

# Impact of syllable weight on tone in Muak Sa-aak

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# Muak Sa-aak

- Tonal, sesquisyllabic
- Austroasiatic, Mon-Khmer, Northern Mon-Khmer, Palaungic, Eastern Palaungic, Angkuic
- Located in Eastern Shan State, Myanmar, and in China

# Syllable weight

- May be used to explain stress assignment, tone.
- This paper will examine syllable weight in relation to tone in Muak Sa-aak.

# Sonority

- Sonority hierarchy (Hyman 1984)
- Hierarchy of contour-tone bearing syllable types:
  - $CVV > CVR > CVO > CV$
  - R = sonorant, O = obstruent (Gordon 2006).

# Syllable weight

- Coda consonants and moraicity (Broselow et al. 1997)
- Geminates as moraic (Davis 2003)
  - Optimality theory: moraicity of geminate consonants
  - Argues for geminates as moraic

# Muak Sa-aak phonology

p <sup>h</sup> p b	t <sup>h</sup> t d	c <sup>h</sup> c	k <sup>h</sup> k
m	n	ɲ	ŋ
f	s		h
w	r l	j	

# Final consonants

	Bilabial	Alveolar	Pre-palatal	Velar
Stop	p	t	c	k
Nasal	m	n	ɲ	ŋ
Approximant	w	l	j	

# Initial clusters

	<b>w</b>	<b>r</b>
<b>p</b>	$pw$	$pr$
<b>p<sup>h</sup></b>	$p^h w$	$p^h r$
<b>k</b>	$k w$	$k r$
<b>k<sup>h</sup></b>	$k^h w$	$k^h r$



