

IS THERE A PROSODIC WORD IN VIETNAMESE?

SEALS24

Yangon

May 31, 2014

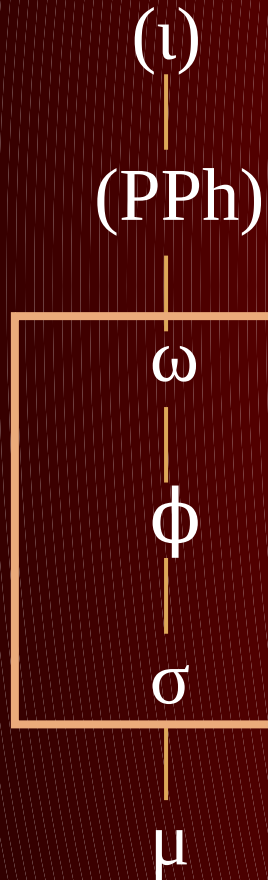
Marc Brunelle

University of Ottawa

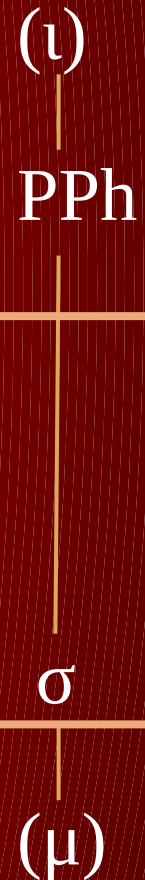
marc.brunelle@uottawa.ca

PROSODIC CONSTITUENTS IN VIETNAMESE

Phạm 2008



Schiering et al. 2010



ROADMAP

- The word in Vietnamese
- Structure of the Vietnamese lexicon
 - Native vocabulary
 - Sino-Vietnamese
 - Loanwords
- Word stress in Vietnamese as evidence for the prosodic word (and the foot)
 - Previous proposals
 - An experiment

GRAMMATICAL WORD IN VIETNAMESE

- Traditional Vietnamese grammar has no notion of word
 - Basic unit is the *chữ*, a monosyllabic morpheme
- Problems with the definition of the Vietnamese word raised explicitly since the 1950s (Honey 1956; Thomas 1962; Thompson 1963, 1965; Cao 1985)

GRAMMATICAL WORD IN VIETNAMESE

- Traditional Vietnamese grammar has no notion of word
 - Basic unit is the *chữ*, a monosyllabic morpheme
- Thomas 1962 is the most explicit
 - No grammatical word: just morphemes
 - No prosodic word: just syllables and phonological phrases
 - No orthographic word: Attempts at marking wordhood with hyphens in the orthography in South Vietnam (before 1975) were never consistent

AN OVERSIMPLIFIED SKETCH OF THE VN LEXICON

- Native vocabulary is largely composed of monosyllabic roots
- No affixation, but lots of compounds
 - Coordinate compounds (dvandva) are not headed and reversible
bàn ghế [table + chair] 'furniture'
ông bà [gr.father+gr.mother] 'grandparents'
 - Subordinate compounds are left-headed, just like phrases
sân bay [yard + fly] 'airport'
cá heo [fish + pig] 'dolphin'

COMPOUNDS OR PHRASES?

- Native compounds obey the same morphosyntactic processes as phrases (Noyer 1998)

- Left-headedness and rightwards recursivity

Hoa hồng [flower + pink] 'rose' or 'pink flower'

Sân bay [yard + fly] 'airport' or 'flying yard'

- Nguyễn and Ingram (2007a) have shown that there is no phonetic difference between compounds and corresponding phrases
 - Except in contrastive condition

REDUPLICATION, REAL AND FALSE

- Productive reduplication: either right or left-headed
mạnh 'strong'
mạnh mẽ 'very strong'
mãnh mạnh 'strong-ish'
- False reduplication (lexicalized)
nhát 'timid' *nhút nhát* 'very timid'
nóng 'hot' *nóng nực* 'very hot'
- Ideophones: polysyllabic morphemes?
lung tung 'confused, disordered'
oàm oạp 'like waves breaking on the shore'

WHAT ABOUT SINO-VIETNAMESE?

