The phonetics and phonology of Mindri, a dialect of Kera'a (Idu)

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Naomi Peck
Albert-Ludwigs-Universität Freiburg

Overview

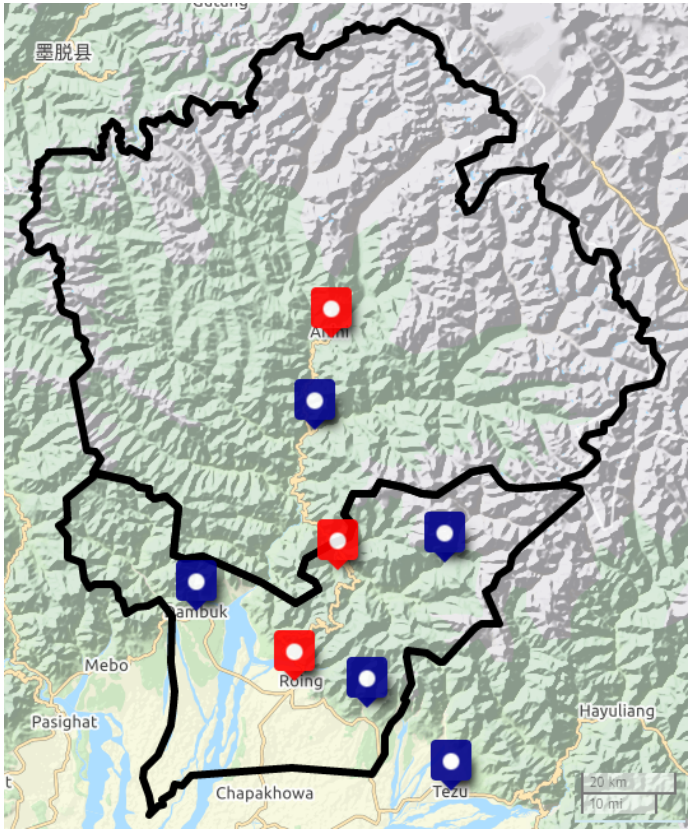
- Kera'a and Mindri
- Consonants
- Vowels
- Tone
- Phonotactics
- Kera'a Phonology

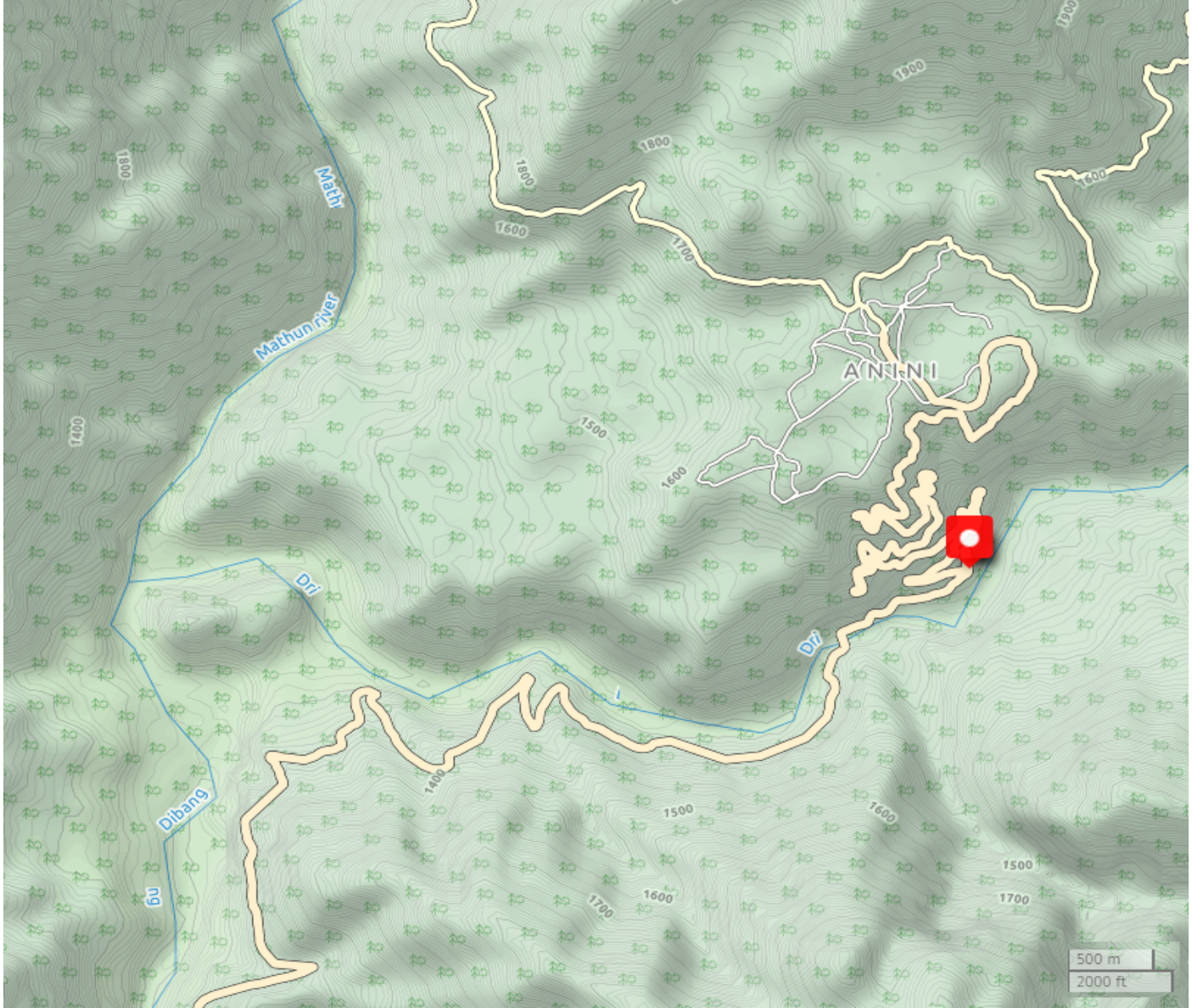
Kera’a

- clk, idum1241 (‘Idu Mishmi’)
- Sino-Tibetan > ? > Kera’a-Tawrã? (Evans et al. 2019)
- < 12000 speakers
- Threatened (EGIDS 6b)
- Spoken in Lower Dibang Valley and Dibang Valley districts in India

Kera'a

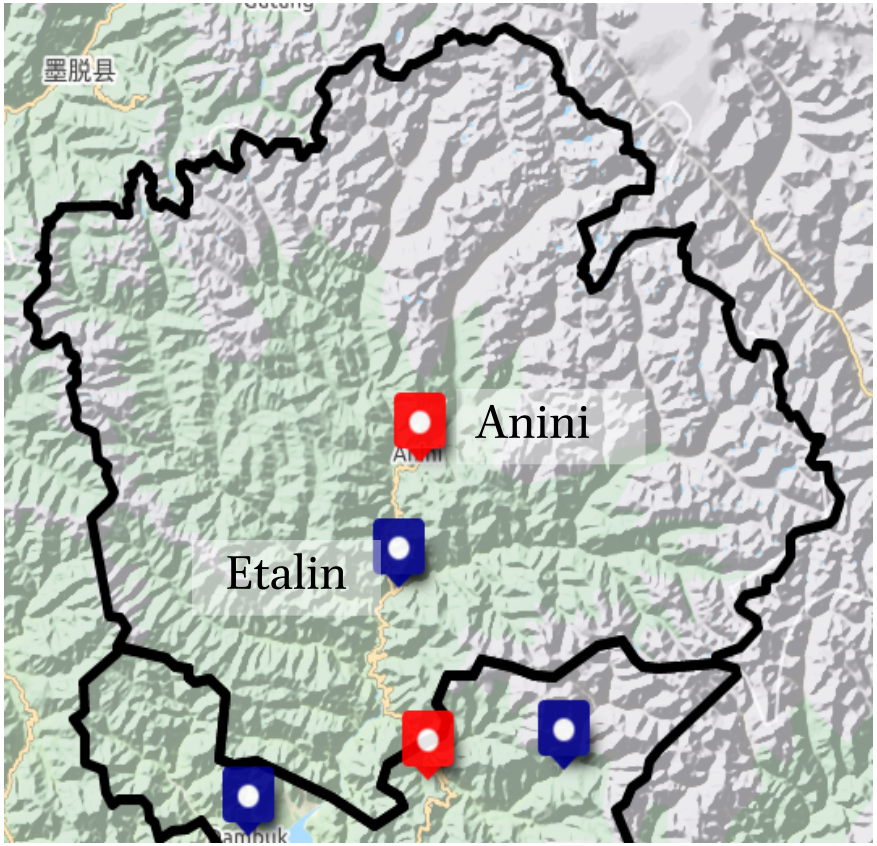
- 2 main varieties: Midu, Mithu
  - Midu has two 'subdialects', Mindri and Mihi
- Previous linguistic description in Chinese (Jiang 2005), some handbooks and draft descriptions floating around (e.g. Pulu 1978, Blench and Lingi ms)
- Fieldwork from 2016- on Mithu; 2019- on Mindri




