʔ ^h]	[tʃà] “pan”	[bètʃéʔ ^h]	[bètʃéʔ] “lice”	[bíʃ]	[bíʃ] “air”
lenis	[dʒàʔ]	[ʒà] “day”	[bèdʒé]	[bèʒé] “cattle”	[bìdʒ]	[bìʒ] “dry”

Consonant

More about /ʒ/:

There are two representations for /ʒ/ in the alphabet: **chh** and **ll**. And sometimes they are indistinguishable to the speakers.

Hypothesis: There are two /ʒ/ in Yateé: one is derived from /dz/ as the lenis part of /tʂ/; the other is originally /ʒ/. They are now neutralized.

Consonant

Sonorants: n and l

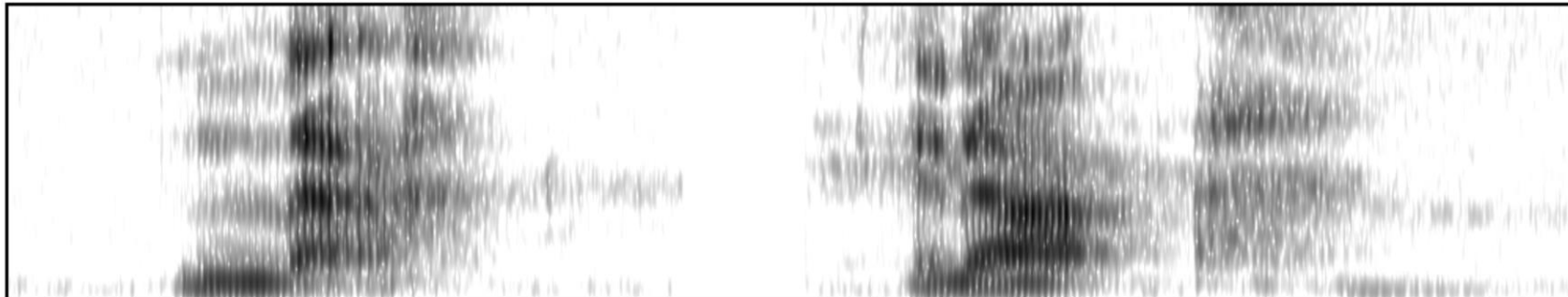
- Fortis is longer, transcribed as /n:/ and /l:/.
- Lenis is shorter and realized with a flapped-like quality, transcribed as /n/ and /l/.
- When lenis sonorant is at syllable-initial position, there is an epenthetic vowel being added before the sonorant, as [ərn] and /əɫ/.

Consonant

Sonorants:

/n:/ vs. /n/ at syllable-initial position

(6)	/n:à/	[n:à]	na'a	“now”
	/nàʔ/	[ərnàʔ]	nha'	“there”



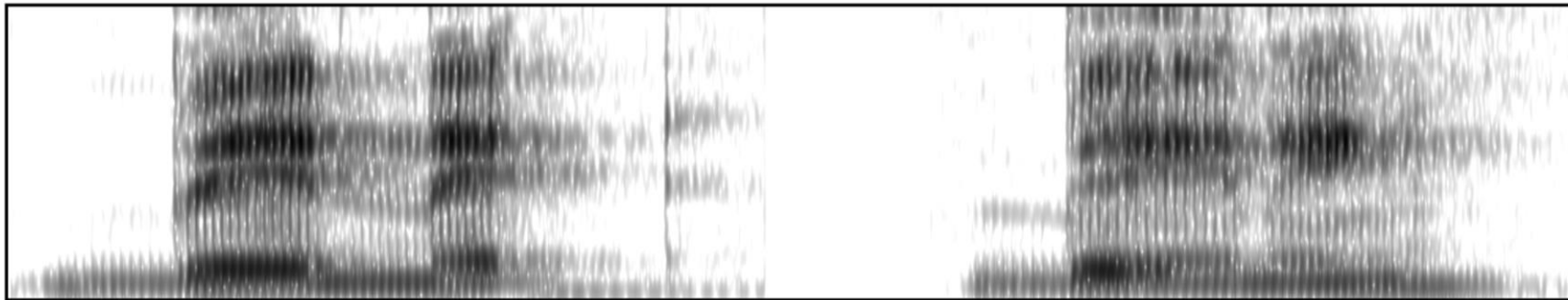
Consonant

Sonorants:

/n:/ vs. /n/ at syllable-medial position

(7) /bèn:éʔ/ [bèn:éʔ] bene' "person"

/bèné́n/ [bèné́ñ] benhen "Do it!"

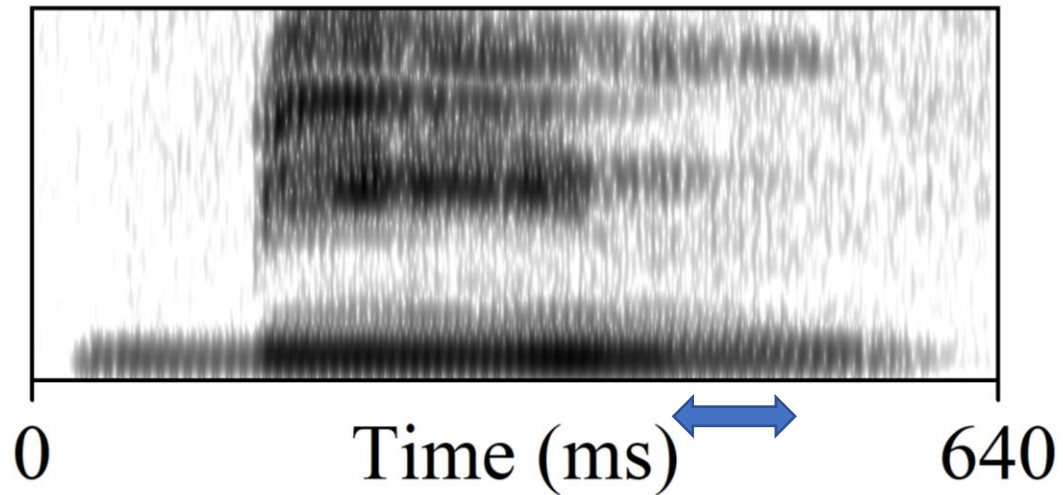


Consonant

Sonorants:

/n:/ at syllable-final position (haven't found an example of lenis n in final position)

(8) /bɪn:/ [bɪn:] bin "seed"

