

Maintaining a tone Universal

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Ben Hermans, Meertens Institute and Free University Amsterdam

Introduction

It has been claimed that there are no rules *directly* relating tone and vowel quality. Interaction between tone and vowel quality can only be *indirect*, through the mediation of foot structure or syllable structure (de Lacy 2007). According to Odden (2001), interaction between tone and vowel height is only attested in Japanese. In his recent thesis Clemens Poppe (Poppe 2015) analyzes three dialects where this is the case.

In a famous article Hombert (1977) claims that there are no clear cases where tone and vowel quality directly refer to each other. In a way, this is very puzzling, since phonetically, the higher the vowel is the higher its pitch is. Why is this never 'phonologized'!?







In the development of the Limburgian tonal accents high vowels attracted high tones and non-high vowels attracted low tone.

The goal of this talk is to maintain the hypothesis that there are no rules directly relating tonal and vowel quality. The idea is to relate moras and sonority. In Limburgian, then, the mora is the mediator between tones and vowels.



<http://www.let.ru.nl/gep/carlos/carloslimburg.html>

(1) Realizations in various positions in the sentence (Gussenhoven 2000a)

	FOCUS NONFINAL	FOCUS FINAL	NONFOCUS FINAL
Declarative			
Interrogative			

(2) Vowels and tones in the history of Limburgian (cf. also Boersma 2013) for confirmation; but see Gussenhoven (2000b, 2015) for strongly different views.

(2a) long mid and low vowels received Accent 1

WGM e:

e: < e:		e: < eo	
[bre: ¹ f]	'letter'	[le: ¹ f]	'nice'
[ve: ¹ l]	'fall', 1/3P.SG.PASTT.	[re: ¹ m]	'belt'
[le: ¹ t]	'allow', 1/3P.SG.PT.	[de: ¹ p]	'deep'

WGM o:

		with Umlaut	
[ho: ¹ t]	'hat'	[vrø: ¹ x]	'early'
[sto: ¹ l]	'chair'	[kø: ¹ l]	'cool'
[bo: ¹ k]	'book'	[zø: ¹ t]	'sweet'

WGM a:

		with Umlaut	
		early Umlaut	later Umlaut
[drø: ¹ t]	'thread, SG'	[kiø: ¹ s]	'cheese'
[zwo: ¹ r]	'heavy'	[ʃiø: ¹ r]	'scissors'
[ʃo: ¹ p]	'sheep, SG'	[sliø: ¹ ps]	'sleep', 2P.SG.PRT.
			[drœ: ¹ j] 'thread', PL
			[pœ: ¹ l] 'pole'
			[ʃœ: ¹ p] 'sheep', PL

polysyllabic forms

[e: ¹ dər]	'everybody'	[pre: ¹ stər]	'priest'
[hiø: ¹ rɪŋ]	'herring'	[ruø: ¹ mə]	'Rome'
[jɔ: ¹ mər]	'regrettably'	[nɔ: ¹ bər]	'neighbor'
[wɔ: ¹ pə]	'weapon'	[kluəst ¹ ər]	'monastery'

(2b) long high vowels and falling diphthongs received Accent2

WGM i:/u:/ai/au

[wi: ² t]	‘far’	[ti: ² t]	‘time’
[ʃi: ² n]	‘appearance’	[sli: ² m]	‘slime’
[wi: ² n]	‘wine’	[tu: ² n]	‘fence’
[vu: ² l]	‘dirty’	[lei: ² t]	‘grief’
[klei: ² t]	‘dress’	[dei: ² l]	‘part’
[bei: ² n]	‘leg’	[bou: ² m]	‘tree’
[sli: ² k]	‘mud’	[bu: ² k]	‘belly’
[ti: ² γər]	‘tiger’	[vi: ² vər]	‘pond’
[du: ² zəptʃ]	‘thousand’	[zy: ² vər]	‘pure’
[zei: ² vər]	‘saliva’	[rei: ² γər]	‘heron’
[təu: ² vər]	‘practise witchcraft’	[rœy: ² vər]	place name
[lu: ² stər]	‘listen’	[bu: ² tə]	‘outside’

(2c) short vowels lengthened by OSL received Accent2

lengthened WGM i

[ze: ² və]	‘seven’	[e: ² dər]	‘earlier’
[te: ² γəl]	‘tile’	[ze: ² γəl]	‘seal’
[we: ² zəl]	‘weasel’	[he: ² məl]	‘heaven’

lengthened WGM u (in some examples also Umlauted)

[ko: ² γəl]	‘bullet’	[vo: ² γəl]	‘bird’
[zo: ² mər]	‘summer’	[vlø: ² γəl]	‘wing’

lengthened WGM e

[ke: ² vər]	‘bug’	[vlɛ: ² γəl]	‘naughty boy’
[zɛ: ² γəl]	‘blessing’	[kɛ: ² rəl]	‘bloke’
[wɛ: ² rəlt]	‘world’	[mɛ: ² rəl]	‘blackbird’

lengthened WGM o

[bɔ: ² və]	‘on top of’	[kɔ: ² rə]	‘corn’
[ɔ: ² və]	‘oven’		

lengthened WGM a

[va: ² dər]	‘father’	[na: ² γəl]	‘nail’
[wa: ² γəl]	‘cart’	[sna: ² vəl]	‘beak’
[ha: ² mər]	‘hammer’	[sta: ² məl]	‘stammer’

Lengthened vowels followed by a poststress voiceless consonant

Lengthened WGM i/u/e/a

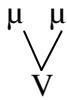
[ze: ² kər]	‘certain’	[ste: ² kəl]	‘sting’
[to: ² tər]	‘mud’	[kø: ² təl]	‘dung’
[be: ² tər]	‘better’	[kɛ: ² təl]	‘kettle’
[wa: ² tər]	‘water’	[ka: ² tər]	‘male cat’

