Stem Tone Melodies in Cilungu

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1.   Introduction

Cilungu is a Bantu language (M.14) spoken in parts of the Northern Province of Zambia as well as in southern Tanzania.[1] As is true of a number of Bantu languages, in certain tense/aspects one finds evidence for a Melodic High suffix (in addition to the H tones supplied by the various morphemes that comprise the verb) which docks onto certain free tone bearing units. The goal of this paper is to describe and analyze the way in which this MH is realized in Cilungu.

2.   The basics of Cilungu tonology

Before examining forms which exhibit this MH, let us first briefly outline the main characteristics of Cilungu tonology. First, as has been proposed for a number of Bantu languages, I assume that the underlying tonal distinction in Cilungu is one of High vs. ø i.e. Low tones are underspecified underlyingly, being introduced very late in the phonology by a rule of Default L Insertion. Second, I assume the TBU to be the mora. This is supported by the fact that Cilungu has a variety of different contour tones, all of which must be borne by a long vowel. Finally, Cilungu exhibits downstepped High tones, indicated by a raised exclamation mark. A downstepped High-toned mora can occur either intra-syllabically or inter-syllabically. The attested surface tones are given in (1).

(1)   <u>Short Vowels</u>
        Low   Cv̀
        High   Cv́
        Downstepped High   ꜜCv́

        <u>Long Vowels</u>
        Level Low   Cv̀v̀
        Level High   Cv́v́
        Rising   Cv̀v́
        Fall (H to L)   Cv́v̀
        Fall (H to downstepped H) Cv́ꜜv́
        Downstepped level High   ꜜCv́v́
        Downstepped Fall (H to ds H) ꜜCv́ꜜv́

Next, since most examples presented below are finite verbs, I give the structure of the finite verb below.[2]

(2)   [SM NEG TAM [_{MACROSTEM} OM [_{STEM} Root Extension(s) TAM FV]

[2]   With regard to the characters used in the Cilungu presented here, all have their standard phonetic values, except that \<sh\> = [š], \<c\> = [č], \<j\> = [ǰ], [ny] = [ñ], and \<ng'\> = [ŋ].

Cilungu maintains a contrast in vowel length as well as tone in verb roots as seen below.

(3) a. yá-kú-lúk-à   'they are weaving
     b. yá-kú-lúúk-à   'they are remembering'
     c. yá-kú-pél-à   'they are shaving'
     d. yá-kú-péél-à   'they are swinging'

(4) a. lùk-á   'weave!'
     b. lúk-à   'vomit!'
     c. kòm-á   'cut!'
     d. kóm-à   'be strong!'

In terms of processes which manipulate the underlying tones, there are three which are quite central: Tone Doubling, Unbounded Spreading and Fusion. Most underlying H tones in Cilungu undergo Tone Doubling, a process which spreads a High tone to the following mora. This is illustrated below.

(5) a. yá-kú-fùl-à Chòòlà   'they are washing Chola'   /yá-ku-ful-a Choola/
     b. yá-kú-lùk-à nììngó   'they are weaving well'   /yá-ku-luk-a ningó/

In each case above the verb contains a single H underlyingly on the Subject Marker. That H is realized on the vowel of the Subject Marker as well as the following mora of the TAM prefix /ku-/ to which it has spread.

    Certain H tones undergo unbounded spreading. This is true of the rightmost H in a phrase-final word (6a-b) as well as a macrostem H which is not followed by another H in the word (6c-d). Unbounded spreading stops at the penult in (6a-c) since a phrase-final TBU is extraprosodic.