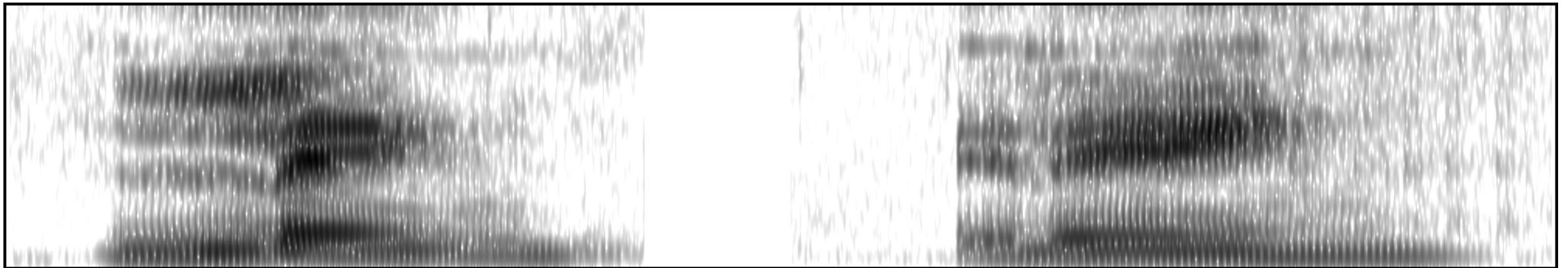


Consonant

Sonorants:

/l:/ vs. /l/ at syllable-initial position

(9)	/l:én:/	[l:én:]	len	“that”
	/lén:/	[əlén:]	lhen	“is called”

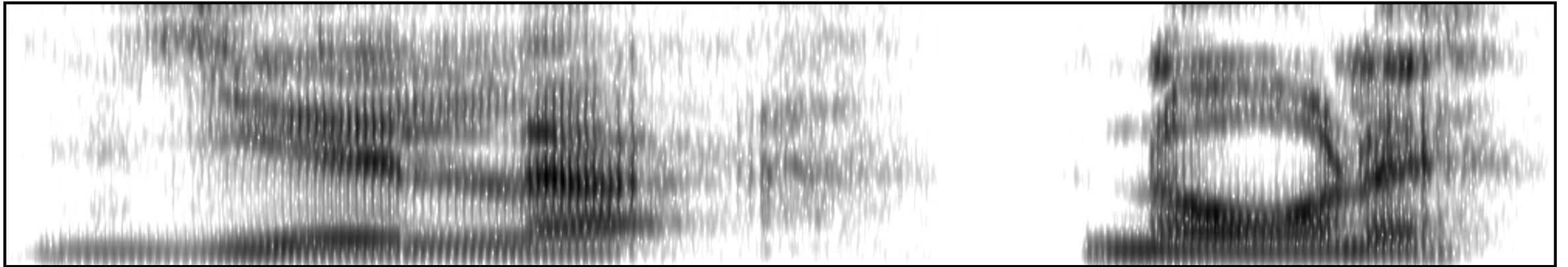


Consonant

Sonorants:

/l:/ vs. /l/ at syllable-medial position

(10)	/jél:áʔ/	[jél:áʔ]	yela'	“banana”
	/nólé/	[rnóJé]	nholhe	“woman”

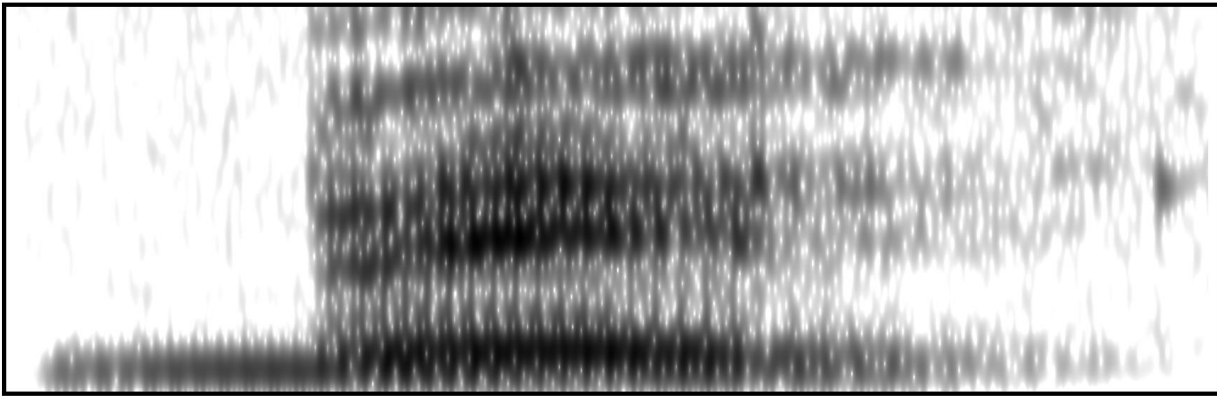


Consonant

Sonorants:

/l/ at syllable-final position: breathy noise in lenis /l/

(11) /bèl/ [bè!] belh “fish”