Analysis

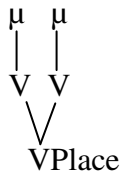
(3) A branching root node is not allowed;

The representation of a long vowel in Limburgian (Selkirk 1990):

Not correct

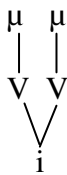


Correct



(4) A segment in the head position of a mora must have high sonority (minimally mid vowel)

Quite incorrect

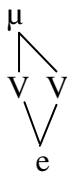


Not quite correct (but preferable)



(5) A segment in the dependent position of a mora must have low sonority (maximally high vowel)

Incorrect

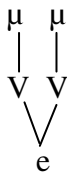


Correct



Later, at the point in time when OSL (Open Syllable Lengthening) applied, this constraint was lower ranked than DEP-mora (do not insert a mora):

(6) Incorrect



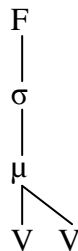
Correct



(7) The representation of Accent1



The representation of Accent2

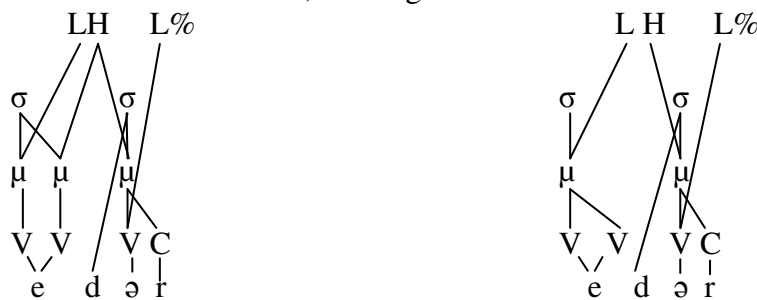


- (8) The representation of declarative melody: HL L%
 The representation of the interrogative melody: LH L%

Let us map!

- (9) The High tone must be linked to a head mora;
 (10) The elements of PAM must be adjacent (at the mora level);
 (11) The BM (boundary melody) goes to a root node in a mora's head position;
 (12) Focus non-final interrogative
 Accent1: a rise in the stressed syllable, immediately followed by a drop in the posttonic syllable.
 Accent2: level low, immediately followed by a falling tone in the posttonic syllable.

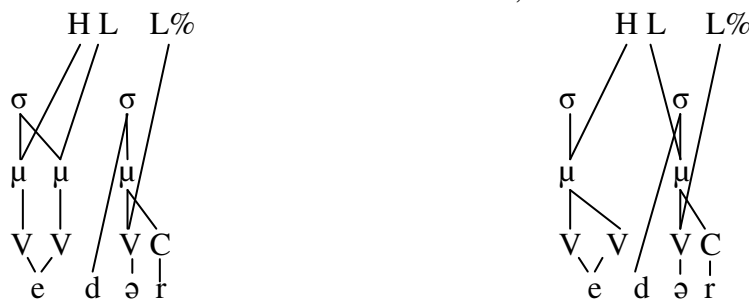
Focus non-final, interrogative



(Phonetic remark: if H and L have to be pronounced by the same root node, this root node will be pronounced with a falling pitch.)

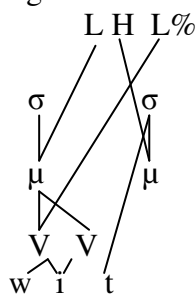
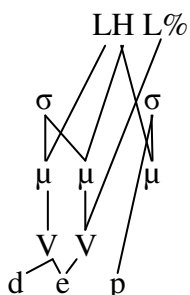
- (13) Focus non-final declarative
 Accent1: a fall in the stressed syllable, immediately followed by a low tone in the posttonic syllable.
 Accent2: level high tone in the stressed syllable, immediately followed by a low tone in the posttonic syllable.

Focus non-final, declarative



- (14) Focus final interrogative
 Accent1: a rise in the stressed syllable, followed by a fall in the same syllable;
 Accent2: level low tone in the stressed syllable, followed by a very late steep rise in the same syllable;

Focus final, interrogative

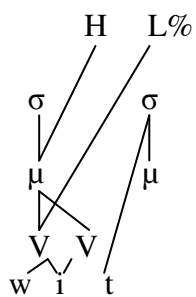
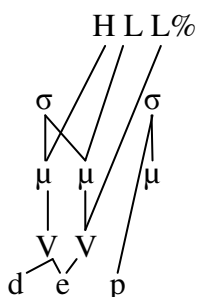


(Phonetic remark: A T that is exclusively linked to an empty mora is phonetically pronounced at the edge of the neighboring root node). If it is also linked to another mora, then it is exclusively pronounced by that mora.

(15) A contour (two tones on one mora) is not allowed

(16) Focus final, declarative

Focus final, declarative



(Phonological remark: a floating L is merged with the following L%, because they are not on distinct 'planes'. The merging is caused by the OCP).

A few remarks on Japanese

(17) Poppe (2015: 149) ‘...among words of two moras or more, there are no words in which the accent falls on a high vowel that is followed by a non-high vowel’

(18) Poppe (2015:170) ‘A H tone is not associated to a syllable headed by a high vowel’

(19) The same constraint as in Limburgian (cf. (4))

(20) High ranked PARSE MORA

(21) The head mora (of a syllable) must have high sonority (mid vowel or more)

(22) atama^ˈ LHH^ˈ ‘head’
kuzira^ˈ LLH^ˈ ‘whale’
sizuku^ˈ LHH^ˈ ‘drop (of water)’



(24) A high tone is not allowed in a dependent position (de Lacy 2007)

Conclusion

It is possible to avoid direct reference between tone and vowel quality; we just refer to the sonority of moraic content.

References

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