

Melodic tones in Bantu nouns

Lee Bickmore
University at Albany (SUNY)
Lbickmore@albany.edu

- (1) a. What is a Melodic (aka grammatical/inflectional/affixal) tone?
b. How is it different than a simple floating tone?
c. As MTs are canonically verbal, what does it mean to say there are nominal MTs?

(2) Cilungu verbs (non-phrase-final position), taken from Bickmore (2007, 2014)

a. Verb with no MH:

tú- kú- sùkilil -à /tú-ku-sukilil-a/
1pl-Prog-accompany-FV (NB: Productive rule of H Doubling)
'we are accompanying'

b. Verb with MH on μ_2 :

w- àà- cí- mú- sùkílìl -fìl-è /u-á-cí-mu-sukilil-ile +H₂/
3sg-Pst-Rec-3sgO-accompany-Pst-FV
'he/she recently accompanied him/her'

c. Verb with MH on FV:

àà-ngá-mú- sùkilil -á /a-ngá-mu-sukilil-a +H_{FV}/
3sg-Pot -3sgO-accompany-FV
'he/she can accompany him/her'

d. Verb with MH on μ_2 -FV:

à- là- sùkílìl -á /a-la-sukilil-a +H_{2-FV}/
3sg-Fut-accompany-FV
'he/she will accompany'

- (3) Is it possible to analyze the forms in (2) by claiming that certain TAMs simply have a floating H suffix (usually in addition to a segmental affix or affixes) where the floating H docking is purely phonological?

Given just the 3 tonal patterns exhibited here, it not possible to simply say that some TAMs are expressed by the presence of segmental affixes (e.g. the Progressive /ku-/ in (2a)) while others are expressed by the combination of segmental affixes and a floating H (e.g. placed just before the Final Vowel). This would work if there were only one melodic pattern, but as seen above in Cilungu, that floating H needs to sometimes dock onto the second mora of the stem (2b), sometimes to the FV (2c), and sometimes to all morae from the second one in the stem to the FV (2d). The dilemma would still exist even if (2c) were analyzed as adding an underlyingly H-toned FV (/á/). Assuming (2a) would add toneless /-a/, positing a third FV /-a +H/ (i.e. /a-/ with floating H) would not be sufficient to account for the distinction between (2b) and (2d).

(4) Working definition of Bantu Melodic Tone: Every language has a set of inflectional features. When some constellations of these inflectional features result in not only the addition of tones to a form, but a specification of how those tones must dock onto the form's TBUs, these are "melodic tones."

(5) What does a "melody" consist of?

- a. Tones: Simple melody (i.e. single H or L) or complex melody (multiple tones)
- b. Target size: a single TBU or multiple TBUs (unbounded)
- c. Target location: in reference to edges of the stem or macrostem in verbs

(6) What factors determine which melody (i.e. the tones as well as docking pattern) applies to a given form? The most common ones cross-linguistically seem to be: tense, aspect, mood, polarity, and clause type, but others include focus, presence of OM, reflexive, extensions; the tone on Root, OM or SM.

(7) Given the above, in what respect can we talk about "melodic tones" within nouns?

- a. Verbal Infinitives (most often Class 15 or 5)
- b. Deverbal Nominalizations
- c. Underived Nouns

No MH: Nyoro nouns

(8) Kaji (2010) reports that in Nyoro there is a simple two-way tonal distinction in nouns: they either have a H on the final syllable or the penult. There is a process of H tone anticipation on the penult before a final H. Non-phrase final forms shown below.

(9) Nouns with H on penult

- a. o-bú-ne 'liver'
- b. a-ma-zíga 'tears'
- c. o-ru-kanakána 'dewdrop'

(10) Nouns with H on final

- a. o-mú-tí 'tree'
- b. e-ki-géré 'foot'
- c. o-bu-horókó 'chicken lice'

(11) Multiple possible analyses

- a. Underlying H restricted to last two syllables (final foot?)
- b. Underspecification/Floating H vs. \emptyset : "penult" nouns have a floating H underlyingly which docks to penult; "final" nouns are underlyingly toneless, and phonological rule inserts H on stem-final syllable in toneless stems. (Something similar could be proposed for other languages with a purported two-way nominal tone contrast, e.g. Final vs. Antepenultimate H in Safwa (Voorhoeve 1973), or Antepenultimate vs. Pre-Stem-Initial in Kinga (Shadeberg 1973).)