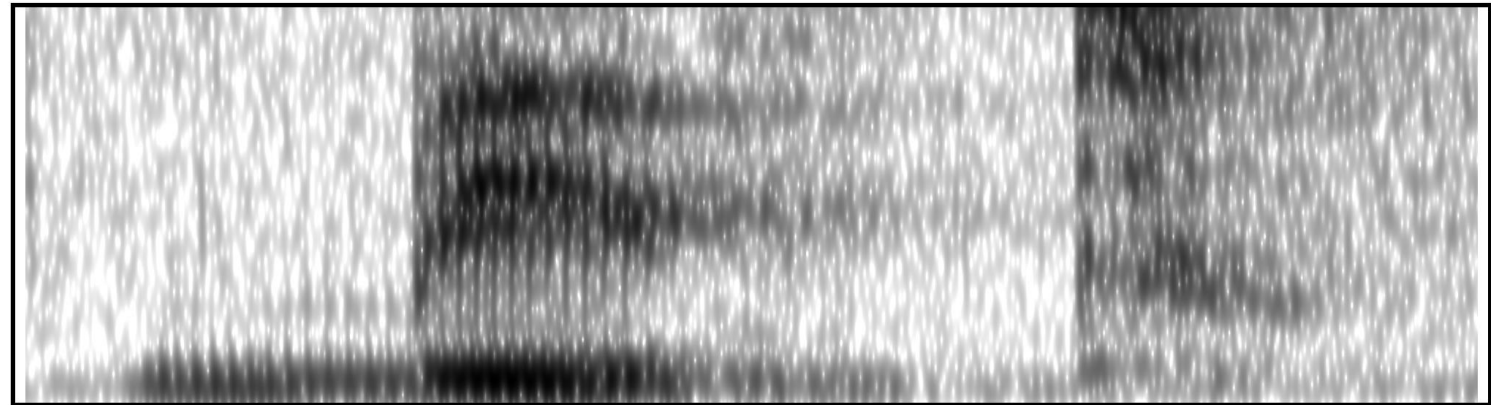


Consonant labialization

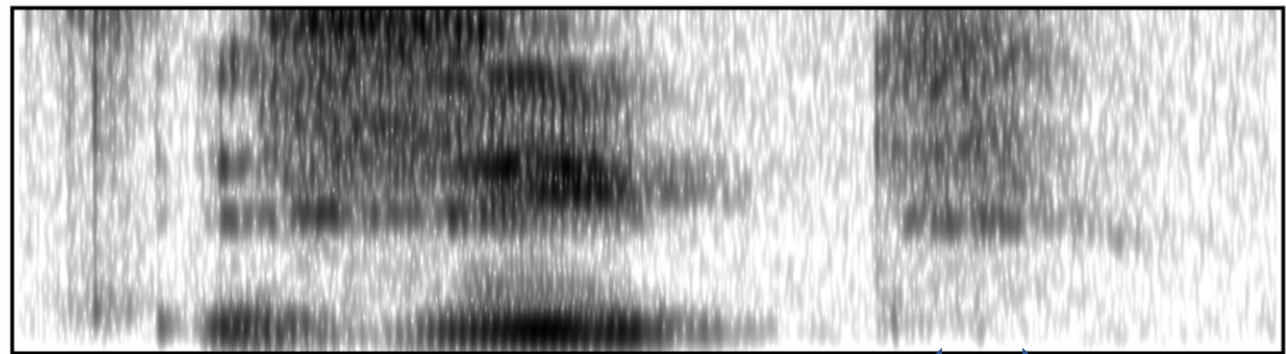
[tw]: phoneme /t^w/, or allophone of /t/, or /t/ + w?

Possible evidence for phoneme /t^w/: contrast between /t/ and /t^w/

(12) /bit^w/ [bit^w] bitw “goosefoot
t (type of
grass)”



/ʒit/ [ʒit^h] chhi “egg”
t or
llit

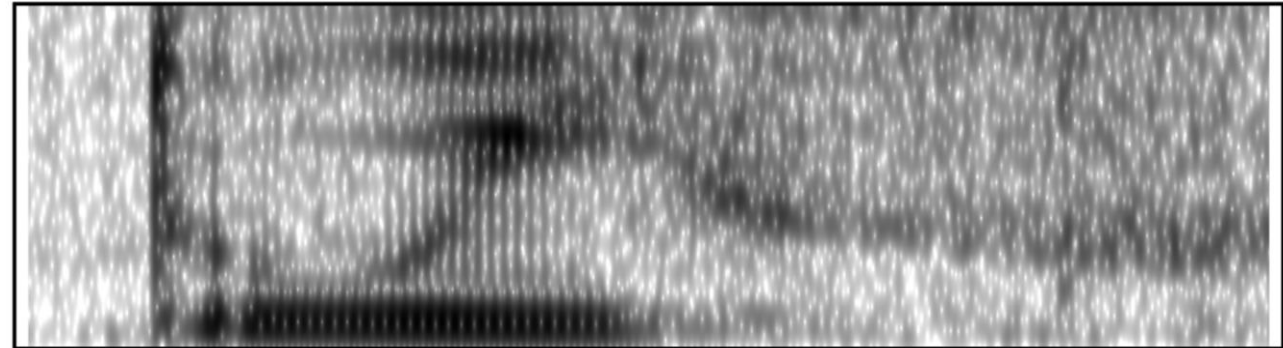


Consonant labialization

[tw]: phoneme /t^w/, or allophone of /t/, or /t/ + w?

Possible evidence for [tw] as /t/ + w:

- (13) /tò/ [tò] to “one”
/jìs/ [jìs] yis “year”
[twìs] twis “one year”



Hypothesis: /o/ → [w] / ___/j/

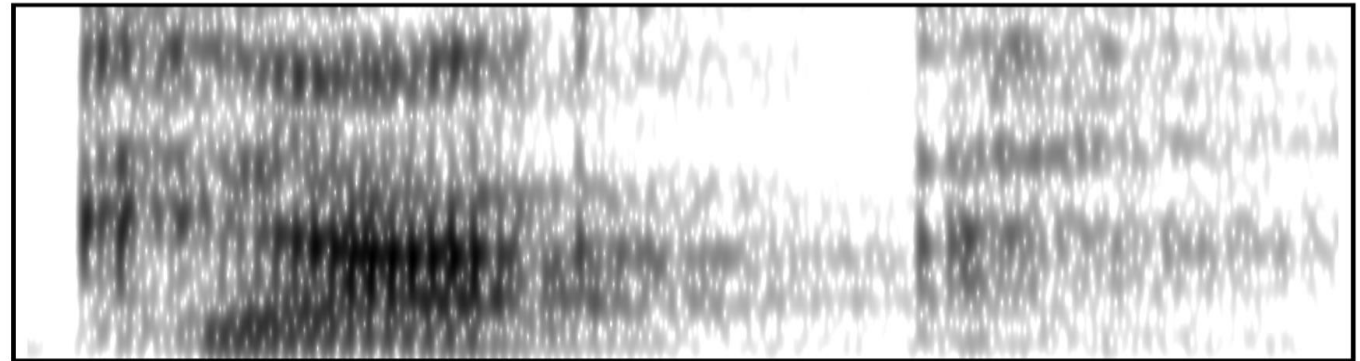
Consonant labialization

[kw]: phoneme /k^w/, or allophone of /k/, or /k/ + w ?

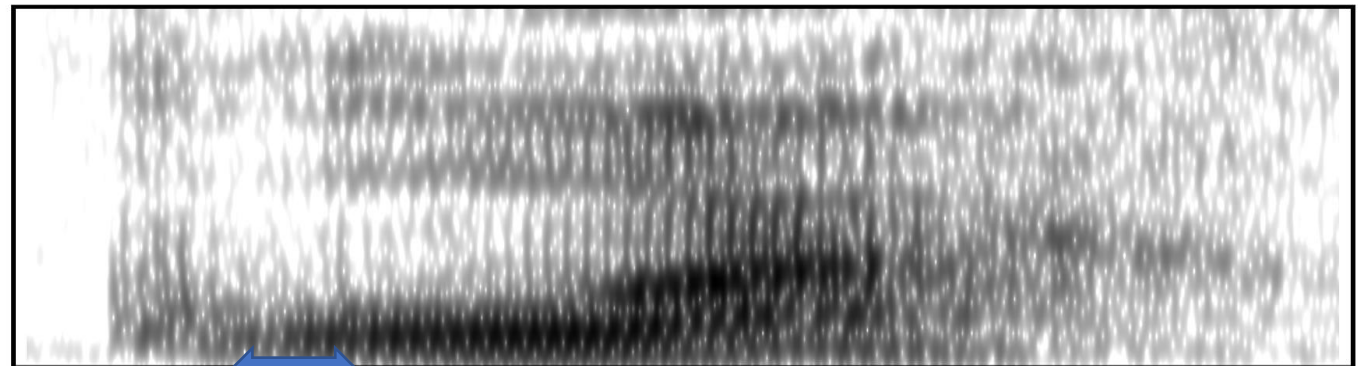
Possible evidence for /k^w/ as a phoneme: contrast between /k/ and /k^w/