(6) a. yá-kú-súkílíl-à   'they are accompanying'   /yá-ku-sukilil-a/
     b. yá-kú-mú-lúk-íl-à   'they are weaving for him/her' /yá-ku-luk-il-a/
     c. yá-kú-mù-páápáátík-à   'they are flattening him/her'
                                  /yá-ku-mu-páapaatik-a/
     d. yá-kú-mù-lás-íl-á Chòòlà 'they are hitting for Chola'   /yá-ku-mu-lás-il-a/

Finally, while downstep in many languages is profitably represented by a floating Low tone (between two Hs) I follow Odden's (1986) suggestion that downstep can also be represented without an appeal to Low tones at all, as two adjacent TBUs linked to distinct Hs. For instance, when one H undergoes the Tone Doubling rule illustrated in (5), this will often create a surface OCP violation with a following H and in such cases the second H is phonetically downstepped, as illustrated in the examples below.

(7) a. yá-kú-ꜜsópólól-à   'they are untying'   /yá-ku-sópolol-a/
     b. yá-kú-ꜜpáápáátík-à   'they are flattening'   /yá-ku-páapaatik-a/

In each example above, the H sponsored by the Subject Marker /yá-/ undergoes binary spreading while the H on the root-initial TBU undergoes unbounded spreading. Since the second and third TBUs in each case are linked to distinct Hs, a downstep is realized between them.

The tonology of Present Progressive forms shown in (5)-(7) can be straightforwardly accounted for given 1) the underlying H tones supplied by various affixes and roots and 2) the productive rules of the tonology which manipulate these H tones in various ways.[3] This is true for a number of other TAMs in the language, as illustrated below.

(8) a. Immediate Future
        yá-máà-fùl-à Chòòlà   'they will now wash Chola'   /yá-máa-ful-a/

     b. Contrastive Habitual
        yá-màá-fúl-à Chòòlà   'these days they wash Chola'   /yá-ma-áa-ful-a/

     c. Hortative
        yá-à-fùl-à Chòòlà   'let them start washing for Chola'   /yá-áa-ful-a/

     d. Future Continuous
        yá-kàá-fúl-à Chòòlà   'they will continue to wash Chola'   /yá-ka-áa-ful-a/

     e. Future Progressive
        yá-làá-fúl-à Chòòlà   'they will be washing Chola'   /yá-la-áa-ful-a/

     f. Habitual
        yá-káà-fùl-à Chòòlà   'they wash Chola'   /yá-káa-ful-a/

     g. Persistive
        yá-cí-lí-fùl-à Chòòlà   'they are still washing Chola'   /yá-cí-lii-ful-a/

     h. Persistive Potential
        yàà-ngá-à-fùl-à Chòòlà   'they can keep on washing Chola' /yá-ngá-aa-ful-a/

     i. Past Inceptive
        yá-á-fúl-à Chòòlà   'and then they started to wash Chola'
                               /yá-áa-ful-a Choola/

3.   The Melodic High

We now turn our attention to TAMs in which there is evidence for an additional H tone which docks onto one or more free TBUs in the verb. We will see that there are three distinct docking patterns, summarized in (9), each of which will be discussed in further detail below. (V2 = the second TBU of the stem.)

(9) Docking patterns of the Melodic High tone
     a. FV only
     b. V2-FV
     c. V2-penult

3.1   Melodic High on FV only

The first MH pattern that I would like to discuss is the one where the MH is realized on just the Final Vowel. This is illustrated nicely in the Potential forms below.

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[3]   While the three tonal rules described above are the most central and productive, there are, of course, a number of other tone rules which apply as well, some of which are operative in (8). For a complete listing and evaluation of these rules see Bickmore (forthcoming).

(10) Potential
    a. yàà-ngá-súkìlìl-á   'they can accompany'   /ya-ngá-sukilil-á/
    b. yàà-ngá-lás-á   'they can hit'   /yá-ngá-lás-á/
    c. yàà-ngá-sópólòl-á   'they can untie'   /yá-ngá-sópolol-á/

In each of the forms in (10) the FV is H-toned. This can be accounted for by assuming that in this TAM there is a MH suffix which docks onto just the FV. As seen in (10b), this H will fuse with an immediately preceding H. As seen below, this H on the FV will also fuse with an immediately following H in another word (11a). When the following word begins with a toneless TBU, then the H on the FV will spread into that word (11b).

