

# The Sesquisyllable as a Disyllabic Word (or Why sesquisyllables aren't as special as we thought)

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# Preliminary Definition

In the context of Southeast Asian languages, a sesquisyllable comprises one phonologically reduced (minor) syllable followed by one normal (major) syllable (Matisoff 1973)

[minor syllable + major syllable]<sub>ω</sub>

# Sesquisyllabic Languages

- Languages that have sesquisyllables also have monosyllabic words but not necessarily disyllabic or polysyllabic words (i.e. words with two or more major syllables).
- Most commonly found in Mon-Khmer (Austro-Asiatic) languages, but other languages from other families (Austronesian, Sino-Tibetan) have them, too.

# Violable Properties of Minor Syllables

- Reduced phonological inventory
  - Only central vowels, no laryngeal contrasts
- Reduced syllable shape
  - No codas, no complex onsets
- Do not bear tone
- Example: [tə.'p<sup>h</sup>at]

# So what are they really?

- No coherent definition
- Some proposals extend idea of minor syllable to account for complex consonant clusters in languages like Polish, Georgian, and even Bella Coola, etc. (Cho and King 2003)

# Why do we think they're special?

## Prosodic Structure (Hayes 1995)

- All sesquisyllabic words are iambic(ish)
- Major syllable is always aligned to right edge of the word
- Major syllable is always stressed
- Minor syllable is never stressed

# Previous Accounts

- Previous proposals try to account for the generalizations by assigning a special structure to the minor syllable
  - Minor syllables do not have moras  
(Cho and King 2003)
  - Minor syllables have “special” moras  
(Shaw 1993)

# Current Proposal

Sesquisyllables are just disyllabic words that share some surface generalizations (highly unmarked minor syllables) across languages but whose defining property is iambicity.

# Languages to be Discussed

- Bunong
  - Mon-Khmer, Austro-Asiatic
  - Central Highlands of Vietnam and Cambodia
- Burmese
  - Tibeto-Burman, Sino-Tibetan
  - Burma
  - (Green 2005, 1995)

# Cross-linguistic Differences

Underlying differences in the phonological structure of sesquisyllables between Bunong and Burmese likely result from the phonological differences between their respective language families.

# Points of Comparison

- Formation of sesquisyllables
- Principles constraining surface forms (via Optimality Theory (Prince and Smolensky 2004))
- Prosodic structure

# Bunong

- Epenthesis prevents illicit clusters

C <sub>1</sub> \ C <sub>2</sub>	p	t	t_	k	h	s	m	n	_	r	l	w
p										pr	pl	
t										tr	tl	
k										kr	kl	
s										sr		
t_										t_r		
m	mp				mh					mr	ml	
n		nt			nh	ns						
_			_t_		_h							
_				_k						_r	_l	
r	rp	rt	rt_	rk	rh	rs	rm	m	r_		rl	rw
l					lh							

/rbɨŋ/

[rə.bɨŋ]

‘empty gourd’

/lhat/

[lə.hat]

