

# Penultimate lengthening and lowering in Gitonga

## Bantu prosodic typology

Gitonga (Bantu, Mozambique) has:

- lengthening of penultimate syllables
- lexical tone, and utterance-final lowering

Most southern Bantu languages have both lexical tone and penultimate lengthening (Hyman 2009):

- These can interact with each other, and with intonational boundary tones
- Languages differ on the domain of lengthening
  - penultimate syll of word, p-phrase, utterance?
  - which kinds of utterances?
- Languages differ on the interaction between tone and lengthening

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## Lexical tone

Gitonga has tone contrasts between H and Ø

ɽító 'á-é'mbé-dé ... 'Lito sang to ...'  
 ɽító 'á-é'mbé-dé ... 'The voice sang to ...'  
 ɽi-na-róɽ-a ... 'I will pick up ...'  
 ɽi-na-róɽ-á ... 'I will become short ...'  
 ɽ-gara óowu 'This is a knife'  
 ɽgáɽa ééji 'This is a lion'

H.H also contrasts with H.'H

ɽító 'á-é'mbé-dé ... 'Lito sang ...'  
 ɽító 'á-é'mbé-dé ... 'Lito told ...'  
 sí-ná-pí'ɽ-éɽ-á ... 'they will cut for ...'  
 sí-ná-pí'ɽ-éɽ-a ... 'they will be preparing'

A word-final H spreads to a following Ø

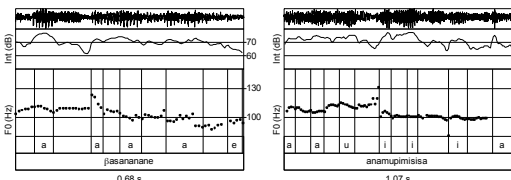
si-khwatana ... 'the boys ...'  
 mindú si-khwatana ... 'tomorrow, the boys ...'  
 s-ananá 'sé-é'mbé-dé ... 'the kids sang to ...'  
 ... á-é'mbé-dé s-á'náana ... 'sang to the kids'

## Penultimate lengthening

Acoustic correlates of lengthening

- Vowel length: yes (penult length vs previous)
- Intensity: no
- Pitch: no

... βá-s-á'nánáa-ne a-na-mú-'pímís-íis-a  
 on-8-child-loc 3sg-fut-3sg-think-caus-fv  
 '... on the children' 'she will make him think'



Prosodic domains of lengthening

- Utterance-penultimate is quite long  
 ɽító 'á-é'mbé-de s- [á] 'n [áá] nǎ  
 [051][140][ ] (ratio = 2.7)  
 s-á'yó-'p [í] m [í] s-a  
 [049][094][096] (ratio = 1.9)
- Penultimate in p-phrase is intermediate length  
 mindú s- [á] 'n [á:] ná sí-na-háana  
 [066][105][062] (ratio = 1.6)
- Penultimate in word can be short  
 s- [a] n [á] ná si-viɽí 'sí-é'mbé-de ɽító  
 [061][066][050] (ratio = 1.1)  
 s-á'yó-'p [í] m [í] s-a si-khwataàna  
 [065][064][050] (ratio = 1.0)

## Utterance-final lowering

What kind of effect is this lowering?

- Phonological: dependent on tones of penultimate and final syllables
- Post-lexical: dependent on prosodic domain and not on morphology
- Is not a simple tone insertion or retraction, though one or both may be involved

Interaction with lexical tone

- H.H → H.'L  
 mi-faríjǎ ji-ná-róɽ-à  
 4-casava 4-FUT-short-FV  
 'the casava roots will shorten'
- H.L → HL.'L  
 sí-ná-rúdz-ís-a mi-faríjǎ  
 8-FUT-short-CAUS-FV 4-casava  
 '(the kids) will shorten the casava roots'

- L.H → L.HL  
 ɽi-na-róɽ-à  
 1SG-FUT-pick.up-FV  
 'I will pick it up'
- L.L → L.'LL  
 ɽi-na-róɽ-a miindú  
 1SG-FUT-pick.up-FV tomorrow  
 'I will pick it up tomorrow'

- L.L → L.'LL  
 s-á'yó-'p [í] m [í] s-a si-khwataàna  
 8-prog-think-fv 8-boy  
 '(the kids) are thinking of the boys'

Applies in declaratives, imperatives and yes/no questions; some wh-questions are only affected on last syllable

## Further questions

Information structure apparently influences the p-phrase and when wh-questions undergo lowering, but these relationships are still unclear.

Some words have lexically-specified falling tone, which is apparent when p-phrase final but reduced to H otherwise. It is not clear whether they are HL falls or H'H falls, and what the effect of utterance-final lowering is.