(11) a. yàà-ngá-súkìlìl-á sááná   'they can accompany a lot'   /yá-ngá-sukilil-á/
     b. yàà-ngá-súkìlìl-á nîingó   'they can accompany well'   /yá-ngá-sukilil-á/

Other TAMs in which the MH also docks onto the FV are given below.

(12) a. <u>Recent Perfect</u>
      yá-á-fúl-ìl-á   'they have just washed for   /yá-á-ful-il-á/

    b. <u>Yesterday Past</u>
      yá-á-fúl-ìl-é   'they washed'   /yá-á-ful-il-é/

    c. <u>Yesterday Past Progressive</u>
      yá-á-fúl-ààng-á   'they were washing'   /yá-á-ful-ang-á/

    d. <u>Recent Past Progressive</u>
      yá-á-cí-fúl-ààng-á   'they were recently washing' /yá-á-ful-ang-á/

While there do not seem to be any semantic generalizations which would underlie all the TAMs in which the MH is realized on the FV, we do note that in each case the TAM prefix is H-toned. (We return to this point below once all the patterns have been presented.)
    One final note to be made about these FV TAMs is that when the SM is toneless, the H on the FV generally deletes. (The toneless SMs include the 3 sg. /a-/, the class 4 /i-/ and the class 9 /i-/.)

(13) a. w-àà-súkíl-ììl-è   'he/she accompanied' (Yesterday)   /u-á-sukilil-il-é/
     b. w-àà-súkílìl-à   'he/she has just accompanied'   /u-á-sukilil-á/

What is interesting about the forms in (13) is that while the FV in each case does surface as Low, the H contributed by the TAM prefix /á-/ undergoes bounded spreading. Were there no H at all on the FV, we would expect the H on the TAM prefix to undergo unbounded spreading (cf. (6a,b)) but it does not. Therefore I assume that the FV is in fact underlyingly H in the forms in (13), accounting for the bounded spreading of the H on /á-/ and it is only later in the derivation that the H on the FV deletes.

3.2   Melodic High on V2-FV
The next pattern involving the MH is when it docks onto the second and subsequent TBUs of the stem up to the ultima. This is illustrated in the Remote Future forms

below. (The <+H> in the URs simply notes the addition of the MH which can dock
to multiple TBUs.)

(14) a. yá-lá-fùl-á   'they will wash'   /yá-la-ful-a +H/
      b. yá-lá-fùl-íl-á   'they will wash for'   /yá-la-ful-il-a +H/
      c. yá-lá-sùkílíl-á   'they will accompany'   /yá-la-sukilil-a +H
      d. yá-lá-zìík-á   'they will bury'   /yá-la-ziik-a +H/
      e. yá-lá-zììk-íl-á   'they will bury for'   /yá-la-ziik-il-a +H/
      f. yá-lá-zììk-íl-án-á   'they will bury for each other' /yá-la-ziik-il-an-a +H/

In each form in (14) there is a second H tone (following the one supplied by the
Subject Marker) which is realized within the stem. Since the roots are all toneless in
these examples, we must suppose that it is the TAM which contributes the MH when
then docks onto various TBUs within the root. The forms in (14a-c) are consistent
with a process whereby the MH docks onto either the second mora or the second
syllable of the stem. However, the forms in (14d-f) complicate matters a bit, since
the H appears to dock onto the second mora of the stem in (14d), but on the second
syllable of the stem in (14e-f). The way I have chosen to analyze these patterns is to
posit one process which docks the MH onto the second and subsequent morae of the
stem, and a subsequent process which resolves a pre-penult stem-initial Rising tone
(in forms such as (14e-f)) to a level Low.[4]
    Below, we present Remote Future forms with H-toned roots.