Mathun river
Dri
Dibang
ANINI
500 m
2000 ft

Data

- Based on data collected in February – March 2020
- Detailed phonetic analyses performed on recordings with 2 speakers (26F from Anini; 29M from Etalin)
  - 353 words, with 3-6 tokens per word
  - 186 from female speaker; 167 from male speaker
- Processing done in EMU-SDMS and R; Praat



Data

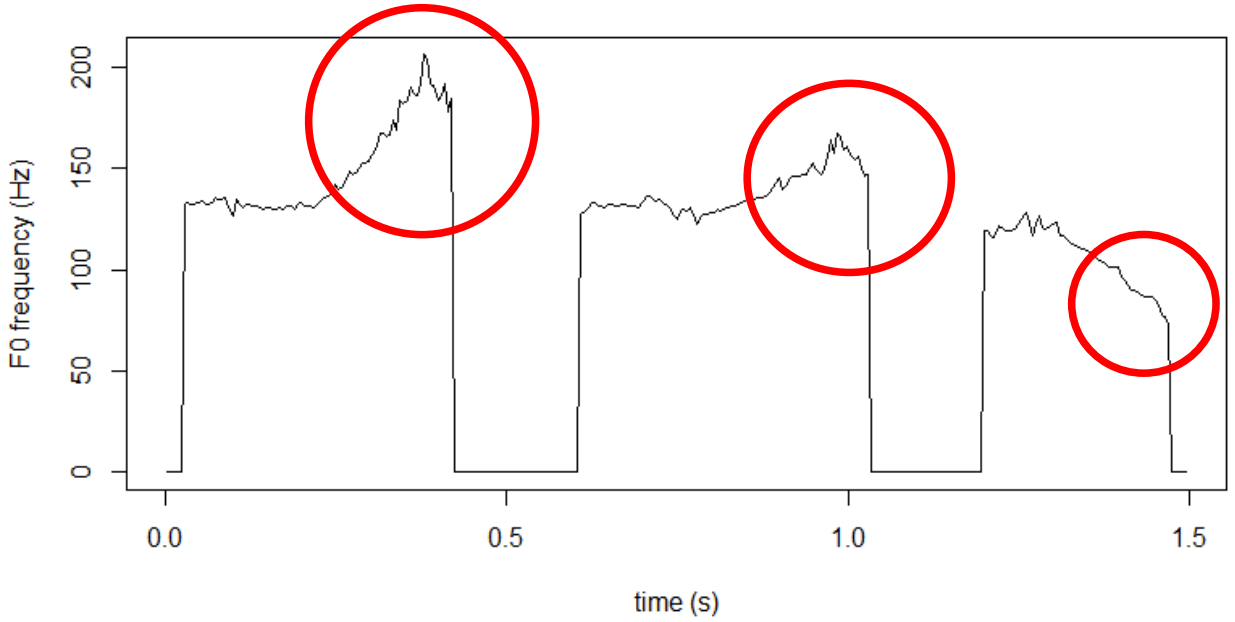
Two contexts for tokens: isolation and frame

ŋɐme	[XXX]	ʔlɐjɐ
Nga^{HL}=me	[XXX]	la^{ML}-ya$^{??}$.
1SG=NOM	[XXX]	say-PFV

‘I said XXX.’

Data

Important to separate isolation/frame contexts (Teo et al. 2015)



/jɐ^{LF}/
‘night’

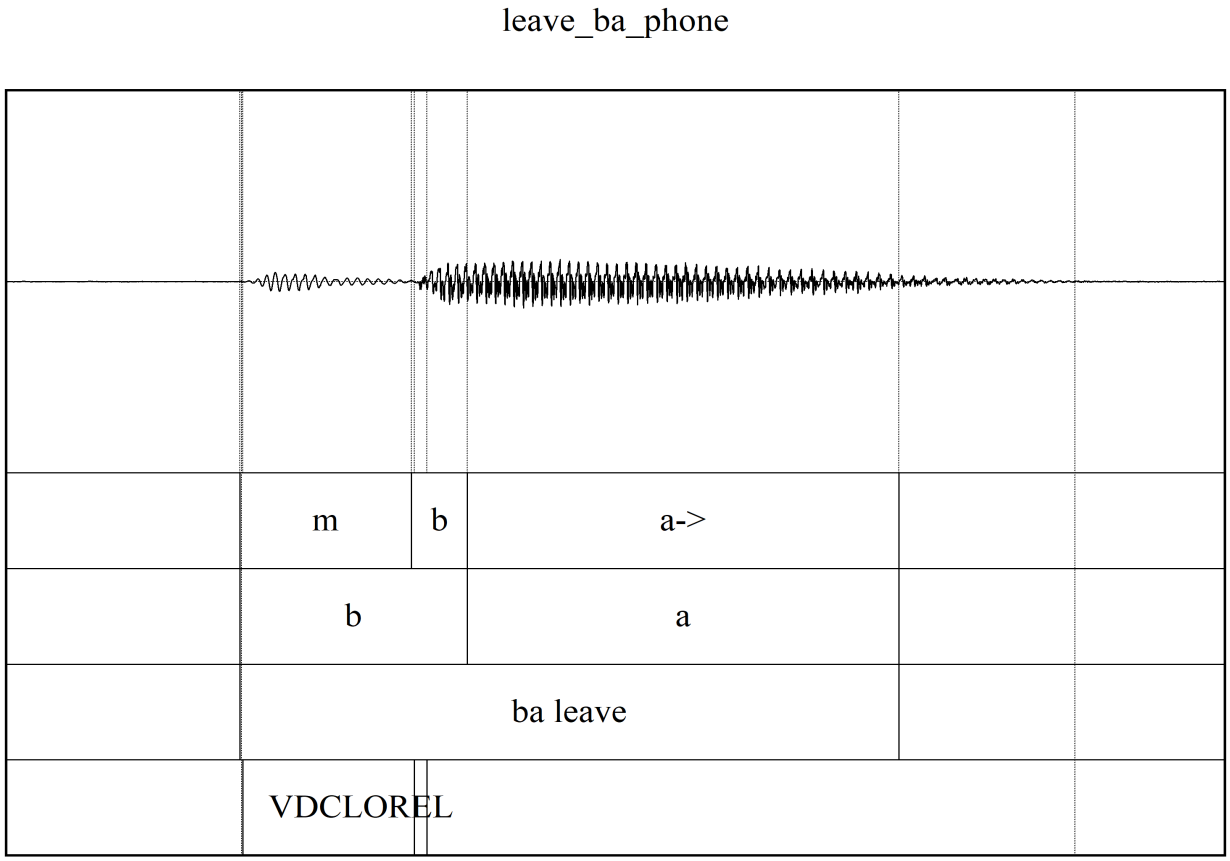
Consonants

		Bilabial	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Glottal
Plosives	Voiceless	p	t				k	ʔ <‘>
	Aspirated	pʰ <ph>	tʰ <th>				kʰ <kh>	
	Voiced	b	d				g	
Nasals		m	n				ŋ <ng>	
Fricative			s					h
Affricate	Voiceless		ts	tʃ <ch>				
	Voiced		dz <z>	dʒ <j>				
Approximant	Central	w			ɻ <r>	j <y>	w	
	Lateral		l					