(14) /kâʔ/ [kâʔ] ka'a "like
that"

*(unsure whether it is checked or
rearticulated)*



/k^wa/ [k^wâ] kwa "dough"

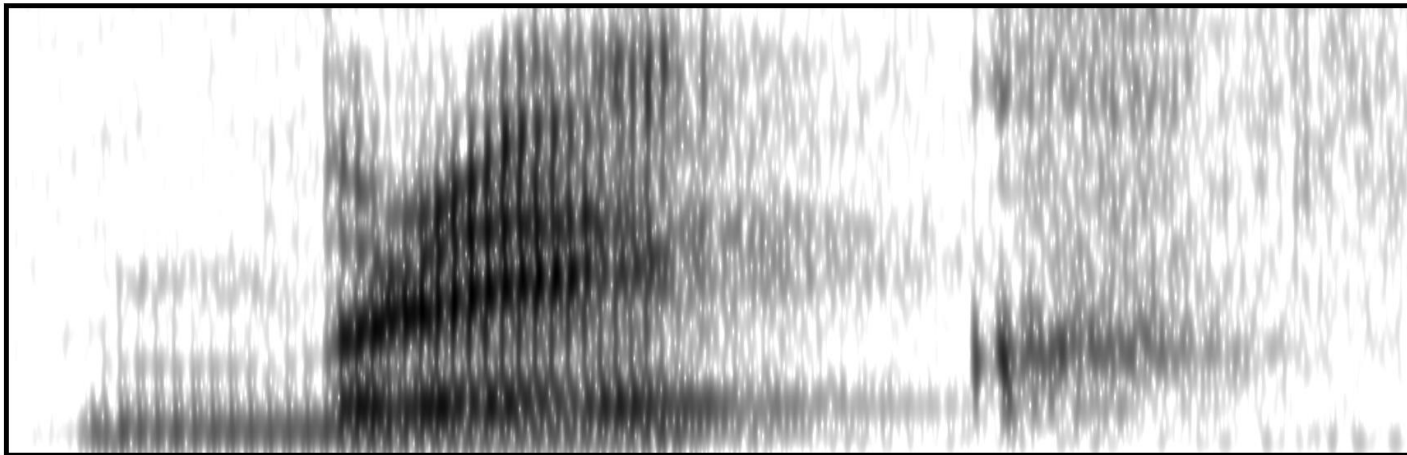


Consonant labialization

[kw]: phoneme /k^w/, or allophone of /k/, or /k/ + w ?

[kw] also occurs in syllable-final position, however, no example of [k] in syllable-final position has been found.

(15) [brèk^w] brekw “curve-shaped tool”



Consonant labialization

[k^w]: phoneme, or allophone of /k/, or /k/ + w?

Possible evidence for [kw] is /k/ + w

(16)	békò?	“dog”
	zík ^w à	“my dog”
	zîk ^w ò	“your.sg dog”
	zîk ^w é	“his.resp dog”
	zîkòbé?	“his.fam dog”
	zîkòzò	“our.incl dog”
	zîkòtó?	“our.excl dog”
	zîkòlé	“your.pl dog”
	zîkògàké?	“their.resp dog”
	zîkògàkbé?	“their.fam dog”

Hypothesis: /o/ → [w] / ___V

Consonant labialization

If /kw/ is analyzed as /k^w/, there is not a lenis counterpart /g^w/

Hypothesis: /g^w/ lenited to /w/

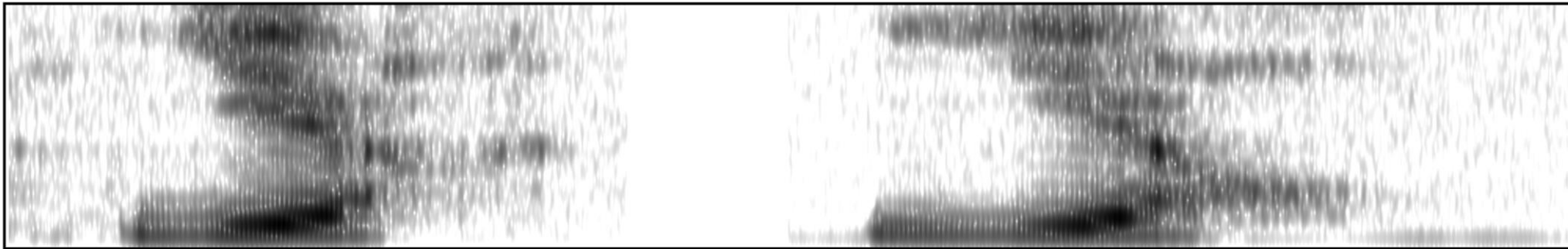
	Syllable-initial "ripe"	Intervocalic "I ate"	Syllable-final "to bend"
Betaza	[g ^w âʔ]	[bdàg ^w áʔ ^h]	[bléɣ ^w]
Yateé	[wâ]	[bdàwáʔ]	[bléw]