(15) a. yá-lá-ˈlás-á   'they will hit'   /yá-la-lás-a +H/
      b. yá-lá-ˈléét-á   'they will bring'   /yá-la-léet-a +H/
      c. yá-lá-mù-léét-él-á   'they will bring for him/her' /yá-la-mu-léet-il-a +H/
      d. yá-lá-mù-sópólól-á   'they will untie him/her'   /yá-la-mu-sópolol-a +H/

As can be seen, in each case all stem TBUs are realized as High. This can be
accounted for by assuming that the MH docks onto the second and subsequent TBUs
(just as it did in (14)) after which that H fuses with the root-initial one, accounting
for the lack of downstep within the stem. (Of course downstep can occur prior to the
stem, as it does in (15a-b) due to the binary spreading of a pre-stem H.) As was true
of the MH which docked onto the FV in (11), the MH present in (14)-(15) will fuse
with an immediately following H in another word, or spread into a following word if
it begins with a toneless H syllable (cf. (16)).

(16) a. yá-lá-sùkílíl-á sáàná   'they will accompany a lot' /yá-la-sukilil-a +H sáaná/
      b. yá-lá-sùkílíl-á nîngó 'they will accompany well' /yá-la-sukilil-a +H ningó/

Other TAMs which exhibit this V2-FV docking pattern are given below.

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[4]   The Kenyan Bantu language Ekegusii exhibits the same docking pattern (in a subset of its TAMs)
as the one we see in (14), and was given the same analysis in Bickmore (1997).

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(17) a. <u>Far Past</u>
        yá-á-mú-fùz-íl-é   'they washed him/her'   /yá-a-mu-ful-il-e +H/

     b. <u>Far Past Progressive</u>
        yá-á-mú-fùl-ááng-á 'they were washing him/her' /yá-a-mu-ful-ang-a +H/

     c. <u>Remote Perfect</u>
        yá-á-mú-fùl-íl-á   'they have already washed for him/her'
        /yá-a-mu-ful-il-a +H/

     d. <u>Narrative Past</u>
        yá-mú-fùl-íl-á   'and then they washed for him/her'
        /yá-mu-ful-il-a +H/

3.3   Melodic High on V2-penult

The final docking pattern is one in which the MH is realized on the second and subsequent stem morae, up to the *penult* of a phrase-final word. This is illustrated by the 3 sg. Recent Past forms below.

(18) a. w-àà-cí-lóòndólw-ííl-è 'he/she recently explained'   /u-á-cí-londolol-il-e +H/
     b. w-àà-cí-kú-fùz-íl-è   'he/she recently washed you' /u-á-cí-ku-ful-il-e +H/
     c. w-àà-cí-kú-zìs-íl-è   'he/she recently buried you' /u-á-cí-ku-ziik-il-e +H/
     d. w-àà-cí-kú-sùkíl-ííl-è 'he/she recently accompanied you'
                                  /u-á-cí-ku-sukilil-il-e +H/

In each case the leftmost TBU to which the MH has docked is the same one found in the examples presented in (14) (i.e. the second stem mora, unless that would create a pre-penult Rise, in which case it is the first mora of the second stem syllable). But the (phrase-final) forms in (18) are crucially different from those in (14) in that the H spreads to the penult and not to the final. As seen below, this is also true of forms containing H-toned roots. While the MH will fuse with root H (as it did in (15)), it is not realized on the FV.

(19) a. w-àà-cí-lús-íl-è   'he/she recently vomited' /u-á-cí-lúk-il-e +H/
     b. w-àà-cí-léés-íl-è   'he/she recently brought' /u-á-cí-léet-il-e +H/
     c. w-àà-cí-sópólw-ííl-è   'he/she recently untied'   /u-á-cí-sópolol-il-e +H/

4.   Accounting for MH docking patterns

Let us now account for these three patterns. I would like to suggest that for all three patterns, the MH initially docks onto the FV. In the case of the V2-FV and V2-penult patterns, a second rule will spread the MH leftward to the second TBU of the stem. Finally, for the V2-penult TAMs, a third rule will delink the MH from the FV. Contrasting derivations of (12a), (14c) and (19c) which illustrate these processes are given below, presented here as (20a-c) respectively.