Consonant Minimal Pairs

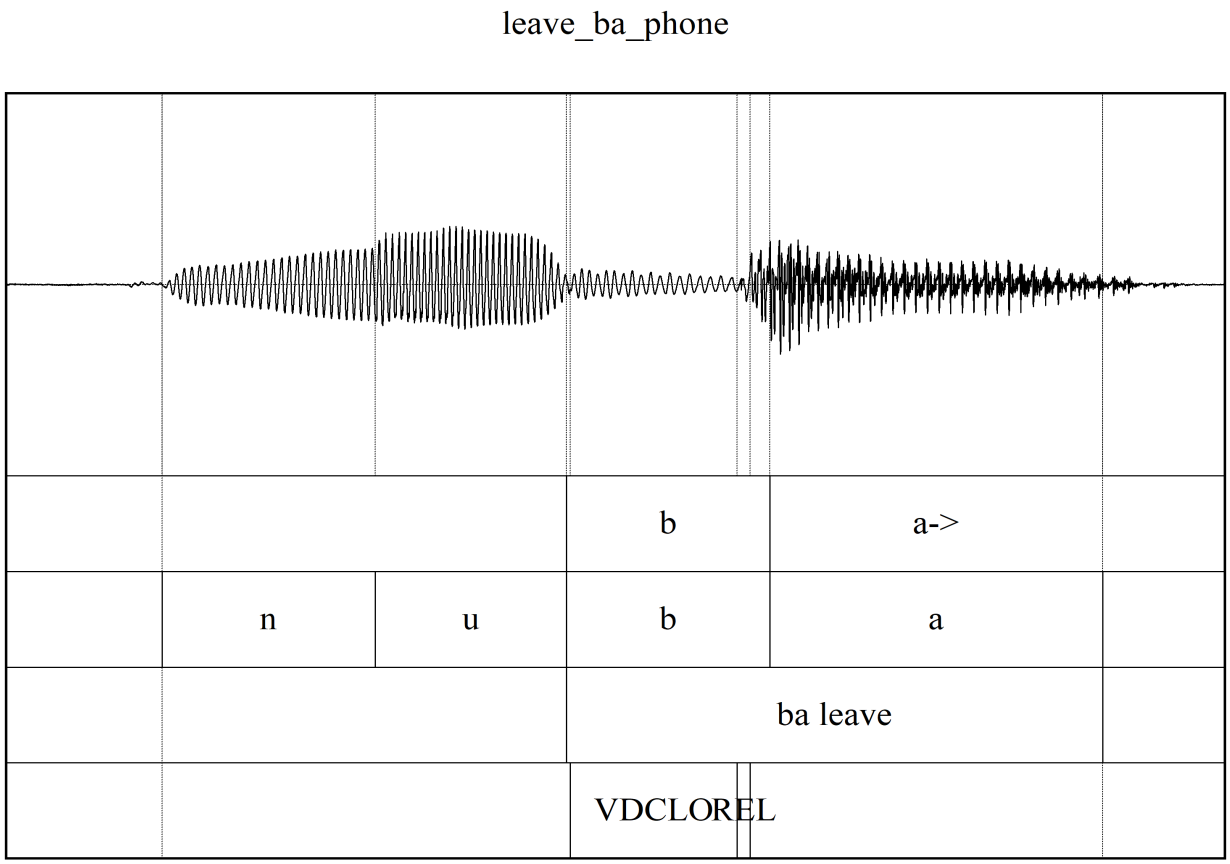
Token	Word	Meaning	Token	Word	Meaning	Token	Word	Meaning
/pɐ^{MF}/	*pa*	area full of	/kɐ^{LF}/	*ka*	bitter	/dzi^{LF}/	*zi*	wear on wrist
/pʰɐ^{MF}/	*pha*	design	/kʰɐ^{ML}/	*kha*	lay	/dʒi^{HF}/	*ji*	sit
/bɐ^{LF}/	*ba*	leave	/gɐ^{LF}/	*ga*	shatter	/wɐ^{MF}/	*wa*	scratch
/mɐ^{LF}/	*ma*	black	/ŋɐ^{HL}/	*nga*	1SG	/ʔlɐ^{ML}/	*la*	say
/tɐ^{MF}/	*ta*	weave	/si^{LF}/	*si*	slice	/jɐ^{LF}/	*ya*	night
/tʰɐ^{MF}/	*tha*	fishtrap	/tsĩ^{HF}/	*tsĩ*	rot	/ɻɐ^{HL}/	*ra*	decay
/dɐ^{HF}/	*da*	borrow	/tʃi^{MF}/	*chi*	soup	/ʔɐ^{ML}/	*a*	child
/nɐ^{HL}/	*na*	hurt	/hi^{HL}/	*hi*	take	/ʔi^{MF}/	*i*	live

Prenasalised Obstruents



/bɐ^{LF}/
[m̩.bɐ̯̈↓]
‘go’