Consonant labialization






/ʋ/ vs. /ʋ^w/

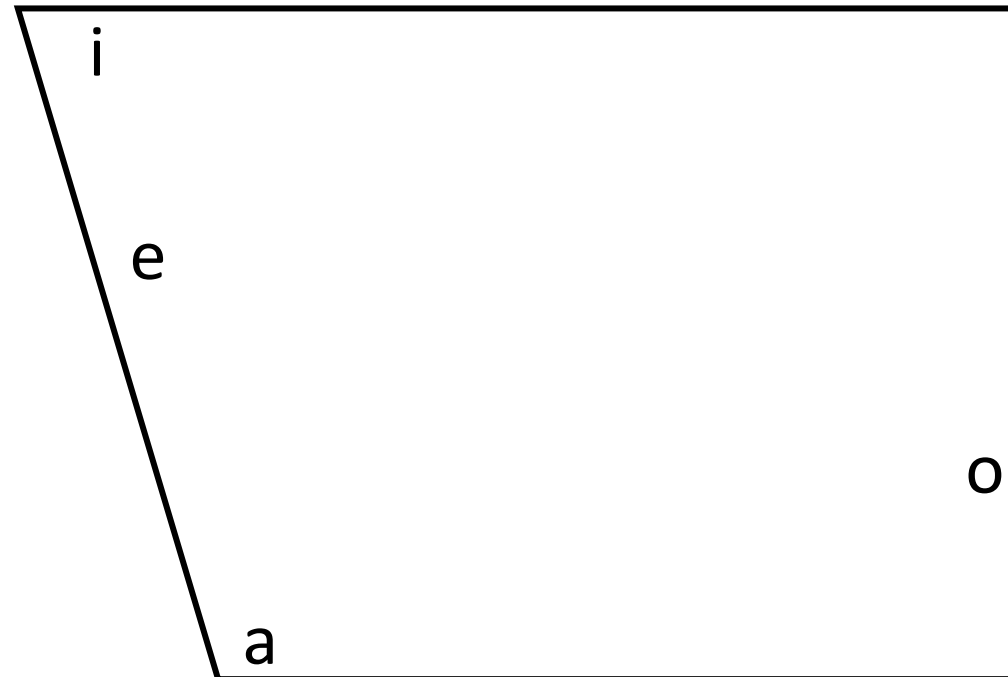
(17) /jeʋ/ [jeχ] yej “stone”

/jeʋ^w/ [jeχ^w] yejw “rain”



Vowel

(18)	/ʂáʔ/	xaʔ	“my father”	
	/ʂóʔ/	xoʔ	“your father”	
	/ʂéʔ/	xeʔ	“his.resp father”	
	/nès/	nhes	“path”	
	/nìs/	nhis	“water”	



Phonation

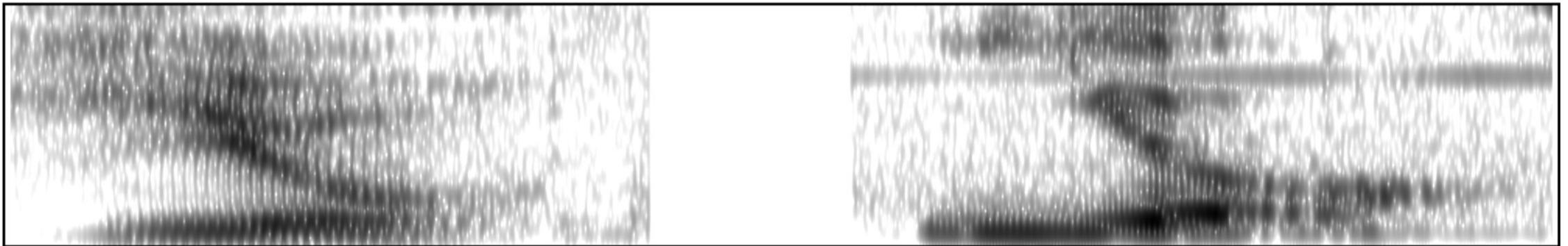
	Modal		Creaky/Rearticulated		Checked
jô	“dirt, ground”	jò	“house”		
dă	“come”	dà	“petate”		
tşí	“ten”			tşíʔ	“3sg.poss.f am”
		biǒ	“dog flee”	biǒʔ	“moon”
		zàl:à	“owe”	zàl:àʔ	“must”

Phonation

Modal vs. Creaky

(19) /jô/ [jô] yo “dirt, ground”

/jô̰/ [jô̰] yo’o “house”

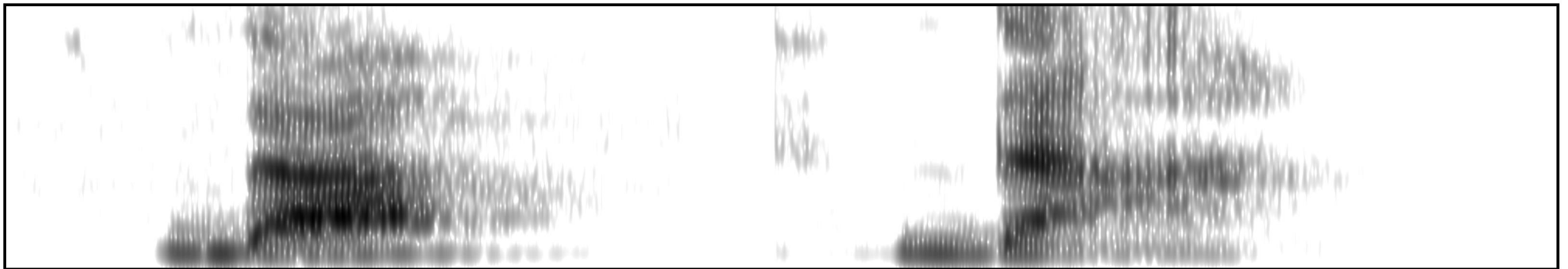


Phonation

Modal vs. Creaky

(20) /dǎ/ [dǎ] da “come”

/dà/ [dà] da’a “petate (type of mat)”

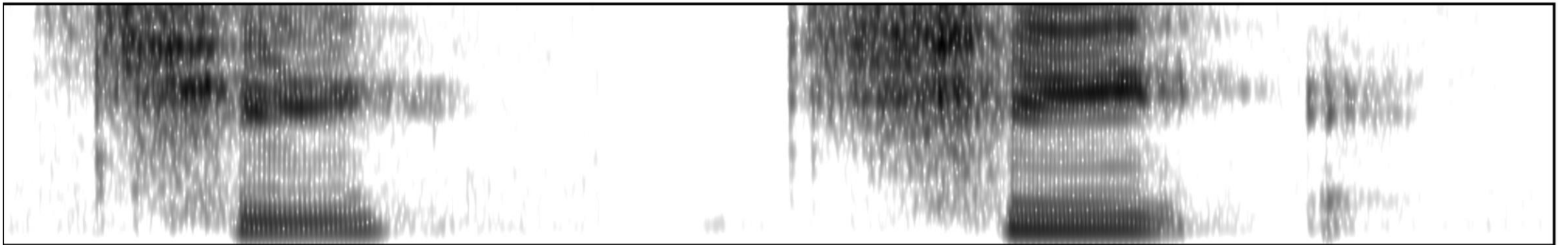


Phonation

Modal vs. Checked

(21) /tʂí/ [tʂí] chi “ten”

/tʂíʔ/ [tʂíʔ] chi' “3sg.poss.fam”