- Sino-Vietnamese subordinate compounds are right-headed
 - tuần lộc* [docile? + deer?] 'reindeer'
 - quốc ngữ* [country + language] 'national script'
- Probably fossilized compounds
 - Meaning usually, but not always, opaque
 - Yet morphemic structure roughly transparent (1 syllable = 1 morpheme)
- Speakers shouldn't be able to distinguish subordinate and coordinate compounds

UNAMBIGUOUSLY POLYSYLLABIC:

LOANWORDS

- Borrowed morphemes can be polysyllabic

- French

sơ cứu < *roue de secours* 'back-up suitor'

ban công < *balcon* 'balcony'

la va bô < *lavabo* 'sink'

phô tô cốp bi < *photocopie* 'photocopy'

- Place names from ethnic minority languages

Sài Gòn < Khmer *prej nokor* 'City of the forest'

Phan Rang < Cham *panduranga*

3 POSITIONS ON POLYSYLLABLE STRESS IN VN

- Morphosyntactically defined (Cao 1978; Ngô 1984)
 - Coordinative compounds: both syllables stressed
 - Subordinative compounds: non-head (SV: left, NV: right)
 - Reduplicants: base
 - Loanwords: first syllable
- Rightmost stress (Nguyễn and Ingram 2007a; 2007b, Phạm 2008)
 - Not phrase-final lengthening (Phạm: final iambic foot)
- No word stress, only phrasal
 - Final syllable of phrase (Thomas 1962, Hoàng and Hoàng 1975)
 - Alternating stress on phrases (Thomas 1962)
 - Thompson (1963, 1965) has a complex, but contradictory system

STRESS EXPERIMENT: NON-REDUPLICATED FORMS

- Word list containing disyllabic forms with all 5 Southern VN tones embedded in naturalistic sentences

Predictions

- Inventory
 - NV coordinative compounds (2 orders) *Ngô* *Ng.+Ingram* *Two stresses* *Final stress*
 - NV subordinative compounds *Final stress* *Final stress*
 - Opaque disyllables (2 SV coord., 1 SV sub., 1 French, 1 Khmer) *Initial stress* *Final stress*
- 2 contexts, to tease apart the effect of prosodic breaks
 - Phrase-final
 - Phrase-medial

Ex: Nhà ba má Tuấn có nhiều bàn ghế (đẹp).

‘Tuấn’s parent’s house has a lot of (nice) furniture’



STRESS EXPERIMENT: PROTOCOL

- 8 speakers (4 male, 4 female), all university students (not in linguistics), all native speakers of Southern Vietnamese
- Recorded in a sound-proof booth in Hồ Chí Minh City (Saigon)
- Read the wordlist 5 times, with breaks between blocks
- Were given the list a few minutes before the experiment
 - Familiar with sentences
 - Recordings sound very natural (not reading style)
 - However, many sentences were mistaken for others
 - In coordinate compounds, it was difficult to get the least frequent order

STRESS EXPERIMENT

STATS

- Mixed Linear Model implemented in R (lmerTest package)
- Dependant variables
 - Syllable duration
 - Mean intensity of syllable
 - Mean f0 of syllable
- Fixed effects
 - Position (phrase-medial, phrase-final)
 - Word type (coordinate, reversed coordinate, subordinate, opaque)
- Random effects
 - Participants
 - Syllable