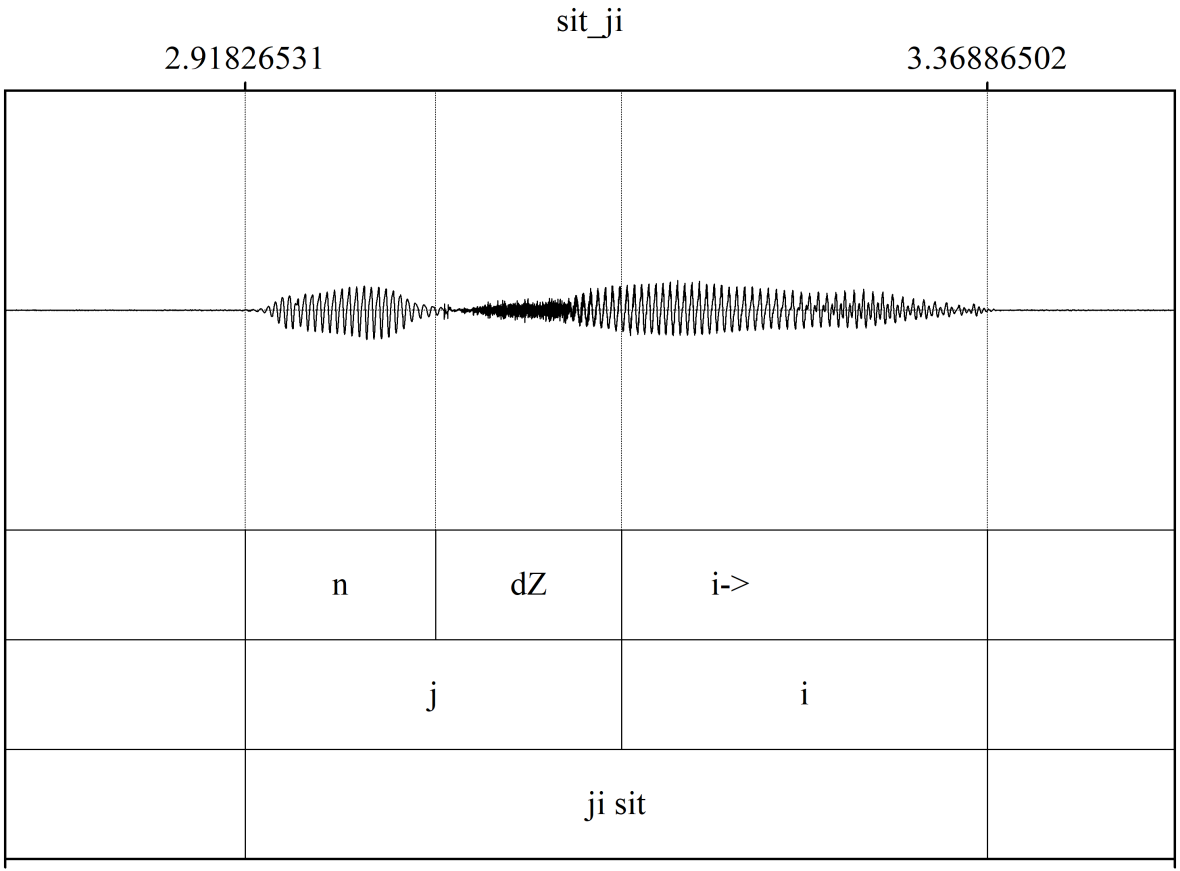
Prenasalised Obstruents



/nu^{ML} bɐ^{LF}/
2SG go
[nu˦.bɐ̯˩]
‘Go!’

D → N.D / #____

Prenasalised Obstruents



/dʒi^{HF}/
[n̩.dʒiˬ]
‘sit’

Prenasalised Obstruents

$$C_{[\text{-son, +voice}]} \rightarrow N_{\alpha}.C_{\alpha[\text{-son, +voice}]} \; / \; \#\_\_\_\_$$

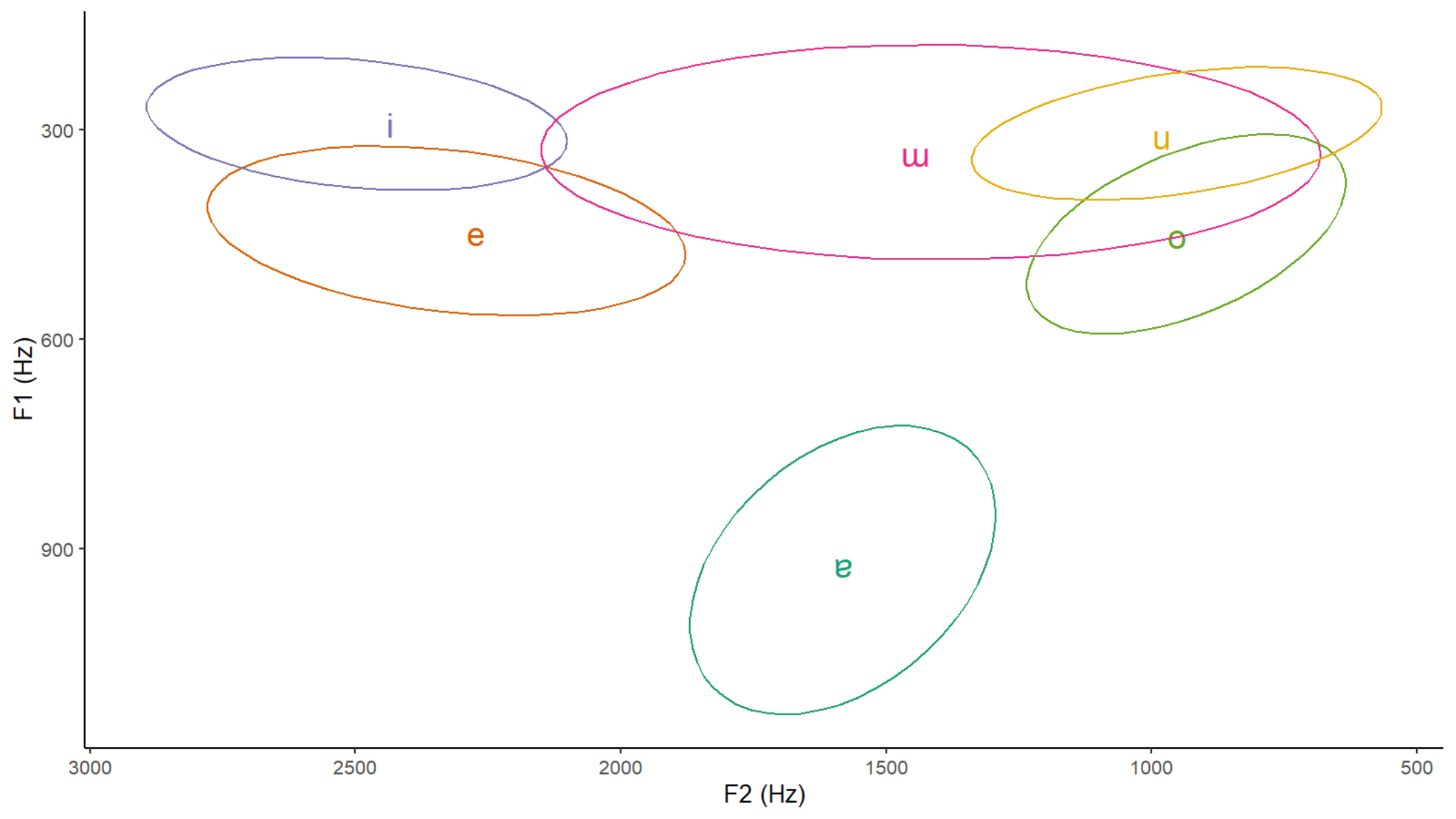
Vowels

	Front	Central	Back
Close	i ĩ	ɯ <ü>	u ũ
Mid	e ẽ		o õ
Open		ɐ <a> ɐ̃ <ã>	

Vowel Minimal Pairs

Token	Word	Meaning	Token	Word	Meaning
/ʔi^{MF}/	*i*	move; live	/hi^{HL}/	*hi*	take
/ʔu^{ML}/	*u*	pluck	/hu^{HF}/	*hu*	heavy
/ʔɯ^{ML}/	*w/ü*	dig	/hɯ^{HL}/	*hü*	serve rice
/ʔe$^{??}$/	*e*	do	(/he^{55}/	*he*	cook)[1]
/ʔo$^{??}$/	*o*	shoot	/ho^{MF}/	*ho*	itch
/ʔɐ^{ML}/	*a*	child	/hɐ$^{??}$/	*ha*	eat