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(12) Languages with verbal melodic tones where infinitives are not assigned MTs: Basaa (Makasso 2014), Dawida (Philippson 2014), Jita (Downing 2014), Mbadja (Halme-Bernecking 2014), Shona (Odden 2014), Totela (Crane 2014).

(13) Languages with a melodic tones on verbal infinitives: Bakweri (Marlo & Odden 2014), Bena (Morrison 2014), Cilungu (Bickmore 2014), Dibole (Letch 2014), Emakhuwa (Kisseberth & Guérois 2014), Kamba (Roberts-Kohno), Kifuliiru (Van Otterloo 2014), Kuria (Marlo et al. 2014), Lulamogi (Hyman 2014), Makwe (Devos 2014).

(14) Languages with melodic tones on deverbal nominalizations: Bena, Cilungu, Dibole, Emakhuwa, Kamba

(15) Languages with melodic tones on underived nouns: Emakhuwa (Kisseberth p.c.), Cilungu

Bena (Morrison 2014, Morrison p.c.)

(16) Melodic tones in verbs

- a. Verb roots are not underlyingly tonally contrastive—all toneless.
- b. Inflected verbs take one of four melodic tone patterns based on TAM and polarity: 1) pre-stem-initial, 2) macro-stem initial, 3) penultimate, 4) antepenultimate (with underived base, but penultimate with derived base).

(17) Verbal infinitives: antepenultimate pattern

- a. Underived (no extensions), antepenult pattern: *hú-hem-a* ‘to search’, *hu-hiind-a* ‘to close’
- b. Derived, penult pattern: *hu-hem-él-a* ‘to search for’; *hu-hiind-úl-a* ‘to open’

(18) Nouns with underived stems have 3 possible tone patterns

(19) Pre-stem-initial (=H on class prefix)

- a. lí-siihidza ‘ear’
- b. lú-halafu ‘ant’
- c. má-dzebele ‘corn’

(20) Penultimate

- a. li-bíhi ‘tree’
- b. mu-lómo ‘tongue’
- c. hi-luvilúvi ‘larvae’

(21) Antepenultimate

- a. mu-díimi ‘boy’
- b. lu-bálali ‘savannah’
- c. li-vatávata ‘duck’

(22) Morrison analyzes the stems of the “Pre-stem initial” nouns (19) as underlyingly toneless. Thus, there is a phonological rule which assigns a H to the pre-stem TBU in these toneless cases. I assume there is a linked H to the penult in (20) and to the antepenult in (21). Thus, there is no need to invoke melodic tones here.

Deverbal Nominalizations

(23) /-e/ suffix; H assigned to pre-stem-initial TBU

- a. mí-geend-el-e ‘custom’
- b. mú-diind-e ‘prisoner’
- c. hí-gelandidz-e ‘preparation’

(24) /-i/ & /-o/ suffixes: “antepenultimate” pattern: H on antepenult if stem underived (no extensions)

- a. mú-hon-i ‘tailor’
- b. mu-fwiim-i ‘hunter’
- c. lu-géend-o ‘journey’
- d. lú-sim-o ‘story’

(25) /-i/ & /-o/ suffixes: H on penult if stem derived (i.e. extensions)

- a. mw-igan-ídz-i ‘teacher’
- b. mu-dal-ís-i ‘speaker’
- c. lu-deeny-éh-o ‘fracture’
- d. lu-gelan-ídz-o ‘plan’

(26) The tone pattern of the nouns in (23) can be accounted for by assuming the stem is toneless, with the application of the PSI H-insertion rule, motivated for (19). This would allow for an analysis in which the PSI pattern of verbs (16b) could be one of no MH.

(27) What about the H docking pattern in (24) and (25), which is identical to the “antepenult” pattern in verbs?

- a. Morrison analyzes these cases as an antepenult MH. Extensions have linked H which, when present, causes deletion of antepenult MH. The H on extensions must delete in the presence of other MHs.
- b. Alternative: no H on extensions. “Antepenult” pattern not due to a MH, but is the result of a floating H, generated by some TAMs in verbal system, as well as the /-i/ and /-o/ nominalizing suffixes. Phonological rule will dock a floating H onto antepenult if no extensions, but onto penult if there is one. Under this analysis, there are two verbal MHs (Macro-stem initial) and Penult, and no nominal MHs.

(28) Emakhuwa (Kisseberth p.c.)