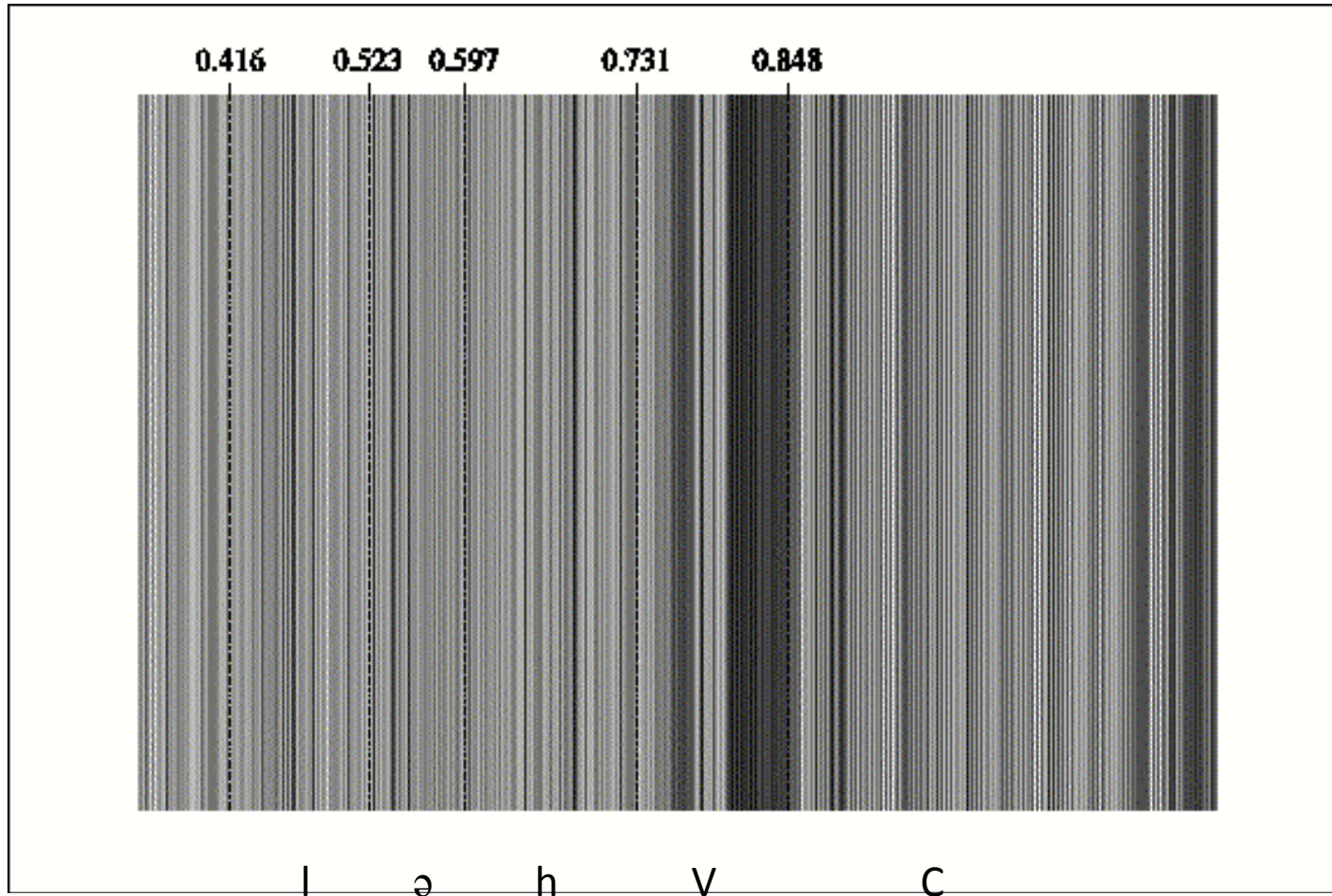
‘fitting tightly’