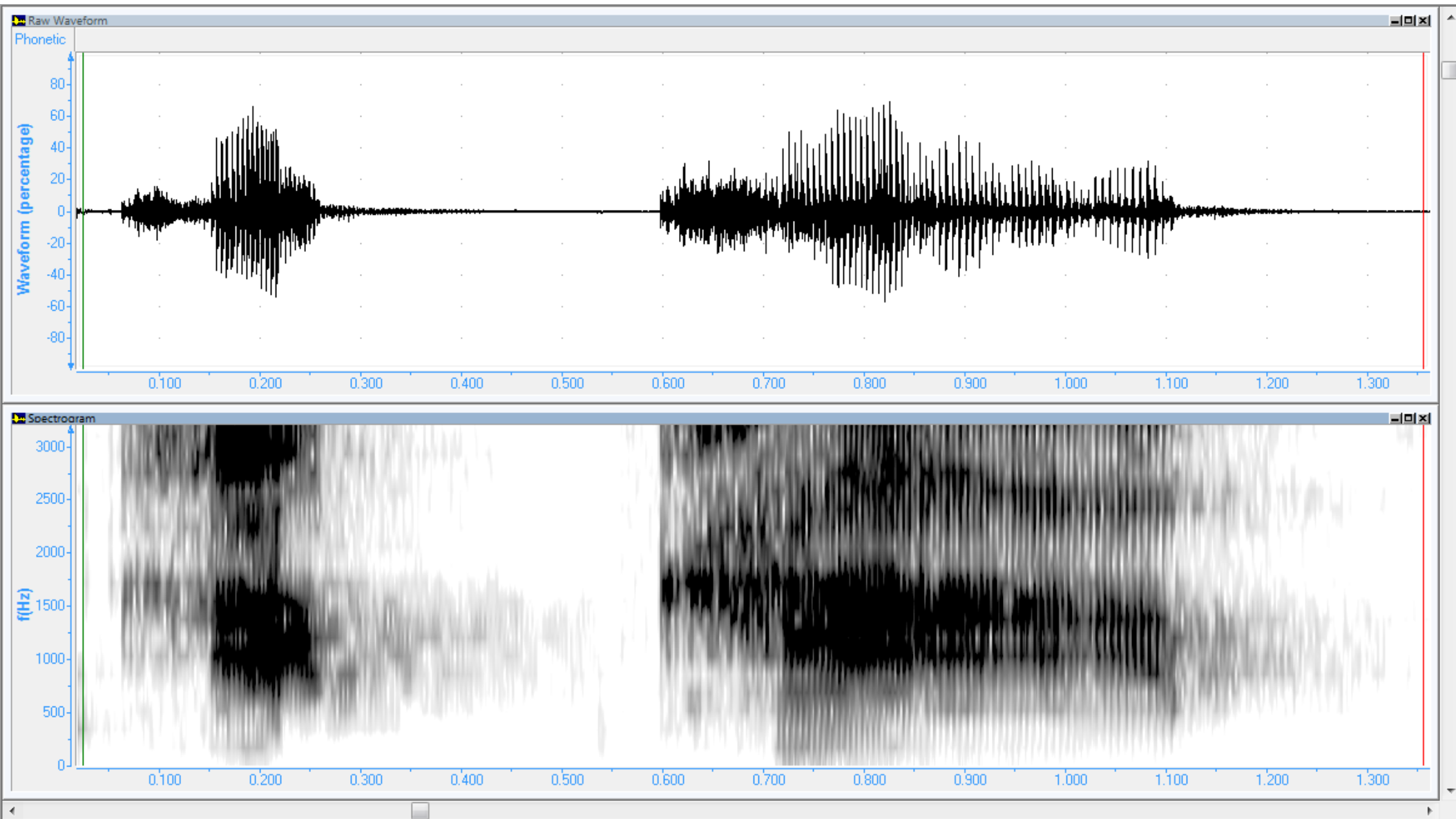
# Vowels

	Front	Back unrounded	Back rounded
Close	i i:	ʊ ʊ:	u u:
Close-mid	e e:	ɔ ɔ:	o o:
Open	ɛ	a a:	ɔ
Diphthongs	ia	ua	