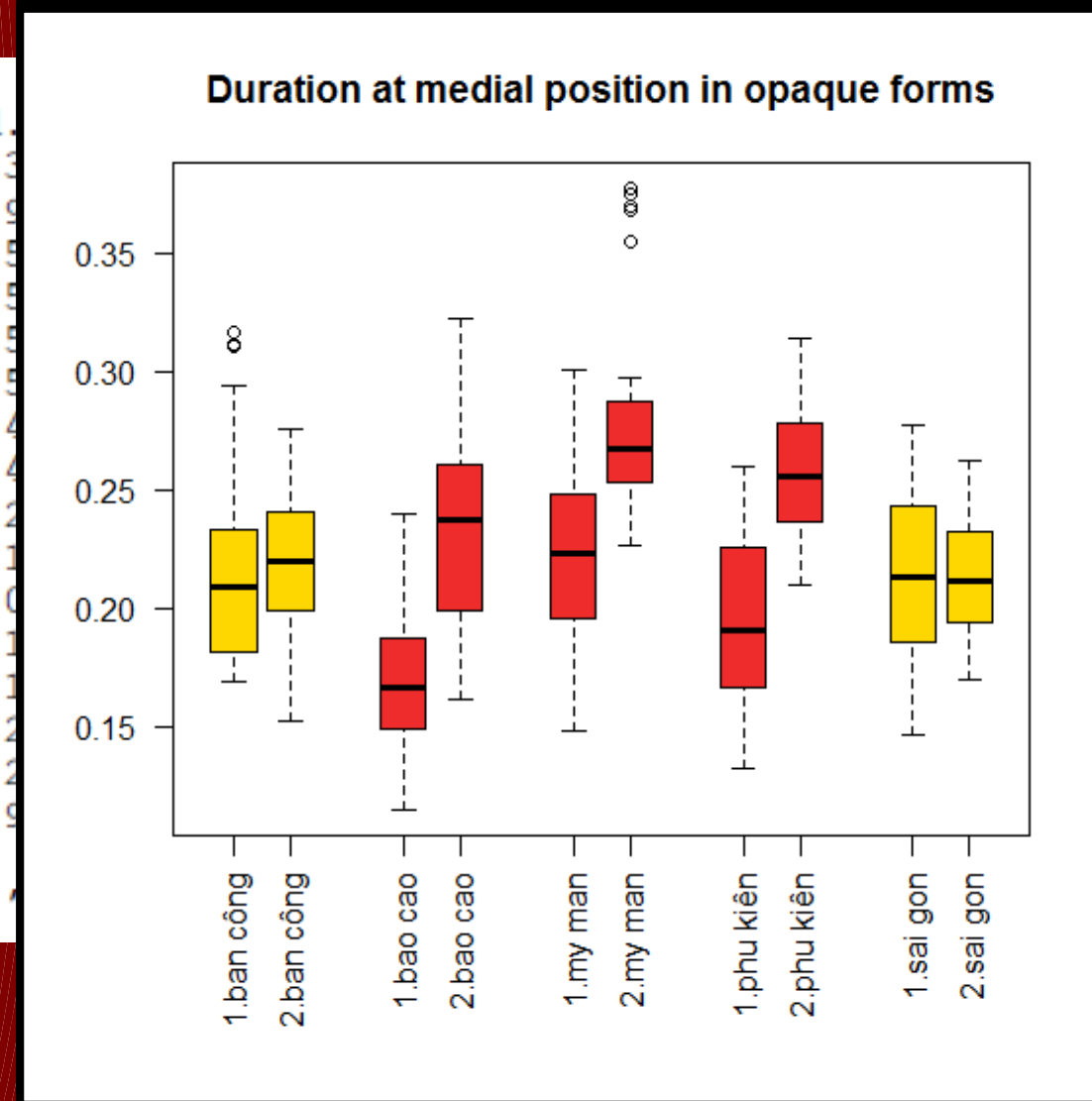
RESULTS

DURATION IN NON-REDUPLICATED WORDS

Fixed effects:

	Estimate	Std. Error
(Intercept)	2.197e-01	1.3
PositionFinal	8.270e-03	2.9
WordtypeCoordYX	-7.992e-03	1.5
WordtypeOp	-1.637e-02	1.5
WordtypeSub	-4.276e-05	1.5
order2	-1.351e-02	1.5
PositionFinal:WordtypeCoordYX	-1.117e-02	4.4
PositionFinal:WordtypeOp	-4.416e-03	4.4
PositionFinal:WordtypeSub	2.474e-04	4.2
PositionFinal:order2	1.514e-01	4.1
WordtypeCoordYX:order2	2.819e-02	3.0
WordtypeOp:order2	5.040e-02	2.1
WordtypeSub:order2	6.467e-03	2.1
PositionFinal:WordtypeCoordYX:order2	4.163e-03	6.2
PositionFinal:WordtypeOp:order2	-1.034e-02	6.2
PositionFinal:WordtypeSub:order2	-9.286e-03	5.9

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.'