# Bunong Phonetics

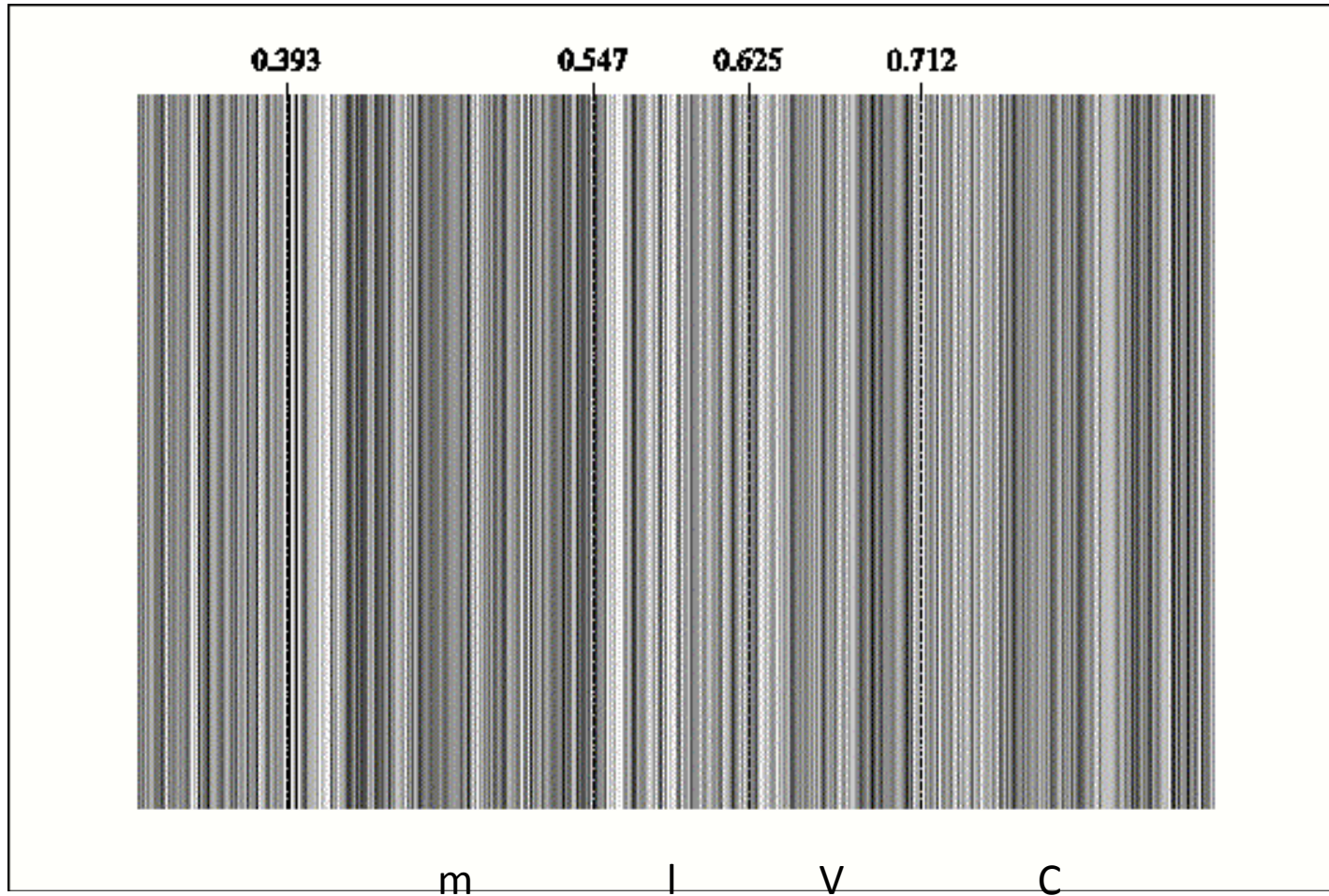
## Preliminary studies show

- [r] and [l] initial clusters are heterosyllabic
  - [ə] is epenthesized in [r\_C] and [l\_C] environments
  - Native speakers confirm these words have two syllables
- Nasal initial clusters are tautosyllabic
  - N + stop clusters are pre-nasalized stops
  - N + sonorant clusters are complex onsets
  - Durations of \_C nasals are shorter than the durations of simple onset nasals

# Bunong (/lhat/)



# Bunong (/mlam/)



# Bunong in OT

Markedness constraints:

Penalize tautosyllabic SO and OO clusters

>

Faithfulness constraints

>

Markedness constraints:

Penalize tautosyllabic SS and OS clusters

# Bunong in OT cont.

- \*SO: No sonorant-obstruent clusters

>

- DEP: Don't epenthesize

>

- \*SS: No sonorant-sonorant clusters
- \*OS: No obstruent-sonorant clusters

# Bunong Tableau

	*SO	DEP	*SS	*OS
/rbɨŋ/				
rbɨŋ	*!			
☞ rə.bɨŋ		*		
/mlam/				
☞ mlam			*	
mə.lam		*!		
/krap/				
☞ krap				*
kə.rap		*!		

# Burmese Compounding

/caN/ + /po:/            [cə.bo:]  
'floor' + 'insect' 'bug'

Faithfulness constraints targeting prosodically prominent positions (c.f. Beckman 1997)

>

General markedness constraints


>

General faithfulness constraints

# Burmese Constraints

- IDENT PROSODIC HEAD (IDENTPRSHD): Stressed (O) segments and their corresponding (I) segments have identical values for all features [F].  
>
- \*PERIPHERAL VOWEL (\*PERIPHV): Vowels should not be specified for place features.  
>
- IDENT: (O) segments and their corresponding (I) segments have identical values for all features [F].

# Burmese Tableau

/caN/ + /po:/' data-bbox="91 295 294 351">/caN/ + /po:/' data-bbox="91 295 294 351"> <th>IDENTPRSHD</th> <th>*PERIPHV</th> <th>IDENT</th>	IDENTPRSHD	*PERIPHV	IDENT
ca.'bo:		*!*	
 cə.'bo:		*	
cə.'bə:	*!	**	