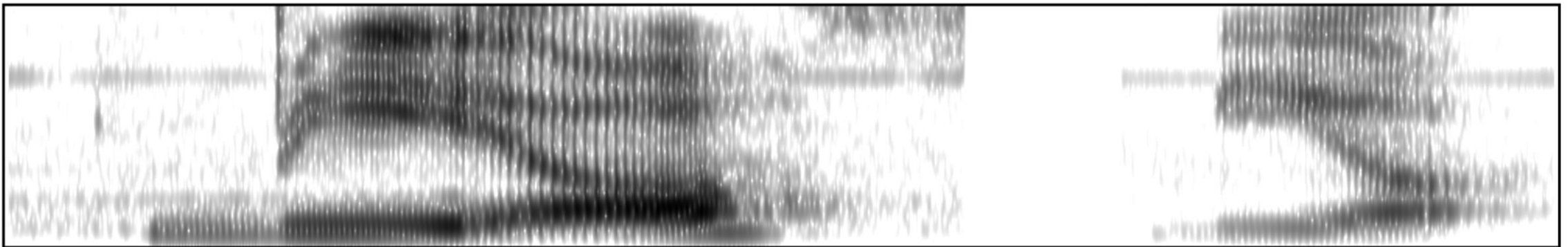


Phonation

Creaky vs. Checked

(22) /bjǫ/ [bjǫ] bio'o "dog flee"

/bjǫʔ/ [bjǫʔ] bio' "moon"

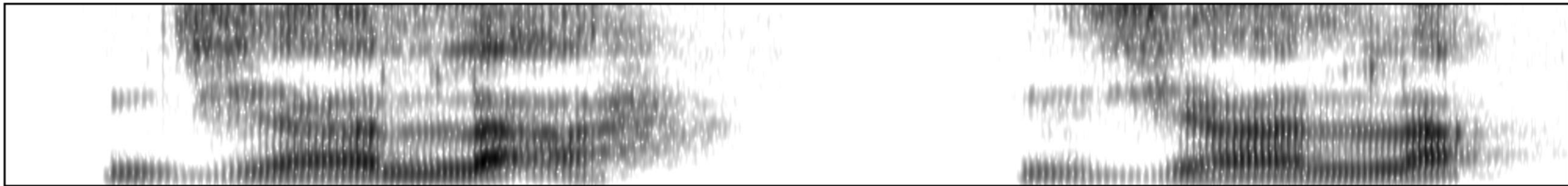


Phonation

Creaky vs. Checked

(23) /ʒàl:à/ [ʒàl:à] chhala “owe”

/ʒàl:àʔ/ [ʒàl:àʔ] chhala “must”



Phonation

The glottal stop in creaky/rearticulated and checked phonation is not considered as a phoneme because V? syllables behave the same as V syllables, but differently from VC syllables in definite marker affixation.

Definite suffix: -/n/

(24a) wşê bléw tò jàg wí
tomorrow bend.imp one tree orange

Tomorrow, bend **an** orange tree (branch)! 

(24b) wşê bléw jàg wî-n
tomorrow bend.imp tree orange-**definite**

Tomorrow, bend **the** orange tree (branch)! 

Phonation

The glottal stop in creaky/rearticulated and checked phonation is not considered as a phoneme because CV? syllables behave the same as CV syllables, but differently from CVC syllables in definite marker affixation.

Syllable type	Stem	Definite	Gloss
CV	wí	wîn	“orange”
	dǒ	dǒn	“rope”
CVC	nìs	nìsàn	“water”
	jèt	jètàn	“chicken”
CV?	jél:á?	jél:án	“banana”

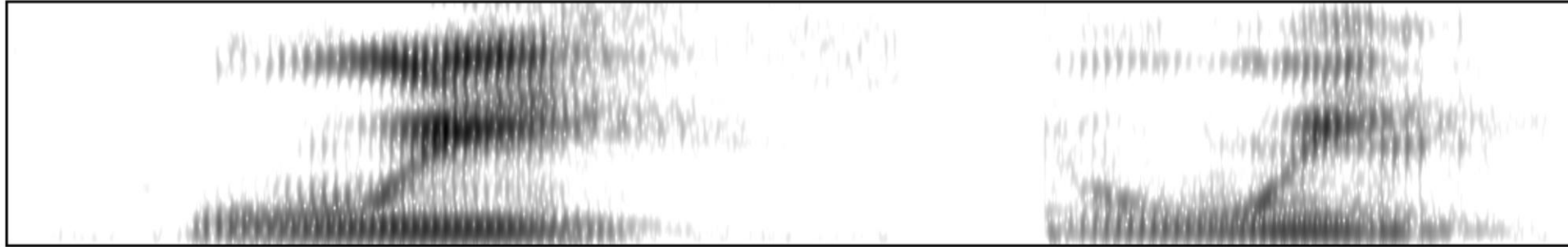
/CV/ → [CV] / ____n

/CVC/ → [CVCə] / ____n

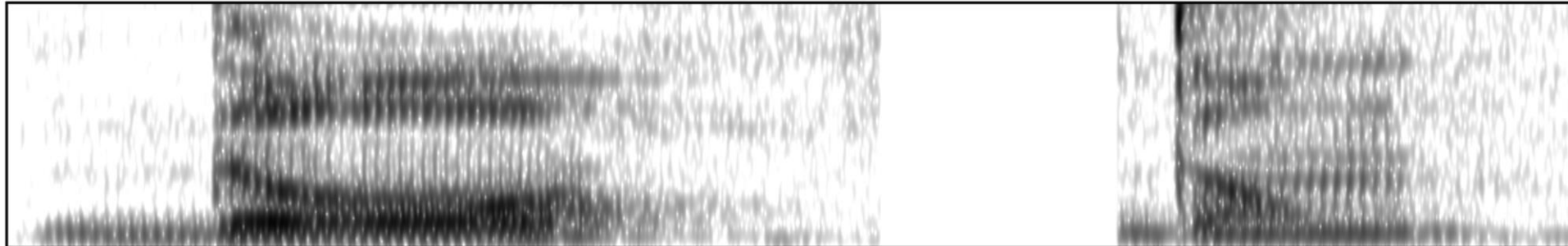
/CV?/ → [CV] / ____n

Phonation

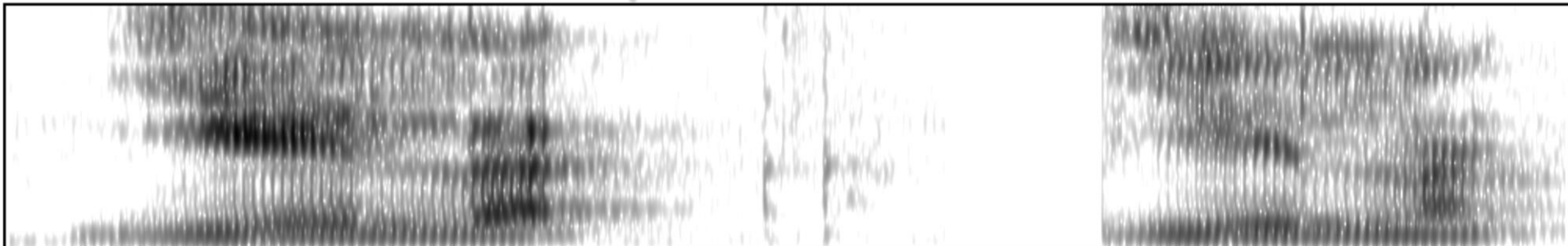
wí “orange”; wîn “orange.def”



dǒ “rope”; dǒn “rope.def”