- a. MH patterns in verbs: 1st mora, 2nd mora, 1st and 3rd mora, 1st and penult, 3rd mora, final mora
- b. Verbal infinitive: 1st and 3rd pattern
- c. Nouns: class 1a: 2nd mora; classes 1-6: 1st and 3rd mora; classes 7-10: some 1st mora, some 2nd mora
- d. Derived nouns with /-o/ in class 3/4

Here the assignment of the H or Hs is determined by the noun class, clearly an inflectional feature within the nominal morphology.

Cilungu nouns

(29) Preprefix – Class Prefix – Stem (Stem generally monomorphemic, but not always)

- a. Preprefix/Augment/Initial Vowel is H
- b. Class Prefix is toneless
- c. Every mora within stem potentially tonally contrastive (H/∅); multiple H's permitted

(30) Nouns with toneless stems (non-phrase-final position)

- | | | | |
|----|--------------|--------------------|---------------|
| a. | í-cí-vùlà | ‘well’ | /í-ci-vula/ |
| b. | í-m-pélèèmbè | ‘antelope’ | /í-n-pelembe/ |
| c. | á-má-pàpikò | ‘wings’ | /á-ma-papiko/ |
| d. | ú-kú-fùl-à | ‘to wash, washing’ | /ú-ku-ful-a/ |
| e. | ú-kú-ziik-à | ‘to bury, burying’ | /ú-ku-ziik-a/ |

(31) Nouns with stem-final H

- | | | | |
|----|-----------------|---------------|------------------|
| a. | ú-mú-làlààmfutí | ‘rainbow’ | /ú-mu-lalamfutí/ |
| b. | á-má-tààngá | ‘cattle pens’ | /á-ma-tangá/ |
| c. | í-m-pààngá | ‘land’ | /í-m-pangá/ |

(32) Nouns with stem-medial H

- | | | | |
|----|--------------|-----------|----------------|
| a. | ú-mú-sùúzá | ‘hen’ | /ú-mu-suúzá/ |
| b. | á-má-yelééná | ‘earring’ | /á-ma-yelééna/ |
| c. | í-n-síndáánó | ‘needle’ | /í-n-sindáano/ |

(33) Nouns with multiple stem Hs

- | | | | |
|----|------------------------------|-------------------|-----------------|
| a. | ú-mú- ¹ póongóòzí | ‘in-law’ | /ú-mu-póngoozí/ |
| b. | ú-mú- ¹ tóowáané | ‘younger sibling’ | /ú-mu-tóowaané/ |
| c. | i-cí-pùúlú ¹ lú | ‘owl’ | /í-ci-puúlulú/ |
| d. | Kápèèmbwá | proper name | /Kápembuá/ |

(34) High Doubling applies (e.g. to the H of the preprefix in (33a-b)), even if it violates the OCP. Consecutive TBUs linked to a single H (through spreading or fusion) are pronounced on the same pitch (e.g. the first two morae in (33a-b)), whereas consecutive TBUs linked to different Hs are pronounced with a downstep between them (e.g. the second and third morae in (33a-b)).

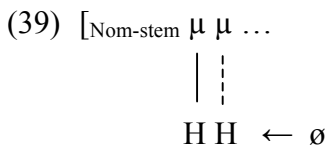
(35) Nouns with stem-initial H

| | | | |
|----|--|--------------------------|--------------------|
| a. | ú-mú- ¹ ká ¹ zyáána | ‘girl’ | /ú-mu-káziana/ |
| b. | ú-mú- ¹ lú ¹ mééndó | ‘boy’ | /ú-mu-lúmendo/ |
| c. | ú-mú- ¹ lé ¹ málé | ‘lame person’ | /ú-mu-lémale/ |
| d. | á-má- ¹ kó ¹ kóla | ‘knees’ | /á-ma-kókola/ |
| e. | ú-kú- ¹ só ¹ pólól-à | ‘to untie, untying’ | /ú-ku-sópolol-a/ |
| f. | ú-kú- ¹ páápáatik-à | ‘to flatten, flattening’ | /ú-ku-páapaatik-a/ |

(36) The nouns in (35) have an additional H tone added to the stem (specifically immediately after the stem-initial H). It turns out that the relevant morphological domain here, though, is the macrostem, as shown below, where it is clear that a H is added to the second TBU of the macrostem, when the first TBU of the macrostem is H.