R2 = 0.87

R2 of random factors and intercept = 0.30

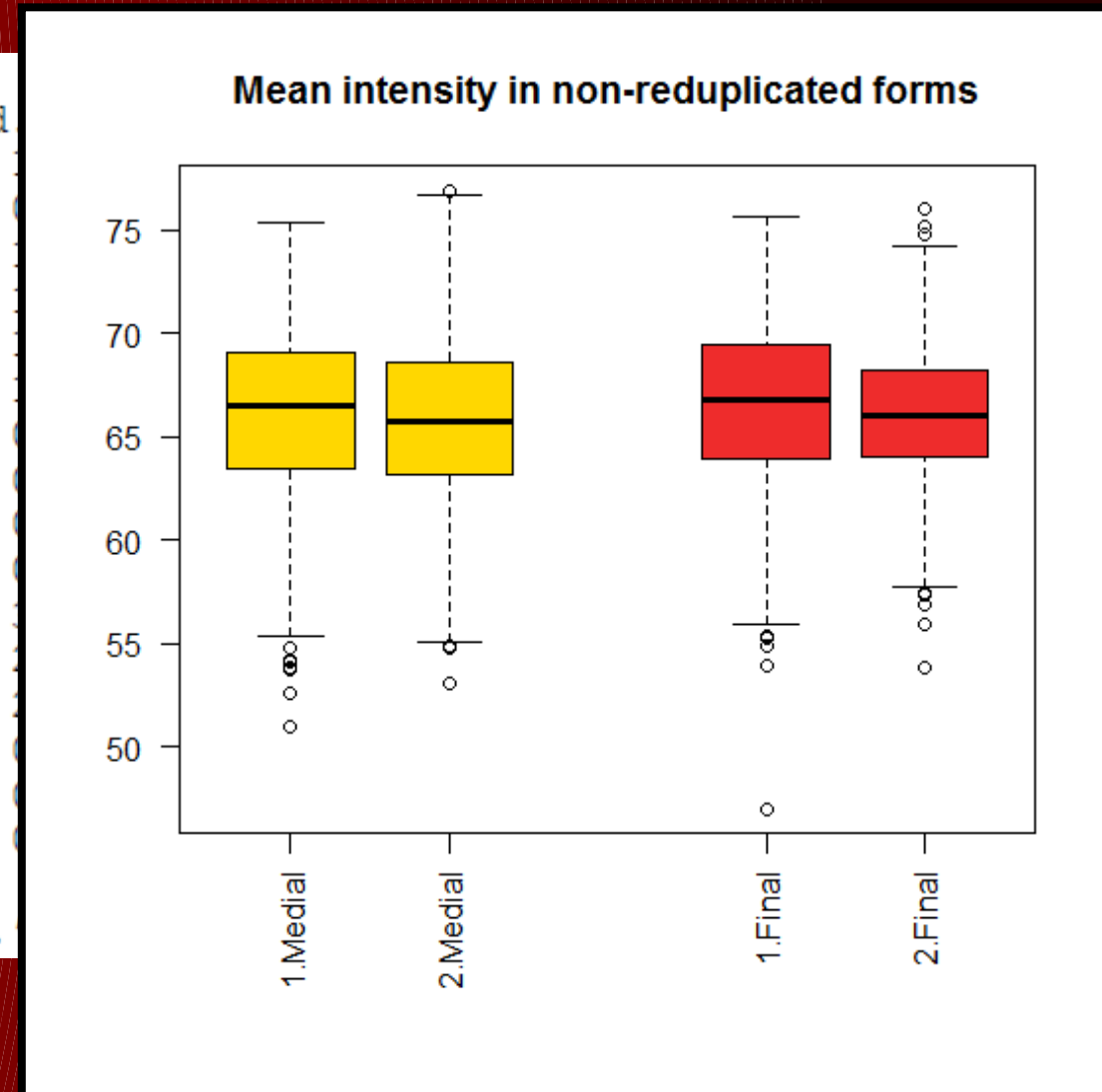
RESULTS

INTENSITY IN NON-REDUPLICATED WORDS

Fixed effects:

	Estimate	Std
(Intercept)	66.50680	
PositionFinal	-0.04043	
WordtypeCoordYX	-1.19783	
WordtypeOp	-0.19510	
WordtypeSub	-0.50335	
order2	-0.22114	
<u>PositionFinal:WordtypeCoordYX</u>	<u>1.34774</u>	
PositionFinal:WordtypeOp	0.21941	
PositionFinal:WordtypeSub	0.10081	
PositionFinal:order2	0.14744	
WordtypeCoordYX:order2	1.35268	
WordtypeOp:order2	-1.21426	
WordtypeSub:order2	0.12877	
<u>PositionFinal:WordtypeCoordYX:order2</u>	<u>-1.62940</u>	
PositionFinal:WordtypeOp:order2	-0.09679	
PositionFinal:WordtypeSub:order2	0.14295	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.'



R2 = 0.678

R2 of random factors and intercept = 0.674

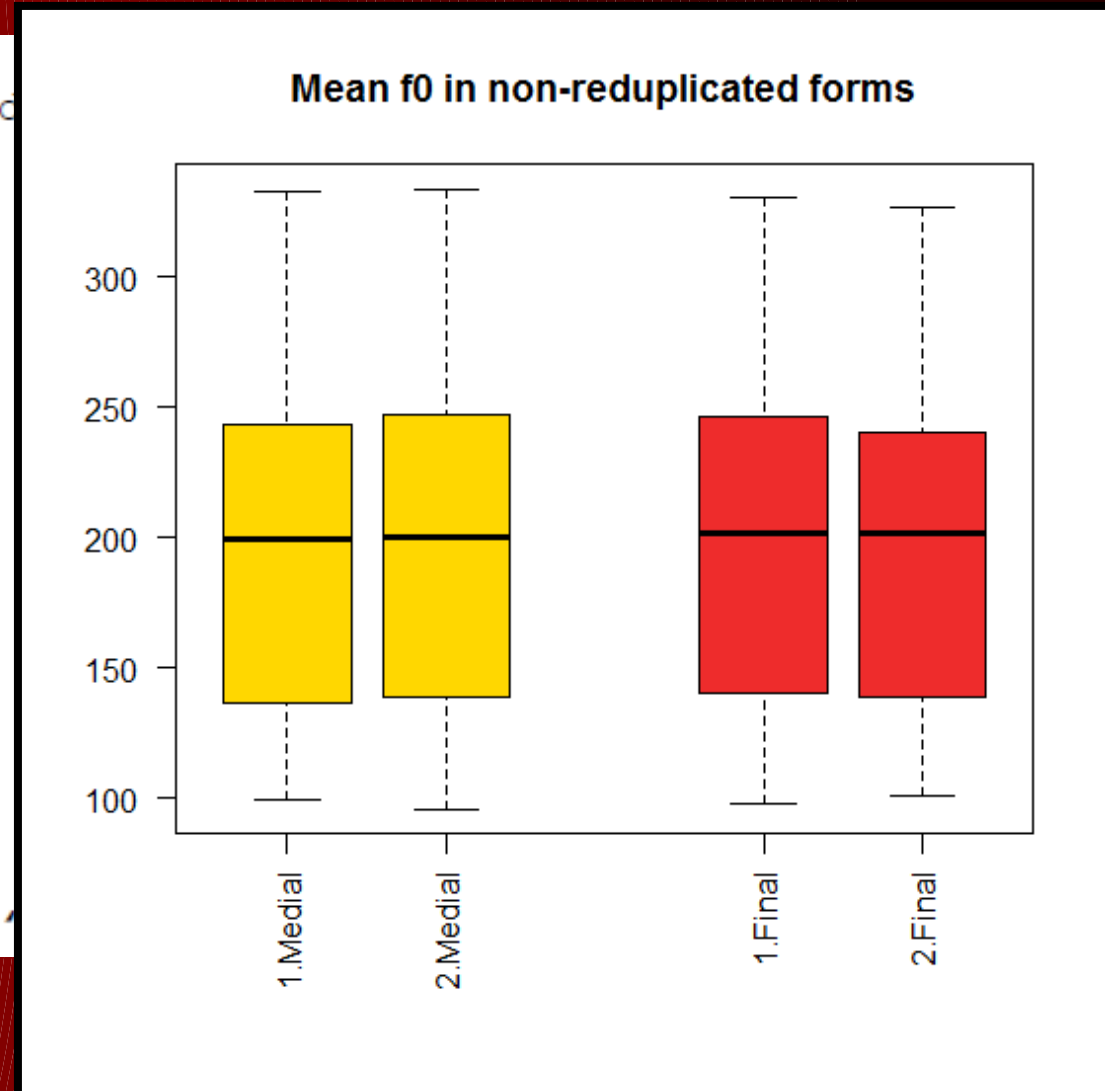
RESULTS