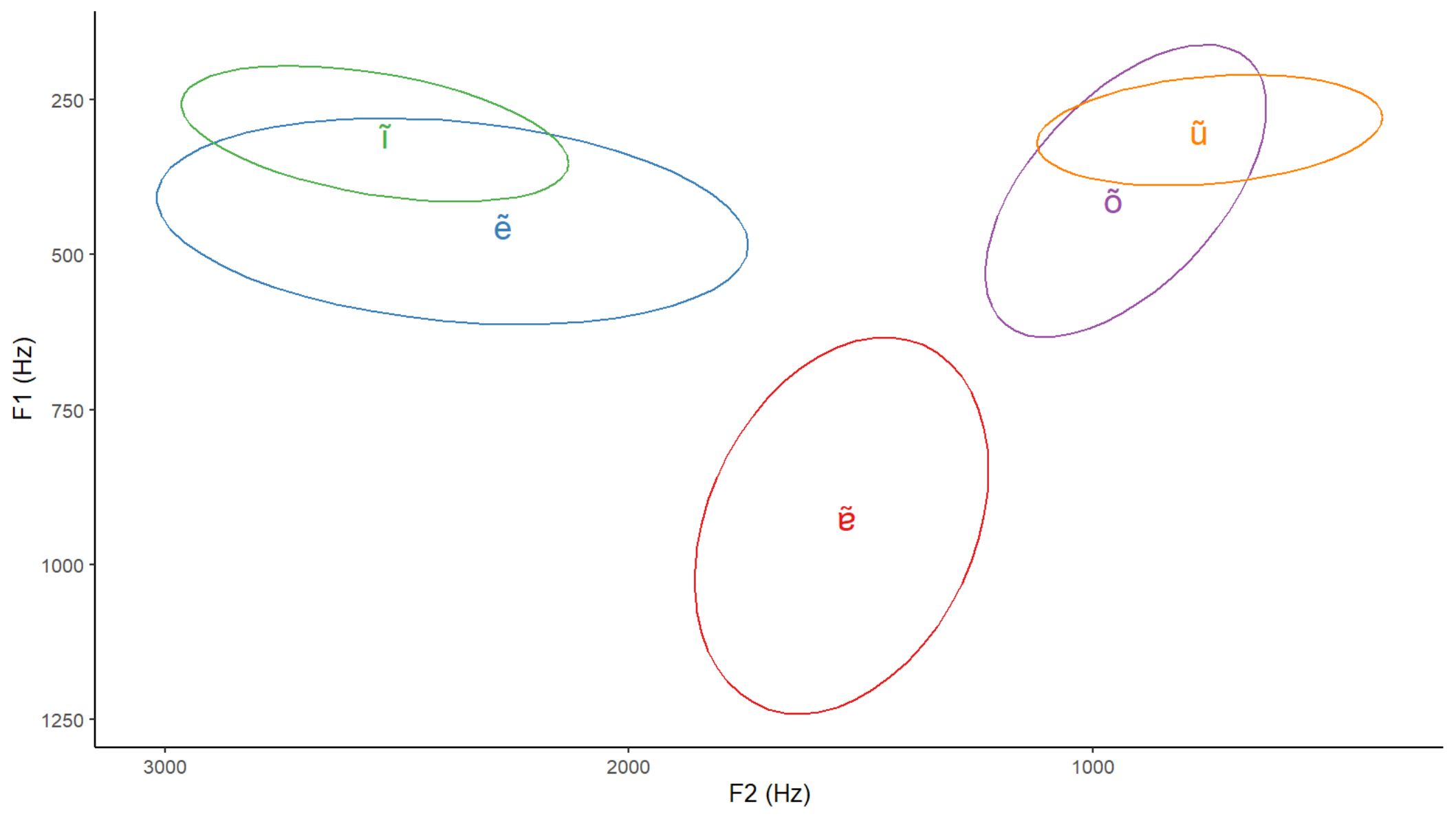
[1] Huang Bufan and Dai Qingxia 1992, via STEDT


i
e
ɯ
u
o
ɐ
300
600
900
F1 (Hz)
3000
2500
2000
1500
1000
500
F2 (Hz)

Vowel Minimal Pairs

Token	Word	Meaning	Token	Word	Meaning
/si^{LF}/	*si*	slice	/sĩ$^{??}$/	*sĩ*	cool (v.)
/t^{h}u^{MF}/	*thu*	boiling	/t^{h}ũ^{MF}/	*thũ*	wrap (v.)
/tʃe^{LF}/	*che*	chop	/tʃẽ^{HL}/	*chẽ*	knit
/do^{HF}/	*do*	jump	/dõ^{LF}/	*dõ*	finish
/pɻɐ^{MF}/	*pra*	good	/pɻɐ̃^{HL}/	*prã*	salt

There is no oral/nasal vowel contrast following nasal consonants, as all vowels are nasalised following a nasal consonant.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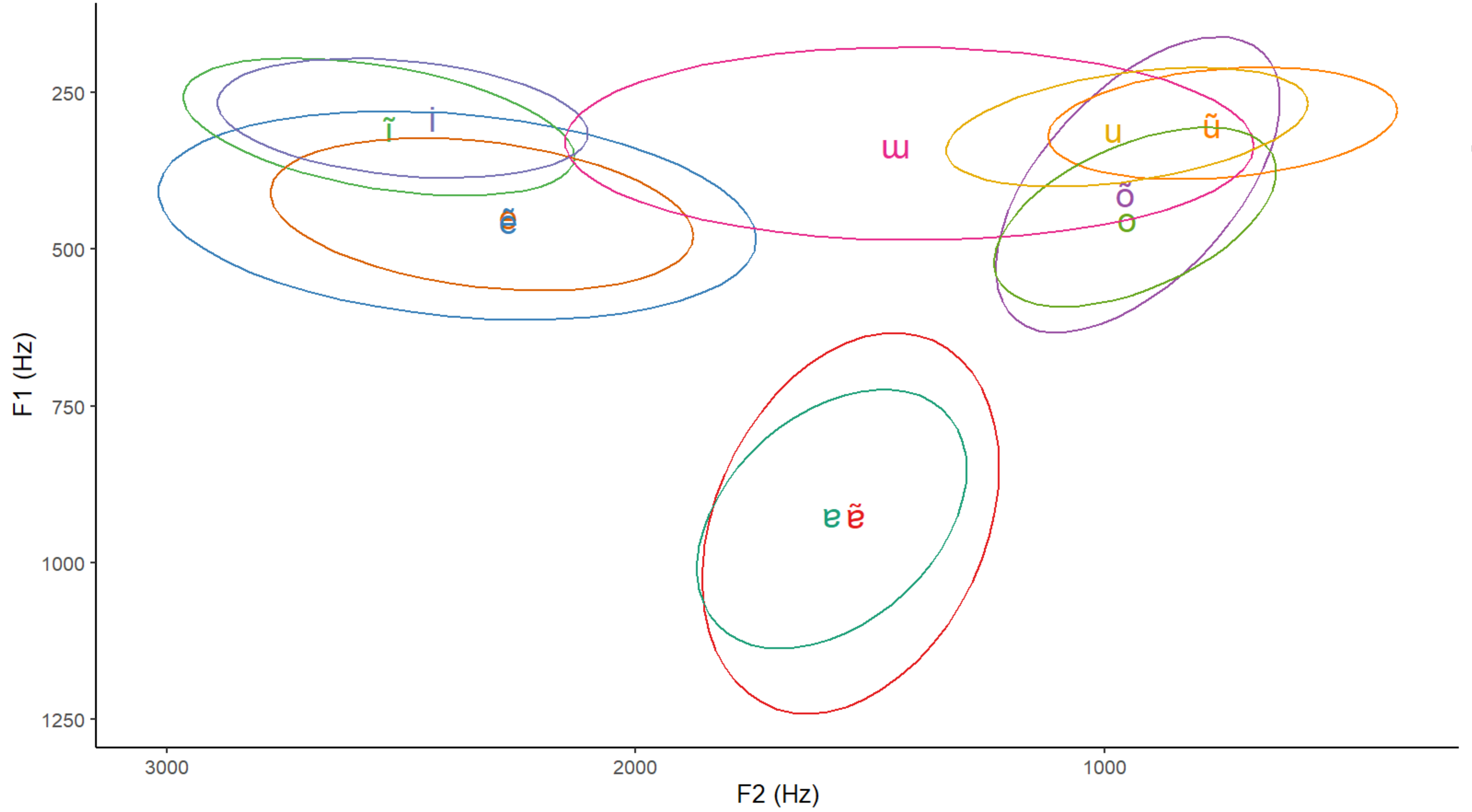
750
1000
1250
F1 (Hz)
3000
2000
1000
F2 (Hz)



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ɐ
ɐ̃
250
500
750
1000
1250
F1 (Hz)
3000
2000
1000
F2 (Hz)