| | | | |
|---------|---|---------------------|--------------------------------------|
| (37) a. | ú-kú- ¹ yá- ¹ fúl-á | ‘to wash them’ | /ú-ku-yá-ful-a +H ₂ / |
| b. | ú-kú- ¹ yá- ¹ lúk-íl-à | ‘to weave for them’ | /ú-ku-yá-luk-il-a +H ₂ / |
| c. | ú-kú- ¹ yá- ¹ súkílíl-à | ‘to accompany them’ | /ú-ku-yá-sukilil-a +H ₂ / |

(38) Is this a case of a “melodic H” within the noun system? If not, one would need to account for it phonologically, positing a rule, such as the one below (39), which inserts a H after a nominal (macro)stem initial H, linking it to the immediately following TBU. I would argue that while this is an extremely marked phonological rule, it is not unusual as a MH process, as MHs are often docked adjacent to other Hs..



But it turns out there’s more...

(40) Agentive deverbal nouns: /ka-Base-a/ (Class 1a)

| | | | |
|----|----------------|-------------------------|------------------------------------|
| a. | kà-tòt-á | ‘one who stabs/stabber’ | /ka-tot-a +H _{FV} / |
| b. | kà-sùkilil-á | ‘one who accompanies’ | /ka-sukilil-a +H _{FV} / |
| c. | kà-sópólól-á | ‘one who unties’ | /ka-sópolol-a +H _{FV} / |
| d. | kà-páápáatik-á | ‘one who flattens’ | /ka-páapaatik-a +H _{FV} / |

(41) Two possible analyses:

- a. If not MH. Formation involves suffixation of /-á/ (which may or may not be related to the verbal FV), or toneless /-a/ and a floating H which predictably docks onto the FV.
- b. Formation of these involves a melodic H, which is inflectionally triggered to dock onto the FV, analogous to the analysis of verbs in (2c).

(42) ‘manner of’ deverbals nouns (Class 4)

| | | |
|---------------------------------|----------------------|--------------------------------------|
| a. í-mí-lìm-íl-é | ‘manner of farming’ | /i-mi-lim-il-e +H _{2-FV} / |
| b. í-mí-swèèl-él-é | ‘manner of brewing’ | /i-mi-suel-il-e +H _{2-FV} / |
| c. í-mí-làànd-íl-é | ‘manner of speaking’ | /i-mu-land-il-e +H _{2-FV} / |
| d. í-mí- [!] lás-íl-é | ‘manner of hitting’ | /i-mi-lás-il-e +H _{2-FV} / |
| e. í-mí- [!] léét-él-é | ‘manner of bringing’ | /i-mi-léet-il-e +H _{2-FV} / |
| f. í-mí- [!] lí-íl-é | ‘manner of eating’ | /i-mí-lí-il-e +H _{2-FV} / |

(43) The additional H added to the forms in (42) has different docking properties than the one seen in (35) or (40). The one in (42) docks the H onto the second and subsequent TBUs of the stem (as was seen in verbs such as (2d)). This happens with toneless roots (unlike (30) where no H is added), and fuses with a root-initial H (unlike (35) where no fusion takes place).

(44) Summary of melodic tone patterns in Cilungu verbs and nouns

| Melodic H Docking Pattern | Verbs | Nouns |
|---------------------------|--|--|
| No MH | Various TAMs (2a) | All nouns but those listed below |
| FV | Various TAMs (2c) | Agentive Deverbals Nouns (40) |
| V2-FV | Various TAMs (2d) | Manner Deverbals Nouns (42) |
| V2 | Various TAMs (2b) -added to toneless and H verbs -on V2 of stem -fuses with preceding H | Nouns with H-initial (macro)stem -added only if H present -on V2 of macrostem -no fusion with preceding H |

(45) Two possible analyses of Cilungu:

- Nouns exhibit MHs: V2 for (35), VF for (40), and V2-FV for (42). With limited exceptions, these are precisely the MH patterns necessary for the verbal system.
- No MH: Phonological rule in (39) necessary for the V2 pattern in (35); suffixation of /-á/ for the FV pattern in (40), and a floating H (perhaps contributed by the FV /-e/) for the V2-FV pattern in (42), which would need to be linked to V2-FV by a phonological rule.

(46) Summary

Of all the languages for which melodic tones have been reported in the verbal system, only a subset exhibit melodic tones in the nominal system. Most often this is seen in verbal infinitives (13). While less common, there does seem to be some evidence for the existence of melodic tones found beyond verbal infinitives, viz. in deverbals nominalizations, and in underived nouns. Of course, this all depends on exactly how you define a “melodic tone” in the first place...

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