F0 IN NON-REDUPLICATED WORDS

Fixed effects:

	Estimate	Std
(Intercept)	191.3817	
PositionFinal	-2.4842	
WordtypeCoordYX	13.9190	
WordtypeOp	-4.1283	
WordtypeSub	5.0617	
order2	7.6961	
PositionFinal:WordtypeCoordYX	4.0878	
PositionFinal:WordtypeOp	3.9671	
PositionFinal:WordtypeSub	1.6844	
PositionFinal:order2	0.4991	
WordtypeCoordYX:order2	-16.0659	
WordtypeOp:order2	-5.2155	
WordtypeSub:order2	-12.6781	
<u>PositionFinal:WordtypeCoordYX:order2</u>	-7.2798	
PositionFinal:WordtypeOp:order2	-0.2013	
PositionFinal:WordtypeSub:order2	-2.8729	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05



R2 = 0.898

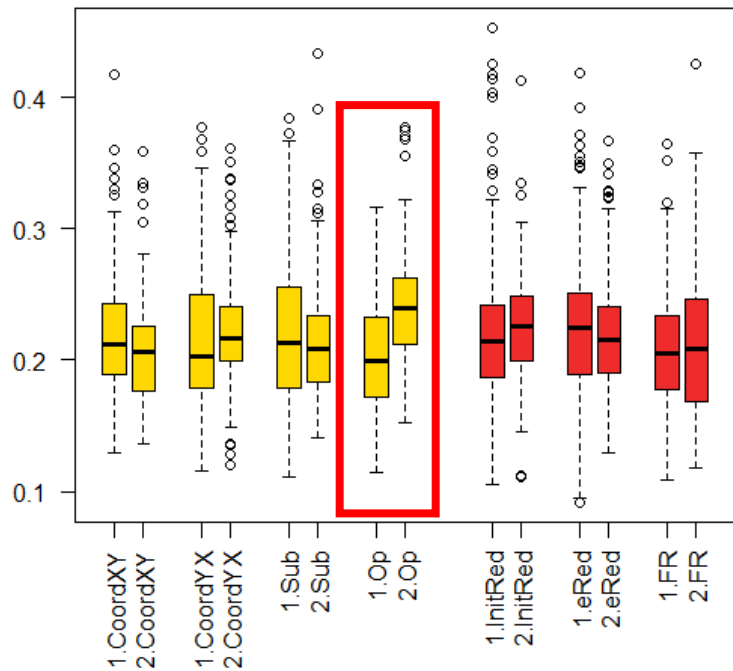
R2 of random factors and intercept = 0.896