Tonemes

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Hypothesis → 5 tonemes

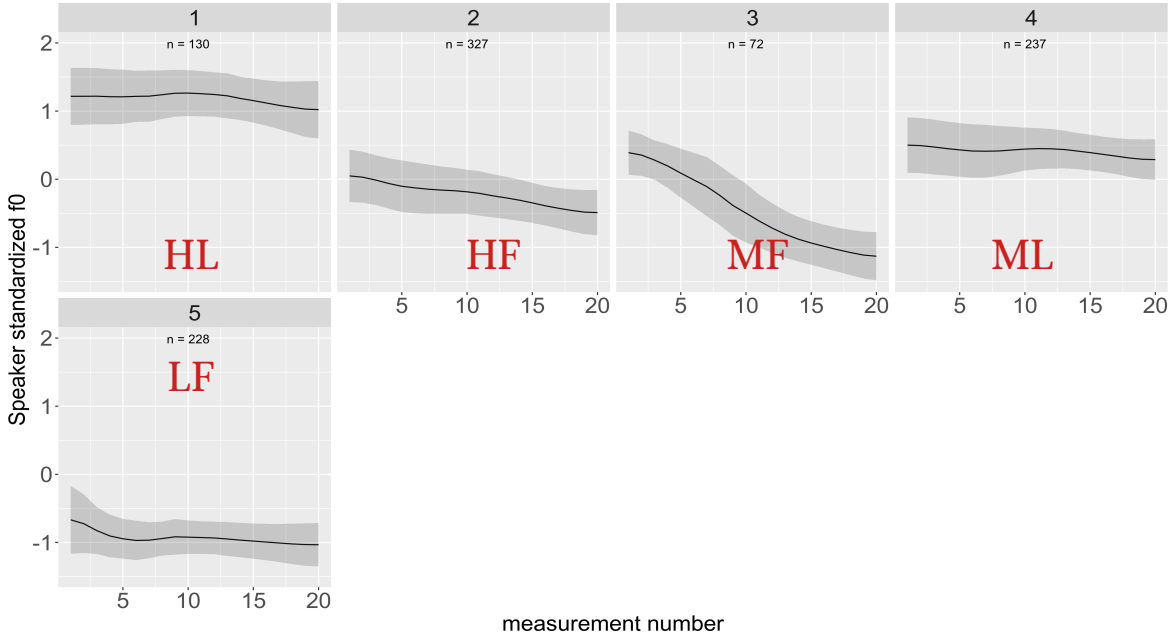
- HL 55
- HF 53
- ML 33
- MF 31
- LF 21 + breathy

Tone Minimal Sets

Tone	Token	Word	Meaning	Token	Word	Meaning	Token	Word	Meaning
HL	[nɛ̃˥]	*na*	hurt	[mʷɛ̃˥]	*me~mwe*	new			
HF	[nɛ̃˥˩]	*na*	cooked	[mɛ̃˥˩]	*me~mre*	tear (v.)	[tʃi˥˩]	*chi*	walk
ML	[nɛ̃˧]	*na*	dance				[tʃi˧]	*chi*	pinch
MF				[mɛ̃˨˩]	*me~mwe*	vomit	[tʃi˨˩]	*chi*	soup
LF	[nɛ̰̃˨˩]	*na*	step on	[mʷɛ̰̃˨˩]	*me~mwe*	old	[tʃi̤˨˩]	*chi*	cut hair

Tone

- Ongoing work with Constantijn Kaland (Univ. Cologne)
- Cluster analysis to 'group' F0 contours together



Tone Minimal Pairs

Tone	Token	Word	Meaning	Token	Word	Meaning	Token	Word	Meaning
HL	[nɛ̃˥]	*na*	hurt	[mʷɛ̃˥]	*me~mwe*	new			
HF	[nɛ̃˥˩]	*na*	cooked	[mɛ̃˥˩]	*me~mre*	tear (v.)	[tʃi˥˩]	*chi*	walk
ML	[nɛ̃˧]	*na*	dance				[tʃi˧]	*chi*	pinch
MF				[mɛ̃˨˩]	*me~mwe*	vomit	[tʃi˨˩]	*chi*	soup
LF	[nɛ̰˨˩]	*na*	step on	[mʷɛ̰˨˩]	*me~mwe*	old	[tʃḭ˨˩]	*chi*	cut hair

Phonotactics

C(G)V(C) + T

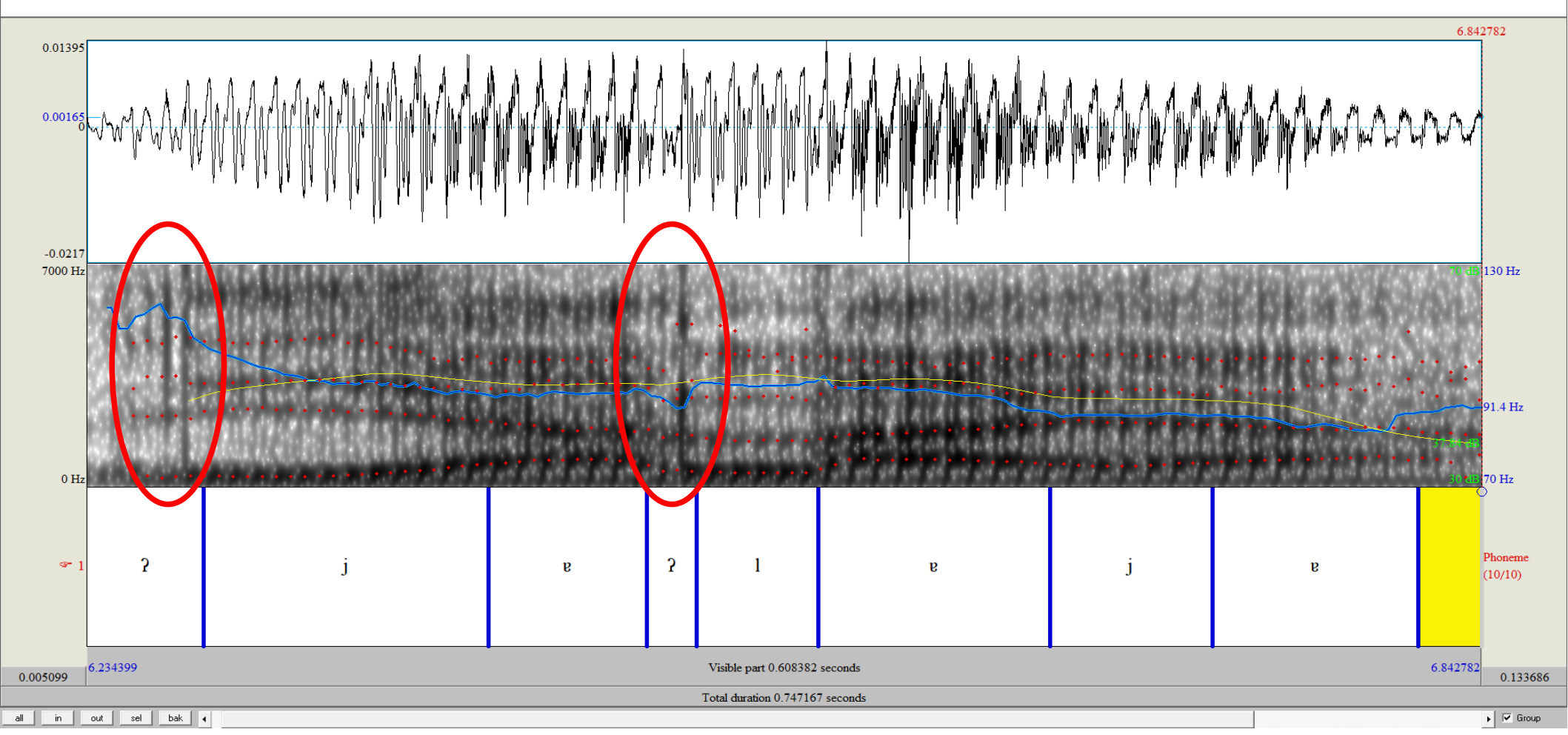
C(G)$\tilde{V}$ + T

- Glides comprise of /r/ /w/ /j/ /l/
  - Limited distribution of some glides

	/w/	/r/	/j/	/l/
/p/	*pwẽ* ‘raft’	*prã* ‘salt’		
/pʰ/		*phri* ‘burn’		
/b/	*bwe* ‘hole’	*bra* ‘sprout’		
/m/	*mwe* ‘old’	*mra* ‘poison’		
/t/		*tri* ‘harvest (v.)’		
/tʰ/		*thre* ‘comb’		
/d/		*dra* ‘set trap’		
/k/		*kru* ‘mother animal’		
/kʰ/		*khra* ‘sound’		
/g/		*gru* ‘moo’		
/s/		*shru* ‘sour’	*shu* ‘climb’	
/h/		*hru* ‘burn’		
/w/		*wru* ‘horn’		
/ʔ/	*ʻwa* ‘swim’	*ʻru* ‘hollow out’	*ʻya* ‘throw’	*la* ‘say’