(20) a. ya-a-ful-il-a   b. ya-la-sukilil-a   c. u-a-ci-sopolol-il-e   U.R.

      | | | | |

      H H   H   H   H H H   H

                 ya-la-sukilil-a   w-aa-ci-sopolw-iil-e   Gliding & Imbric

                                       | | |

                      H   H H H   H

ya-a-ful-il-a   ya-la-sukilil-a   w-aa-ci-sopolw-iil-e   MH FV Docking

| | | | | | | |

H H   H   H   H H H   H

                 ya-la-sukilil-a   w-aa-ci-sopolw-iil-e   Left Spr to V2

                      \/ | | | \||/

                      H   H H H   H

ya-a-ful-il-a   w-aa-ci-sopolw-iil-e   Fusion

 \| | \|/

     H   H   H

ya-a-ful-il-a   Tone Doubling

 \/ |

   H   H

                            w-aa-ci-sopolw-iil-e   FV Delinking

                                       \|/

                                    H

[yá-á-fúl-ìl-á]   [yá-lá-sùkílíl-á]   [w-àà-cí-sópólw-ííl-è][5]   S.R.

To summarize to this point, we have seen four distinct verbal patterns relating to the presence and docking of a Melodic High. In certain TAMs there is no evidence for the presence of a MH (7)-(8). In TAMs where there is evidence of a MH, it docks in one of three ways. In some cases it docks to the FV only (10)-(12). In other cases it docks onto all morae from V2 to the FV and will fuse with any H which either immediately precedes it (i.e. a root H) or follows it (i.e. a following word which has an initial H) (14)-(17). In the final pattern the MH, in a phrase-final form, will dock onto all morae from V2 to the penult (and will fuse with any immediately preceding H) (18)-(19).

     What needs to be made clear now, however, is that while it is often the case that all forms in a given TAM behave identically in terms of the docking of a MH, this is not always true. More specifically, all the TAMs listed in (7)-(8) are consistent in that no form within them is ever realized with a MH. All forms in each TAM listed in (10) and (12) are realized with the MH on the FV and all the forms in each TAM listed in (14)-(17) are realized with the MH on V2-FV. It turns out, however, that the V2-penult pattern exhibited by the Recent Past forms in (18)-(19) is not true of that TAM as a whole. When the SM is toneless, i.e. either the

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[5]   A further rule of Rise Resolution that changes a Rise to a level Low applies to the initial syllable of (20c) after the FV Delinking rule, resulting in the observed Low initial syllable in the surface form.

3 sg. /a-/ or the class 4 /i-/ or class 9 /i-/, then the V2-penult pattern obtains, as seen in (18)-(19). However, if the SM is H-toned (true of all other SMs other than the three just mentioned) then the MH docks onto the FV only, as illustrated below.

(21) a. yá-á-cí-fúz-ìl-é   'they recently washed'   /yá-á-cí-ful-il-é/
     b. tw-áá-cí-súkìl-ììl-é   'we recently accompanied'   /tú-á-cí-sukilil-il-é/
     c. vy-áá-cí-zîis-ìl-w-é   'they (C8) were recently buried' /ví-á-cí-ziik-il-u-é/
     d. tw-áá-cí-ˈsópólw-ììl-é   'we recently untied'   /tú-á-cí-sópolol-i̱l-é/

Finally, in the negative of the Recent Past, the V2-penult pattern obtains when the root is toneless regardless of the tone of the SM.