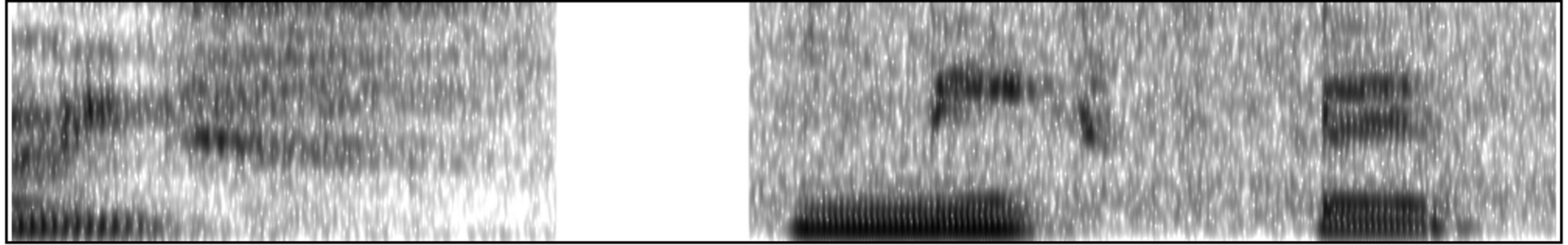


jél:áʔ “banana”; jél:áʔn “rope.def”



Phonation

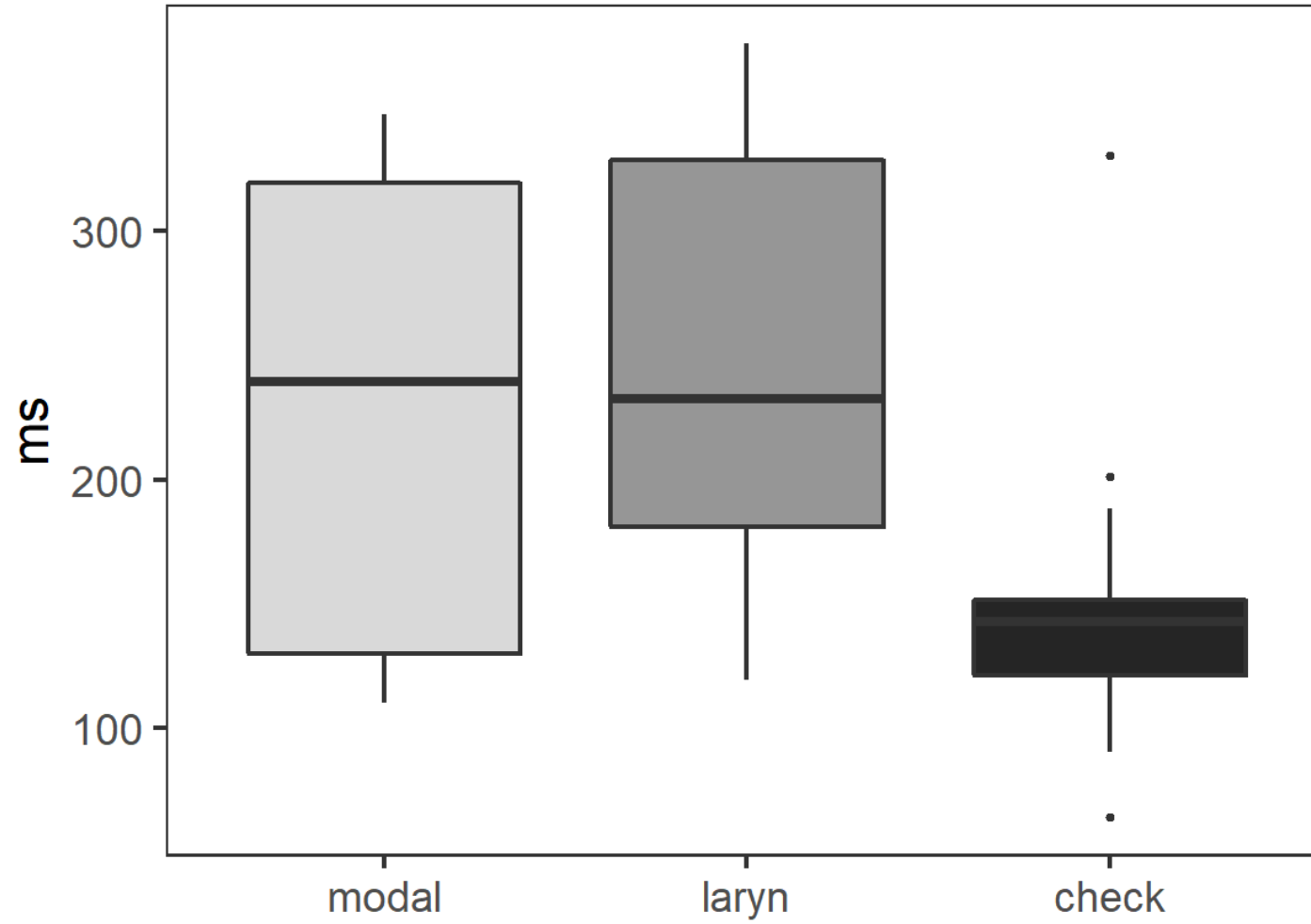
/nìs/ “water”; /nìsən/ “water.def”