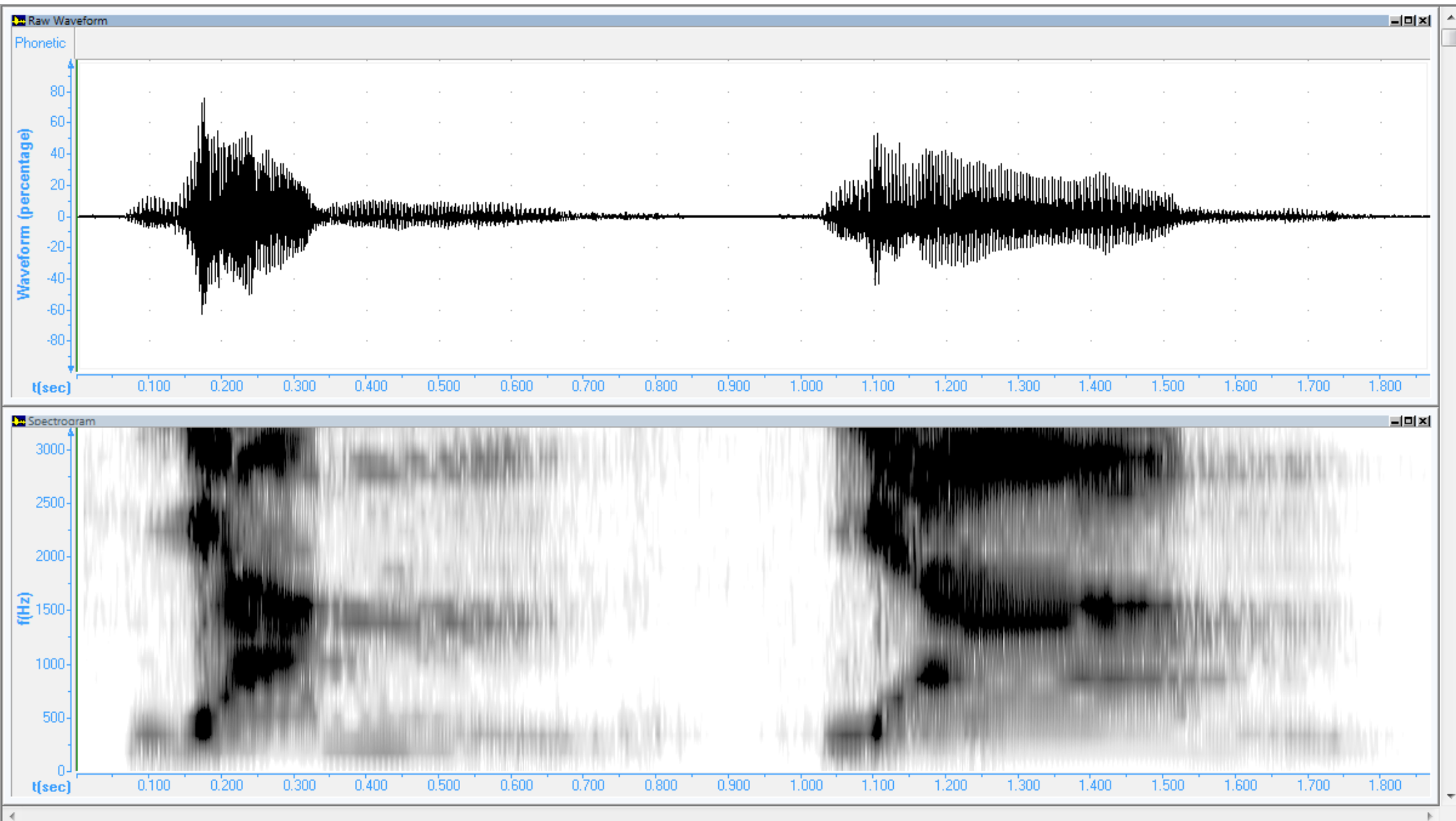
# Tone

Syllable type	Tone 1 Low stiff	Constricted Tone 2		Tone 3 High- falling modal
		High	High-falling creaky	
short open, short checked		X		
long checked	X			
long smooth	X		X	X

$k^h ap^2$  'enough';  $k^h ap^1$  'chin'



*jam*<sup>3</sup> ‘die’; *jam*<sup>3</sup> ‘cry, weep’



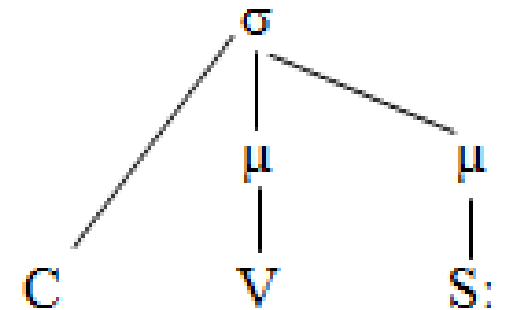
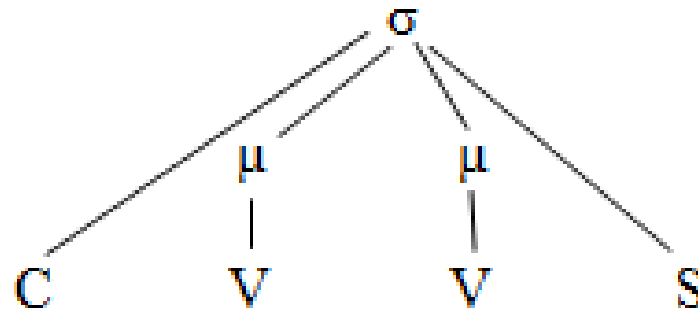
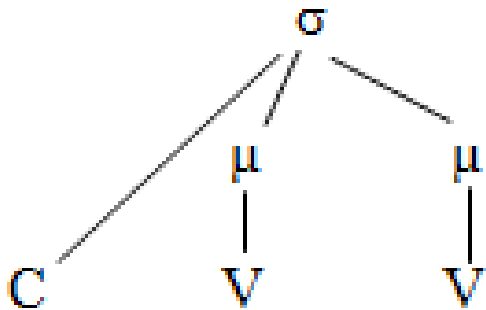
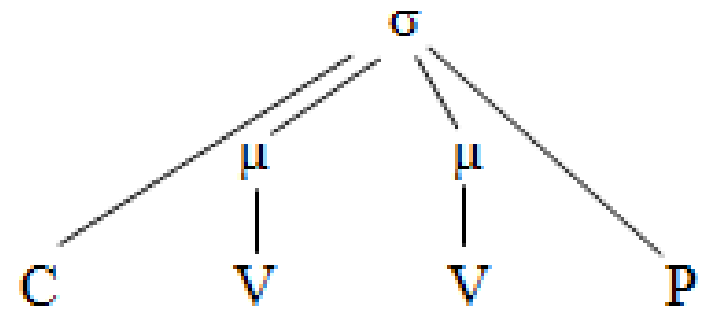
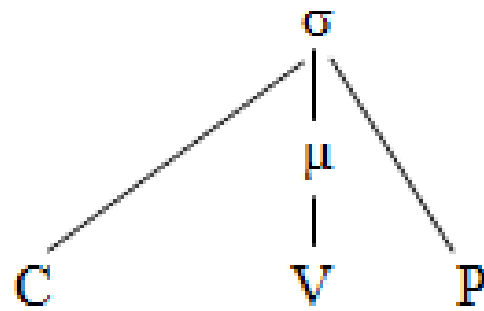
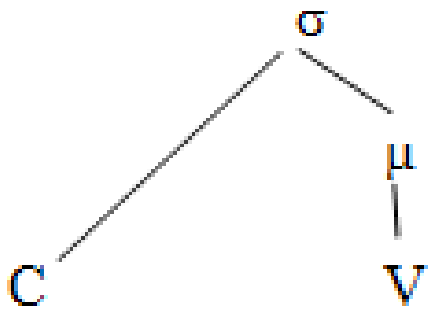
# Final Sonorant lengthening

