


## Melodic High tones in Emihavani

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### Abstract

Emihavani is a Bantu language spoken in southeastern Malawi. It is a dialect of Emakhuwa, a language whose origins lie in Nampula Province in northern Mozambique, but whose speakers have migrated into both southern Tanzania and southeastern Malawi. It is important to note that all of the regions where Emakhuwa dialects are spoken are economically under-developed, and a consequence of this is that the language, despite being spoken by several million people, is one of the poorer documented major Bantu languages (cf. Guérois 2015; Katupha 1983, 1991; Kisseberth 2003; Kisseberth and Guérois 2014; Stucky 1985; Van der Wal 2009). The present paper starts to remedy this situation for Emihavani by providing an account of the most complicated aspect of the Emihavani tonal system: the melodic High tone patterns that operate in the verbal system. In order to document these tone patterns, we will necessarily have to provide a brief discussion of several aspects of Emihavani phonology and morphology. We should emphasize that all of the material in this paper derives from our intensive research on Emihavani that began in 2017. All of the data reflects the speech of Alfred Lihelu, a native speaker who has been part of all the significant research on Emihavani in the past few years (e.g. the translation and recording of the New Testament in 2014 by the Bible Society of Malawi). Although our focus is definitely on Emihavani, we also seek to place Emihavani in its proper Emakhuwa context. All references to other Emakhuwa dialects derive from the first author's research over more than four decades.

**Keywords:** Melodic High; tone; Emihavani

### 1. Introduction

Emihavani is a Bantu language spoken in southeastern Malawi. It is a dialect of Emakhuwa, a language whose origins lie in Nampula Province in northern Mozambique, but whose speakers

have migrated into both southern Tanzania and southeastern Malawi. It is important to note that all of the regions where Emakhuwa dialects are spoken are economically under-developed, and a consequence of this is that the language, despite being spoken by several million people, is one of the poorer documented major Bantu languages (cf. Guérois 2015; Katupha 1983, 1991; Kisseberth 2003; Kisseberth and Guérois 2014; Stucky 1985; Van der Wal 2009).

The present paper starts to remedy this situation for Emihavani by providing an account of the most complicated aspect of the Emihavani tonal system: the melodic High (H) tone patterns that operate in the verbal system. In order to document these tone patterns, we will necessarily have to provide a brief discussion of several aspects of Emihavani phonology and morphology. We should emphasize that all of the material in this paper derives from our intensive research on Emihavani that began in 2017. All of the data reflects the speech of Alfred Lihelu, a native speaker who has been part of all the significant research on Emihavani in the past few years (e.g. the translation and recording of the New Testament in 2014 by the Bible Society of Malawi). Although our focus is definitely on Emihavani, we also seek to place Emihavani in its proper Emakhuwa context. All references to other Emakhuwa dialects derive from the first author's research over more than four decades.

As indicated above, this paper focuses on the Emihavani melodic H tone patterns. Before turning to the brief sketch of Emihavani phonology and morphology in section 1, and the documentation of these tone patterns in subsequent sections, it will be useful to explain briefly the origin of the term “melodic tone” and its relevance to Emakhuwa in general and Emihavani in particular. (For discussion of Bantu tonology in general, cf. Kisseberth and Odden 2003 and Marlo and Odden 2019; for discussion of melodic tone, cf. Odden and Bickmore 2014.)

A cornerstone of Autosegmental Phonology in the 1970s and 1980s was the notion that certain morphological constructions may bear a “tonal melody” (a sequence of tonal specifications independent of the moraic structure of the construction in question), and that this tonal melody needs to be mapped onto the moras by some combination of universal and/or language-specific principles (possibly including some pre-linking of tones and moras). In some languages, these tonal melodies constitute the only tonal specification in the construction in question. In other languages, the tonal melody needs to be integrated with a lexical specification. The principal observation that the notion of a tonal melody sought to capture was that the morphological construction in question exhibits the same broad tonal shape no matter the number of moras that make up the construction.