(22) a. tù-tá-á-cí-lóòndólw-ííl-è   'we didn't recently explain'
        /tu-tá-á-cí-londolol-il-e +H/
     b. à-tá-á-cí-lóòndólw-ííl-è   'he/she didn't recently explain'
        /a-tá-á-cí-londolol-il-e +H/

When the root is H-toned, however, then the MH is realized on just the FV.

(23) a. tù-tá-á-cí-sópólw-ììl-é 'we didn't recently untie'   /tu-tá-á-cí-sópolol-i̱l-é/
     b. à-tá-á-cí-sópólw-ììl-é   'he/she didn't recently untie' /a-tá-á-cí-sópolol-i̱l-é/

5.   Variable realizations of Melodic High
5.1   Verbs
We now note three other TAMs where the realization of the MH is not uniform. In the Subjunctive the MH docks onto just the FV when nothing intervenes between the SM and the root.

(24) a. tú-fúˈl-é   'that we wash'   /tú-ful-é/
     b. tú-zîik-é   'that we bury'   /tú-ziik-é/
     c. tú-zîik-ìl-é   'that we bury for'   /tú-ziik-il-é/
     d. tú-súkìlìl-é   'that we accompany'   /tú-sukilil-é/

If, however, some element intervenes between the SM and root, such as an OM or the Andative /ka-/, then the V2-FV pattern obtains.

(25) a. tú-mú-zìik-íl-é   'that we bury for him/her'   /tú-mu-ziik-il-e +H/
     b. tú-mú-sùkílíl-é   'that we accompany him/her'   /tú-mu-sukilil-e +H/
     c. tú-ká-sùkílíl-é   'that we go and accompany'   /tú-ka-sukilil-e +H/

In the Imperative, if the root is H-toned and there is no OM, then the MH is realized on just the FV.

(26) a. sópólòl-á   'untie!'   /sópolol-á/
     b. páápáàtìk-ìl-á   'flatten for!'   /páapaatik-il-á/

If, however, either 1) the root is toneless or 2) an OM is present (regardless of the root tone), then the MH is realized on V2-FV.[6]

(27) a. zììk-íl-á   'bury for!'   /ziik-il-a +H/
     b. sùkílíl-á   'accompany!'   /sukilil-a +H/
     c. mù-sùkíl-íl-é   'accompany him/her!'   /mu-sukil-il-e +H/
     d. mù-sópólól-é   'untie him/her!'   /mu-sópolol-e +H/

Finally, in the Perfect all three MH docking patterns are found. We first consider affirmative forms. When the SM is toneless, then, just as was the case in the Recent Past (18)-(19)), the MH docks onto V2-penult.

(28) a. à-mù-zììs-íl-è   'he/she has buried him/her'   /a-mu-ziik-i̱l-e +H/
     b. à-sùkíl-ííl-è   'he/she has accompanied'   /a-sukilil-i̱l-e H/
     d. à-páápáát-íík-è   'he/she has flattened'   /a-páapaatik-i̱l-e +H/

When the SM is H-toned, however, then the MH docks onto V2-FV, as seen below.

(29) a. tú-mú-sùkíl-ííl-é   'we have accompanied him/her' /tú-mu-sukilil-i̱l-e +H/
     b. tú-mú-ˈsópólw-ííl-é 'we have untied him/her'   /tú-mu-sópolol-i̱l-e +H/

In the negative of the Perfect, when the root is toneless then the V2-penult pattern obtains, whereas if the root is H-toned, then the MH is realized on just the FV. (This was the same pattern found in the negative of the Recent Past (22)-(23).

(30) a. tù-tá-mú-sùkíl-ííl-è   'we haven't accompanied him/her'
       /tu-tá-mu-sukilil-i̱l-e +H/
     b. à-tá-mú-sùkíl-ííl-è   'he/she hasn't accompanied him/her'
       /a-tá-mu-sukilil-i̱l-e +H/

(31) a. tù-tá-páápáàt-ììk-é   'we haven't flattened'   /tu-tá-páapaatik-i̱l-é/
     b. à-tá-páápáàt-ììk-é   'he/she hasn't flattened'   /a-tá-páapaatik-i̱l-é/

5.2   Nouns

Having described all the patterns of MH docking in verbs, we now turn to nouns (which include class 15 verbal infinitives). When a nominal stem is toneless, no MH is present. This is illustrated below.