Glottal Stop Clusters

- Glottal stop clusters are not differentiated in everyday orthography to my knowledge
- /l/ only occurs as a C2 in the glottal stop cluster /ʔl/
- The realisation of the glottal stop varies and it can be very hard to perceive
  - Tongue ‘click’
  - Length of glide
  - Dip in amplitude/F0
- Clusters found in Tawrã as well (Evans et al. 2019)



/ʔjɐ^{MF} ʔlɐ^{ML}jɐ$^{??}$/ ‘(I) said “throw”.’

Phonotactics

C(G)V(C) + T

C(G)Ṽ + T

- Most native monosyllabic roots do not have codas
- However, there are good reasons to posit a coda position within the syllable
  - Geminate consonants occur in a coda position if the phonological context is right (i.e. within the same IU)
  - Multipart words show word-internal vowel loss, leading to the reanalysis of an onset as a coda, particularly /p/ in Mindri
    - /CV.pV.CV/ : [CVp.CV], e.g. *atrupta* ‚firewood pieces' > *atrõpo ta*
  - Borrowings retain their codas

Kera‘a Phonology: Cross-dialect Comparison

- The segmental inventories of other dialects are largely identical
- /l/ is found in other dialects as a simplex onset – the cognate forms in Mindri show a lenited [j̊]~[j]
  - The complex cluster /ʔl/ seems to additionally correspond to a /ʎ/ in Mithu (Peck 2020) and a <lh> in Midu (Blench and Lingi ms)
- Impressionistically, tone differs from dialect to dialect. This also may explain the lack of agreement in the literature:
  - Midu: 3 (Blench and Lingi ms)
  - Mithu: 4 (Reinöhl in press)
  - ‘Yidu’: 5 (Jiang 2005)

Kera‘a Phonology: Change in Progress

- There is an ongoing process of onset simplification across the language
  - Consonant clusters are being simplified
  - Simplex onsets are ‘being lost’ in more innovative varieties (Reinöhl in press)
- /ɯ/ is being reanalysed by speakers as either a /u/ or a /wi/
  - Realisation dependent on environment?
- Some older speakers still have a schwa, which is reanalysed as a different mid vowel by younger speakers

References

Blench, Roger and Mite Lingi. 2019 ms. A grammar of Idu, a language of Arunachal Pradesh. Roing.

Jiang, Di. 2005. Yidu yu yanjiu [A study of Yidu]. Beijing: The Nationalities Press.

Evans, Jonathan, Johakso Manyu, and Mark W. Post. 2019. Ta-wrã phonetics and phonology, with some comments on the outlook for subgrouping. Oral presentation at ICTSLL 52, University of Sydney.

Huang Bufan and Dai Qingxia (eds.). 1992. Zangmianyuzu yuyan cihui 《藏緬語族語言詞匯》 [A Tibeto-Burman Lexicon]. Beijing: Central Institute of Minorities. Accessed via STEDT database <http://stedt.berkeley.edu/search/> on 2020-09-17.

Peck, Naomi. 2020. Observations on phonological variation in Kera'a. Oral presentation at NEILS 11, CIT Kokrajhar.

Pulu, Jatan. 1978. Idu Phrase-Book. Shillong: Direction of Information and Public Relations, Arunachal Pradesh.

Reinöhl, Uta. In press. "Locating Kera'a (Idu Mishmi) in its linguistic neighbourhood. Evidence from dialectology". To appear in: Mark Post, Stephen Morey & Toni Huber (eds). Ethnolinguistic prehistory of the Eastern Himalaya. Leiden: Brill.

Teo, Amos, Lauren Gawne and Melissa Baese-Berk. 2015. A case study of tone and intonation in two Tibetic language varieties. In The Scottish Consortium for ICPhS 2015 (ed.), Proceedings of the 18th International Congress of Phonetic Sciences. Glasgow: University of Glasgow.

Praiba!

Thank you!

Any further questions?