# Summary of Sesquisyllable Formation

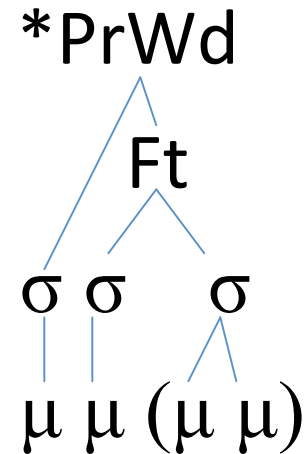
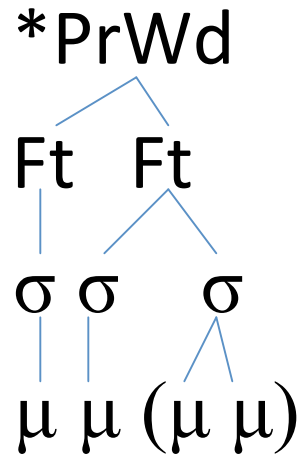
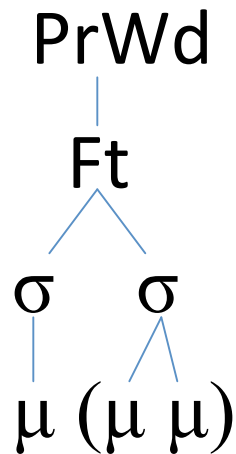
- Bunong
  - Minor syllable result of augmentation
  - Markedness constraints target onset clusters
- Burmese
  - Minor syllable result of reduction
  - Positional faithfulness constraints target prosodically prominent positions

# Prosodic Structure

- For all languages having sesquisyllabic words, every prosodic word is maximally one iambic foot, but feet are formed differently across languages
- Bunong
  - Feet are formed by syllables
  - Maximally one minor syllable
  - [rə.bɨŋ] ‘empty gourd’
- Burmese
  - Feet are formed by moras
  - Multiple minor syllables allowed
  - [kə.la:] + [pye:] → [kə.lə.pye:] ‘India’

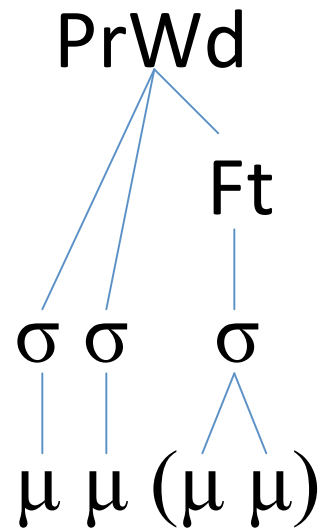
# Bunong Prosodic Structure

- A foot comprises two syllables (L H) or one heavy syllable (H)
- Prosodic levels are strictly enforced (no skipping levels)



# Burmese Prosodic Structure

- A foot is minimally and maximally one heavy syllable
- Levels are transparent (extrametricality)



Green(1995)

# Stress

In both languages, heavy syllables bear stress

- Bunong: Epenthetic vowels are not stressed. Lexical vowels are stressed.
- Burmese: A priori, any word in a compound could be reduced or not. Due to pressure from surrounding languages, Burmese assigns stress to the rightmost syllable, which is necessarily heavy. Therefore, Burmese appears iambic.

# Summary

- Sesquisyllables are a subset of disyllabic words whose metrical structure is iambic and whose unstressed syllables are highly unmarked.
- Surface generalizations on phonological shape are created by different types of constraints.
  - Bunong: Markedness constraints cause augmentation of minor syllable.
  - Burmese: Positional faithfulness constraints preserve the major syllable while the minor syllable is phonologically reduced.

# Thought for the future...

- Are these language “types” exhaustive (Bunong type vs. Burmese type), or are there still more ways in which sesquisyllables are formed?

# References

- Beckman, J. (1997). Positional faithfulness, positional neutralization and Shona vowel harmony. *Phonology*, 14:1-46.
- Cho, Y. Y. and T. H. King. (2003). Semi-syllables and universal syllabification. In Fery, C. and R. van de Vijver (eds.), *The syllable in Optimality Theory*, 183–212. Cambridge: Cambridge University Press.
- Green, A. D. (2005). Word, foot, and syllable structure in Burmese. In J. Watkins (Ed.), *Studies in Burmese linguistics* (pp. 1–25). Canberra: Canberra: Pacific Linguistics.
- Green, A. D. (1995). The Prosodic Structure of Burmese. *Working Papers of the Cornell Phonetics Laboratory*, 10: 67-96.
- Hayes, B. (1995). *Metrical Stress Theory: Principles and Case Studies*. U of Chicago Press.
- Matisoff, J. (1973). Tonogenesis in Southeast Asia. In L. M. Hyman (Ed.), *Consonant types & tones* (pp. 71-95). Los Angeles: The Linguistic Program, University of Southern California.
- Shaw, P. (1993) The prosodic constituency of minor syllables. *WCCFL*, 12:117-132.
- Prince, A. and Smolensky, P. (2004). *Optimality Theory: Constraint interaction in generative grammar*. Blackwell.

# Thank you

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