STRESS EXPERIMENT: REDUPLICATED FORMS

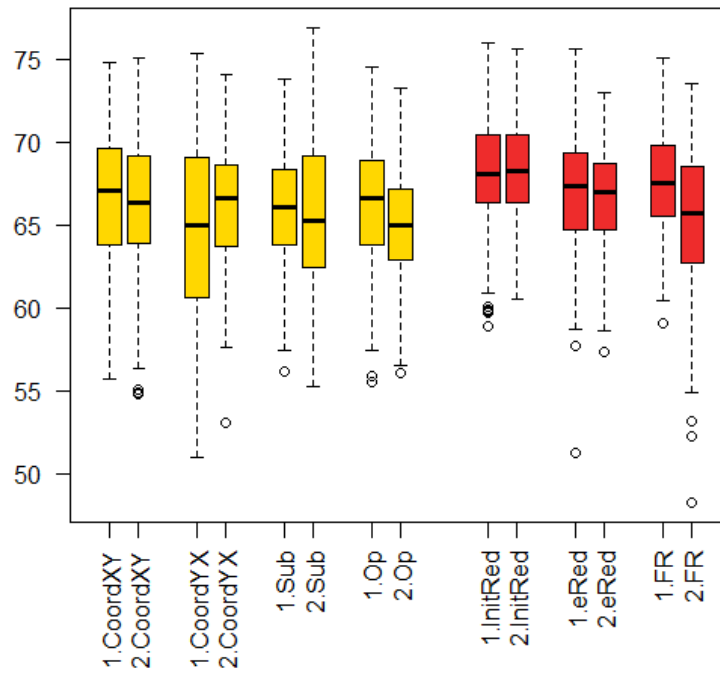
- Reduplicated forms (all adjectives)
 - Inventory *Ngô's predictions*
 - Base in non-reduplicant (control) Mới lạ 'New and odd' *Initial stress*
 - Reduplicant + Base Mới mới 'rather new' *Final stress*
 - Base + Reduplicant in -e Mới mẽ 'very new' *Initial stress*
 - One base for each of the 5 Southern Vietnamese tones
 - All phrase-medial
- Compared with all other phrase-medial forms
- Same speakers, same methodology, same wordlist as previous experiment

RESULTS :REDUPLICATED FORMS ARE THE SAME AS OTHER DISYLLABLES

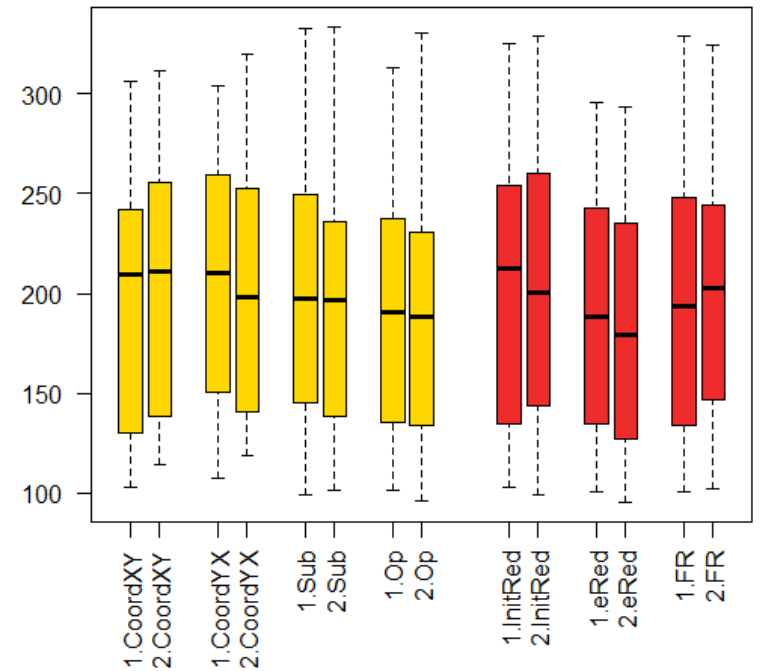
Phrase-medial duration



Phrase-medial mean intensity



Phrase-medial mean f0



STRESS - SUMMARY

- **No/little evidence of stress**
 - No difference between most types of disyllables (contra Ngô 1984)
 - ...except Sino-Vietnamese compounds, which have longer 2nd syllables??
 - Absence of stress in disyllables rules out the possibility of alternating stress in phrases (contra Thomas 1962; Thompson 1963, 1965, Schiering et al. 2010)
- Clear phrase-final lengthening (contra Nguyễn and Ingram 2007a, 2007b, pro Hoàng and Hoàng 1975; Thomas 1962)
- Absence of stress rules out the foot and most probably the prosodic word

ADDITIONAL EVIDENCE OF A PROSODIC WORD IN VIETNAMESE?

- No segmental processes sensitive to a word-size domain
- Cliticization (Pham 2008)
 - Extreme reduction of function word as evidence for the existence of a prosodic word
 - However, lexical words can also get dramatically reduced

PROSODIC AND GRAMMATICAL DOMAINS IN VN

ι root-clauses, adjuncts, hesitations, ...

$\varphi?$ syntactic phrases, phases

morphemes (words?)

σ