(32) a. ú-mú-límì   'farmer'   /ú-mu-limi/
     b. í-m-péléémbè   'antelope'   /í-n-pelembe/
     c. ú-kú-zíík-íl-à   'to bury for'   /ú-ku-ziik-a/
     d. ú-kú-súkílíl-à   'to accompany'   /ú-ku-sukil-il-a/

In each case, the H on the pre-prefix undergoes unbounded spreading to the penult. If, however, there is a H on the stem-initial TBU of the noun, then evidence for a Melodic High is found.

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6   As is the case in many Bantu languages, when an Imperative contains an OM, then the FV is /-e/ (instead of /-a/).

(33) a.   ú-mú-ˈkáˈzyáánà   'girl'   /ú-mu-káziana +H/
      b.   ú-mú-ˈléˈmálè   'lame person'   /ú-mu-lémale +H/
      c.   í-cí-ˈsáˈánzì   'broom'   /í-ci-sánzi +H/
      d.   ú-kú-ˈsóˈpólól-à   'to untie'   /ú-ku-sópolol-a +H/
      e.   ú-kú-ˈpáˈápáátík-à   'to flatten'   /ú-ku-páapaatik-a +H/

In each case above, a MH has docked onto the second and subsequent TBUs up to
the penult. This is similar to the V2-penult pattern we saw in (18)-(19)) except that
the MH in the nominal forms 1) does not fuse with an immediately preceding H (cf.
(19)) and 2) is not present in forms with no stem H (cf. (18)). It should also be noted
that what triggers the insertion of the MH in nominal forms is a H on the initial mora
of the macrostem (and not just the stem). This is clear in the forms below, where a
MH is found in verbal infinitives which have a H-toned OM and a toneless root.

(34) a.   ú-kú-ˈyá-ˈlúk-íl-à   'to weave for them'   /ú-ku-yá-luk-il-a +H/
      b.   ú-kú-ˈyá-ˈsúkíl-íl-à   'to accompany them'   /ú-ku-yá-sukil-il-a +H/

To account for the forms in (33)-(34) I assume a rule which inserts a MH into a
nominal macrostem when its initial TBU bears a H tone. The MH subsequently
docks onto the second mora of the macrostem after which it undergoes unbounded
rightward spreading. The lack of fusion between the MH in nominals and the
immediately preceding H can be accounted for by ordering nominal MH docking
after Fusion.

6.   Summary
Having described the distribution and docking properties of the MH in Cilungu, let
us now attempt to summarize the generalizations which have emerged. First, it does
not seem possible to predict the presence or absence of the MH on semantic grounds.
I.e. there is no meaning which can be assigned to the MH (e.g. in terms of tense,
aspect or mood) which is true of the TAMs where it is present, and not of the forms
where it is absent. Thus, the MH appears to simply be required by certain TAMs but
not by others. E.g. the expression of the Potential (10) requires the realization of the
TAM prefix /ngá-/ as well as the MH, whereas the expression of the Persistive
Potential (8h) requires the realization of the two TAM prefixes /ngá-aa/. The point is
that while we might assign "potential" semantics to /ngá-/, there is no clear semantics
added by the MH in the plain Potential. The only small correlation between the
presence of the MH and other aspects of the form has to do with the FV. If the FV
slot is occupied by (the subjunctive) /-e/ or the (Perfective) /-il-e/ then the MH is
present. However, if the FV is /-a/ then the MH may or may not be present.
       The next and more interesting question is whether or not there is some way to
predict how the MH is realized once it is present. If the word in question is a noun,
then the MH always docks onto V2-penult with no fusion, as illustrated in (33)-(34).
But what if the word in question is a finite verb? Again, the semantics of the TAM
does not seem to be predicative in this regard. I.e. there does not seem to be any
particular shared semantics in the FV only TAMs in (10)-(12), as opposed to the V2-
FV TAMs in (14)-(17) as opposed to the V2-penult TAMs in (18)-(19). And of
course, there are some TAMs in which more than one pattern is found (viz. the
Recent Past, Subjunctive, Imperative, and Perfect). There is however a strong
correlation between the tone of the TAM prefix and the docking pattern. Let us begin