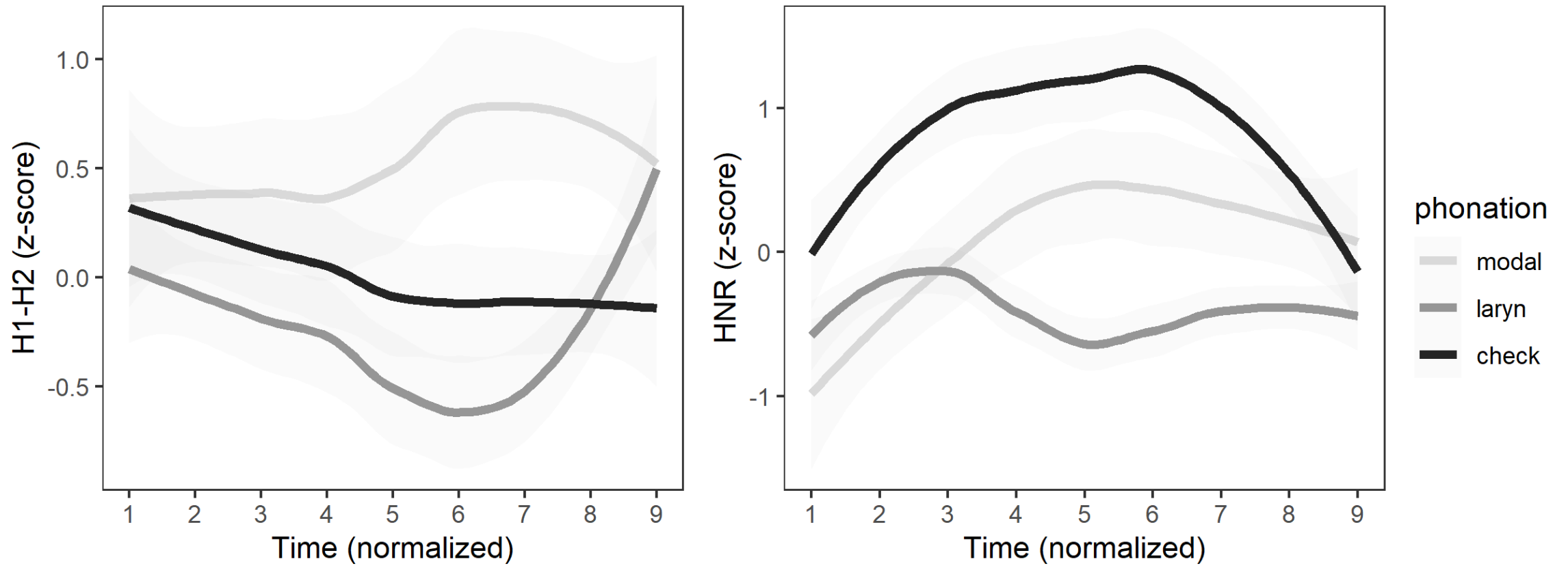
/jèt/ “tortilla”; /jètən/ “tortilla.def”



Phonation











Phonation



Tone

There are four tones: High, Low, Rising, and Falling

(25)	H vs. L	/ʒén/	[ʒén]	chhen	“smoke”	
		/ʒèn/	[ʒèn]	chhen	“blood”	
	H vs. F	/l:éʔ/	[l:éʔ]	le’	“you.sg”	
		/l:êʔ/	[l:êʔ]	le’	“he/she.resp”	
	H vs. R	/n:iá/	[n:iá]	nia	“I say”	
	L vs. R	/n:iǎ/	[niǎ]	nia	“my foot”	
		/jà/	[jà]	ya’a	“mountain”	
		/jǎ/	[jǎ]	ya’a	“Monday plaza”	

Tone

There are four tones: High, Low, Rising, and Falling

/n:iáʔ/

[n:iáʔ]

nia

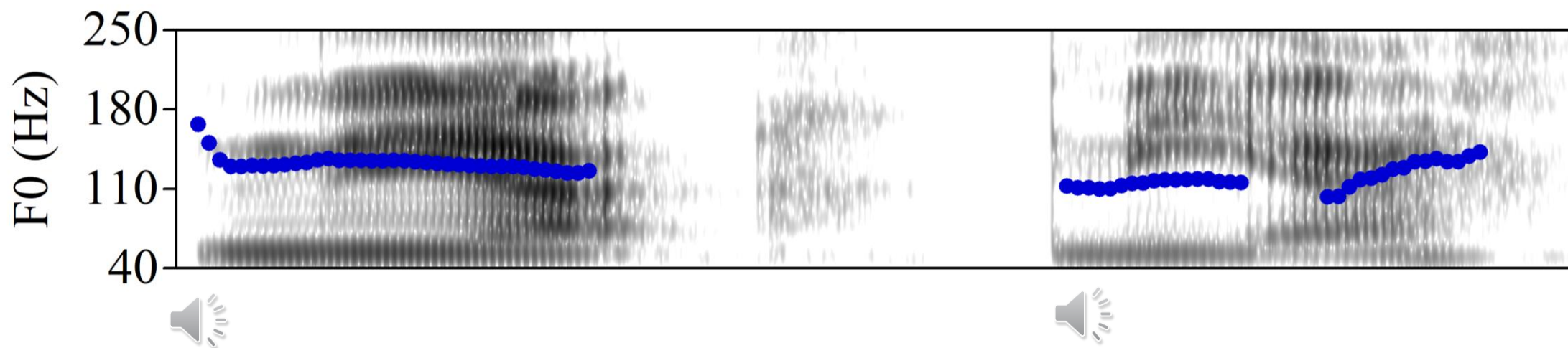
“I say”

/n:iǎ/

[n:iǎ]

nia







“my foot”



(Not sure how to transcribe and syllabify those two words. Diphthongs or two vowels? How many tones to assign? Is there a /ʔ/ in “my foot” or is it a rearticulated vowel?)







Tone



Modal, creaky, and checked phonation can bear any of the four tones. (*though it is often unclear whether a creaky vowel is realized in rising or high tone*)

(26)	H	V	/wí/	[wí]	wi	“orange”	
		<u>V</u>	/bó/	[bó]	bo	“carbon”	
		V [?]	/l:é [?] /	[l:é [?]]	le’	“you.sg.”	
	L	V	/tò/	/tò/	to	“one”	
		<u>V</u>	/jà/	[jà]	ya’a	“mountain”	
		V [?]	/békò [?] /	[békò [?]]	beko’	“dog”	

Tone

Modal, creaky, and checked phonation can bear any of the four tones. (*though it is often unclear whether a creaky vowel is realized in rising or high tone*)

(26)	R	V	/dǒ/	[dǒ]	do	“rope”	
		<u>V</u>	/biǒ/	[biǒ]	bio'o	“dog flee”	
		V ^ʔ	/biǒ ^ʔ /	[biǒ ^ʔ]	bio'	“moon”	
F	V	/jô/	[jô]	yo	“dirt, ground”		
	<u>V</u>	/jô/	[jô]	yo	“house”		
	V ^ʔ	/l:ê ^ʔ /	[l:ê ^ʔ]	le'	“he/she.resp”		



Thanks to Daniela Vasquez, Eliana Marvizon, and Lesly Nunez for facilitating the elicitation sessions and transcribing the recordings.