Item	Gloss	Vowel	Sonorant	Rime
k <sup>h</sup> iŋ <sup>3</sup>	expensive	0.253	0.285	0.538
k <sup>h</sup> i:ŋ <sup>3</sup>	ginger	0.437	0.212	0.649
ŋaŋ <sup>3</sup>	hear	0.182	0.387	0.569
ŋa:ŋ <sup>3</sup>	sweet	0.362	0.198	0.560
jam <sup>3</sup>	die	0.139	0.334	0.473
ja:m <sup>3</sup>	cry, weep	0.394	0.190	0.584
k <sup>h</sup> um <sup>3</sup>	pit	0.244	0.341	0.585
k <sup>h</sup> u:ŋ <sup>3</sup>	dig	0.435	0.253	0.688

# Mora count based upon moraicity of syllable codas

			All codas moraic	Sonorant codas moraic	Sonorants moraic; long sonorants bimoraic	All codas moraic; long sonorants bimoraic	Only long sonorants moraic
le:k <sup>1</sup>	1	CVVP	3	2	2	3	2
rɤk <sup>2</sup>	2	CVP	2	1	1	2	1
tuk <sup>2</sup>	2	CVP	2	1	1	2	1
t <sup>h</sup> i <sup>2</sup>	2	CV	1	1	1	1	1
ci: <sup>1</sup>	1	CVV	2	2	2	2	2
la: <sup>2</sup>	2	CVV	2	2	2	2	2
rɤ: <sup>3</sup>	3	CVV	2	2	2	2	2
ra:ŋ <sup>1</sup>	1	CVVS	3	3	3	3	2
raŋ <sup>1</sup>	1	CVS:	2	2	3	3	2
ra:ŋ <sup>2</sup>	2	CVVS	3	3	3	3	2
raŋ <sup>2</sup>	2	CVS:	2	2	3	3	2
ra:ŋ <sup>3</sup>	3	CVVS	3	3	3	3	2
raŋ <sup>3</sup>	3	CVS:	2	2	3	3	2

# Moraic Structure



# Tone

Syllable type	Tone 1 Low stiff	Constricted Tone 2		
		High	High-falling creaky	Tone 3 High- falling modal
short open CV, short checked CVP		X		
long checked CV:P	X			
long smooth CV: CV:S CVS:	X		X	X



# Summary

- Bimoraic smooth syllables (CV:P, CVS:, or CV:S) display full tonal contrast: three possible tones.
- In monomoraic syllables (CV or CVP), no tone contrast.
- Two requirements for tonal contrast:
  - Smooth syllable
  - Bimoraic

# Summary

- Phonetic realization adds a constraint on the phonological organization of tone.
- Syllable weight is not just a matter of phonological categorization but also depends on the actual phonetic realization, as seen in the behavior of sonorant-final syllables.

# References

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