with the TAMs in (10)-(12) where the MH is realized on the FV only. In each case, the TAM prefix, either /ngá-/ or /á-/ (or /á-cí/) is H-toned. This contrasts with the TAMs in (14)-(17) which take the V2-FV pattern. In the latter TAMs, either the TAM prefix is toneless (e.g. /la-/ or /a-/) or else null (the Narrative Past). Of course this generalization cannot be exceptionlessly extended to the TAMs with "mixed" docking patterns. While Recent Past forms (marked by /á-cí/) with a H-toned SM do take the FV only pattern, they take the V2-penult pattern when the SM is toneless. Like the Narrative Past, the Subjunctive, Perfect and Imperative TAMs have no overt TAM prefix. Yet unlike the Narrative Past where the realization of the MH is uniform (on V2-FV), the realization of the MH in these other TAMs is mixed, sometimes taking the V2-FV pattern, sometimes taking the V2-penult pattern and sometimes taking the FV only pattern.

To conclude this point, there does seem to be an interesting, though by no means perfect, generalization that when the MH is present it will dock onto the FV if a H-toned TAM prefix is present, otherwise onto the second and subsequent TBUs of the stem (which in most cases includes the FV, but in some cases not). While there are exceptions to this generalization, one cannot help but see some potential motivation of the OCP here. I.e. the MH would like to dock onto V2 (via leftward spreading from the FV), but is inhibited from doing so if a H-toned TAM prefix is present. Obviously in a language like Cilungu this cannot be analyzed as a true phonological OCP effect since the generalization just stated ignores other relevant H tones which potentially intervene between a TAM prefix and V2—namely OMs and the root H itself.[7] Thus, the position we are left in is one common to many Bantu languages which is that for each TAM it must be specified what TAM prefix(es) (if any) must be present and whether or not the MH must be present and how that MH must dock.

I conclude this paper, then, by highlighting two important questions that should be asked as further research is conducted on the docking patterns of the MH across Bantu. The first question is "What are all the attested docking patterns?" I have noted four in Cilungu, but of course there are many more logical possibilities, some of which have been observed and some of which have not. (See Odden 1987 for a good summary of a wide range of possible docking sites for the MH within Bantu.) The second question is "What are the range of factors which influence how the MH is realized?" I attempt to summarize the answer to this question for Cilungu below.

(35) Summary of factors which play a role in the realization of the MH:

a.	Tone of TAM prefix	FV (10)-(12) vs. V2-FV (14)-(17)
b.	Presence of OM	FV (24) vs. V2-FV (25) in Subjunctive
c.	Tone of Root	FV (26) vs. V2-FV (27) in Imperative
d.	Affirmative vs. Negative	FV (21) vs. V2-penult (22a) in Recent Past
e.	Tone of SM	FV (21) vs. V2-penult (18)- (19) in Recent Past
f.	Verbal vs. Nominal	Verbal MH vs. Nominal MH (32)- (34)

Only when we have a thorough description of MH docking in a large number of Bantu languages can we hope to ultimately answer the question as to how the MH

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[7]   Compare this situation with Ekegusii where Bickmore (1997) argues that the realization of the MH is in fact purely phonologically conditioned.

functioned in Proto Bantu and how it has evolved historically to produce the wide array of synchronic patterns.

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