Email me at: naomi.peck@linguistik.uni-freiburg.de

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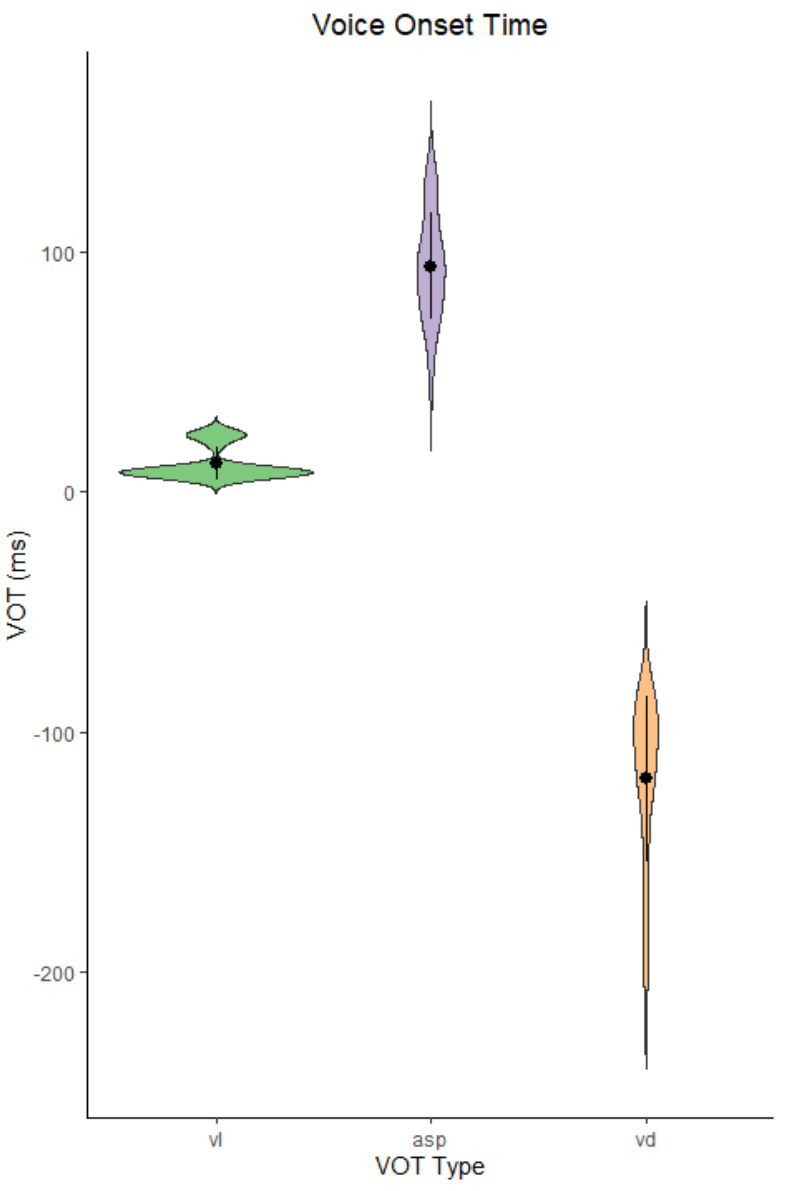
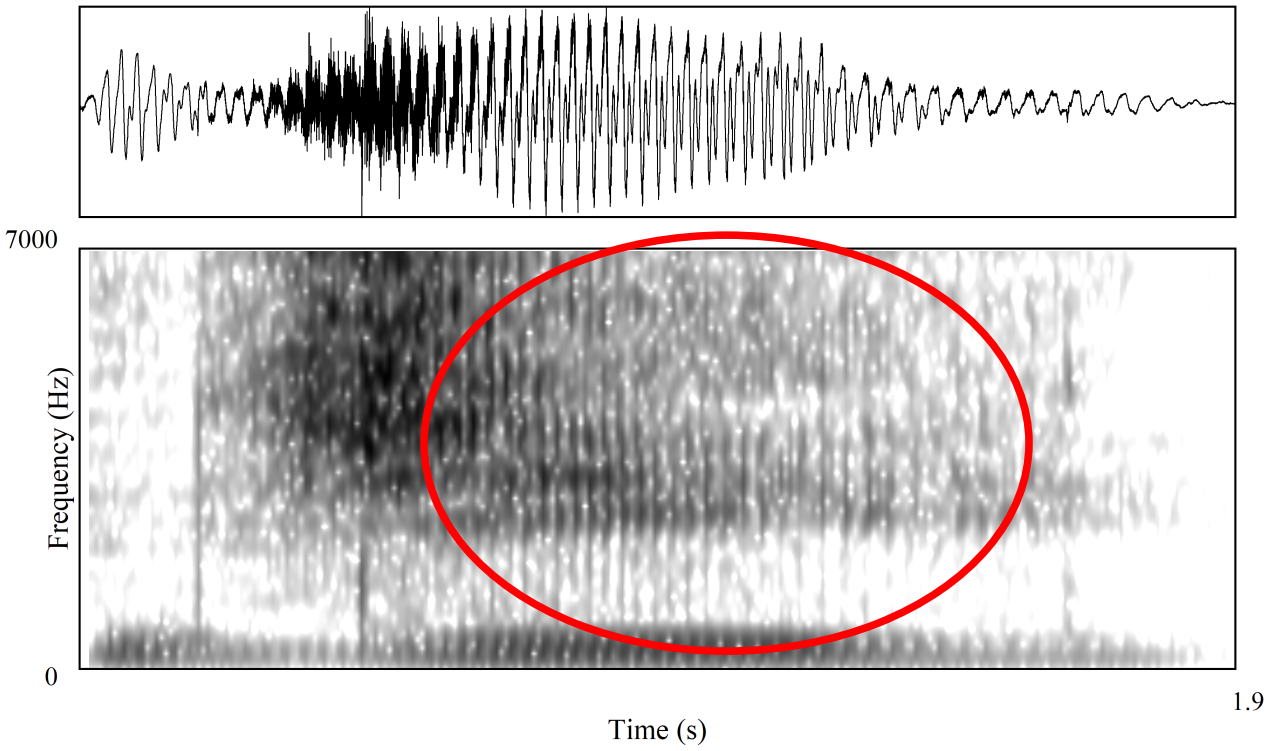
Voice Onset Time

Phoneme	Mean VOT	SD
p	7.17	1.56
t	9	1.40
k	23.38	2.3
p^h	85.42	8.6
t^h	95.03	20.9
k^h	99.28	29.8
b	-97.68	17.7
d	-119.87	30.7
g	-141.87	40.9



The Fricative Effect

/dʒi/ ‘sit’



Tone Minimal Sets

Tone	Token	Word	Meaning	Token	Word	Meaning	Token	Word	Meaning
HL				[ʂu˥]	*shru*	sour			
HF	[mũ˥˩]	*mu*	roast						
ML	[mũ˦]	*mu*	shine dimly	[ʂu˦]	*shru*	sweet	[to˦]	*to*	dig
MF	[mũ˧˩]	*mu*	blow	[ʂu˧˩]	*shru*	red	[to˧˩]	*to*	spit
LF							[t̪o˧˩]	*to*	pull

Phonotactics

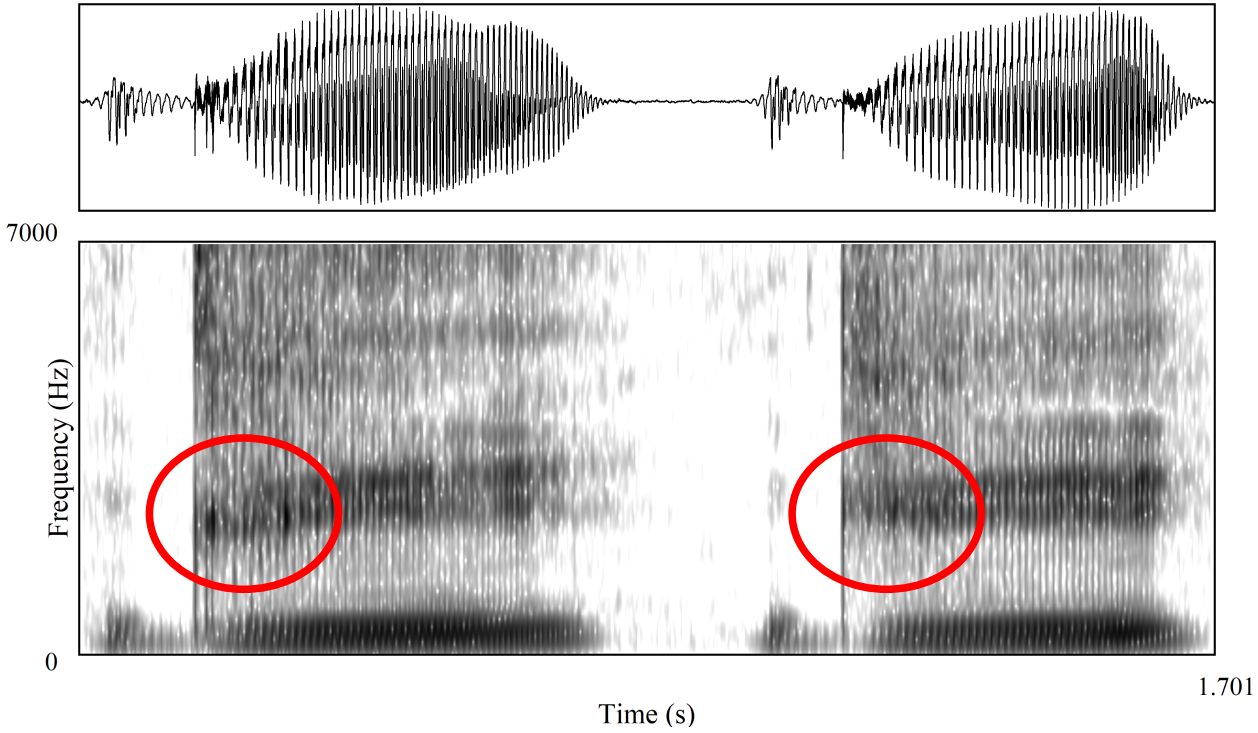
C(G)V(C) + T

C(G)Ṽ + T

- The realisation of retroflex C2s is varied: [ɻ]~[ɽ]~[ɾ]
- The C2s often affect their surrounding environment
  - Alveolar C1s often become retroflexed
  - F3 is often lowered in following vowels
- Clusters with a retroflex C2 are often simplified
  - /tɻ/ : [ʈ]; /sɻ/ : [ʂ] <sh~shr>
  - /gɻi/ : [ŋ.gʲ]

The Retroflex Effect

/gɻi^{MF}/ ‘carry using back’



Gemination

/dɻa.pã/ ‘trap’
[ɳ.dɖrap.pã]

D → D.D / #____
→ D / elsewhere