In some languages, melodic contrasts were *lexical* contrasts, i.e. lexical items (regardless of their moraic structure) differed one from the other in part by their choice of a tonal melody. In other languages, melodic contrasts were a matter of grammar, particularly morphology. As it happened, Autosegmental Phonology evolved in large part out of its interaction with Bantu languages, and it was the verbal morphology of these languages that bore a clear connection to the notion of tonal melodies. To explain the connection, we must first summarise the structure of the verb in a Bantu language. These languages usually have a large set of verb tenses, where a lexical element (the verb stem, which consists of a verbal root and one or more derivational and/or inflectional morphemes, known in the literature as “extensions”) is embedded in a specific morphological array. The array consists of pre-stem elements like negation markers (Neg), subject markers (SM), tense-aspect-mood (TAM) markers, and object markers (OM). An array always ends with one of a

limited number of so-called “final vowels”. We should note that object markers are located immediately in front of the verb stem, and in some languages (e.g. Emakhuwa) they are best understood to be part and parcel of the verb stem. In the Bantu literature, the term “macrostem” is widely used to refer to the structure consisting of the verb stem proper and also the object marker if present. The primary evidence for the utility of the notion comes from tonal phenomena, thus the rise of the concept of the macrostem can be traced back to the rise of the autosegmental analysis of Bantu tone (cf. Clements and Goldsmith 1984).

With this much background, we can turn to the matter of tone. Typically Bantu languages exhibit a tonal contrast between H tone and the absence of H tone (i.e. toneless) moras, where a short vowel counts as one mora, a long vowel as two moras, and certain coda consonants count as one mora. All Bantu languages are extremely restricted with regard to lexical tone contrasts in the verb stem. Some languages, of which Emakhuwa is one, have no lexical tone contrasts at all. These languages have been described as having “predictable” tone systems (cf. Odden 1989 and Marlo 2013). Many others have a contrast between High (H) verb stems and toneless verb stems (e.g. Chichewa, Digo, Zulu). While the surface realisation of this contrast plays out in various ways, at its core the contrast reduces to a H tone specification (usually located on the first mora of the stem) versus the absence of such a specification.

While verb stems may differ from language to language as to whether they have a lexical H tone or not, typically stems in at least certain tenses display a tonal contrast that is a function of that particular tense. This tonal contrast is realised on the stem no matter how many moras the stem has (it is this property that connects the Bantu case to the original notion of a tonal melody). Its realisation may be affected by the presence or absence of a lexical specification in those languages where the verb stem has a lexical contrast. This additional tonal contrast in the stem is what the notion of “melodic H tone” refers to in Bantu languages. It must be emphasized that there are many verb tenses and there are typically multiple melodic H tone patterns exhibited, with each tense selecting a particular pattern. We should emphasize that the term “tense” here refers to a particular array of morphological elements and that the choice of a melodic H tone pattern may be based on any of the non-stem elements in the array (e.g. polarity, main versus dependent clause, tense-aspect-mood, even subject marking).

Because Bantu languages are typically analysed as having only H tones and not Low tones, the use of the term “melody” is misleading when it comes to the description of the representation of the tone patterns associated with particular morphological arrays in Bantu. It seems more appropriate (at least in the case of Emakhuwa) to think of these patterns as being the result of rules assigning H tones to a stem. When viewed that way, Emakhuwa verb stems having four or more moras can be described entirely in terms of rules assigning a H tone to a particular mora in the macrostem. In some tenses, two of these rules may be applied, while in other tenses, there may be no melodic H tone assigned at all. The rules are as follows:

- Assign a H tone to the first mora of the macrostem (call this “MS1”). (All dialects.)
- Assign a H tone to the second mora of the macrostem (call this “MS2”). (All dialects.)
- Assign a H tone to the third mora of the verb stem proper (call this “S3”). (Most dialects.)

- Assign a H tone to the final mora of the macrostem (call this “F”). (Many dialects.)
- Assign a H tone to the penultimate mora of the macrostem (call this “Pen”). (A small number of dialects, where Pen is used instead of S3.)

In verb forms with fewer than four moras in the macrostem, certain problems arise: e.g. does MS2 apply if there is only one mora in the macrostem? Does S3 apply if there is just one or two moras in the stem proper? Is a Pen H tone assigned to every toneless penultimate mora? Furthermore, in a number of dialects, it is problematic for a H tone to be located on a word-final mora. Given this fact, the question arises as to whether any of these rules can place a H tone on the final vowel and if not, where it is placed (if it is realised at all). Finally, there may be enclitic elements that count as part of the domain for the assignment of melodic H tones.

This paper will explore in detail how the H tone assignment rules operate in Emihavani. It must be emphasized that, in essence, Emihavani is not radically different from the many other Emakhuwa dialects.

## 2. **Emihavani**

Emihavani is the largest dialect of what is commonly referred to in Malawi (by native speakers and speakers of other languages as well) as the “Elomwe” language. We have collected fairly extensive data on three other so-called “Elomwe dialects” in Malawi (Emunyamwelo, Ekokholani, and a variety spoken in Chiradzulu district for which our consultant had no label except “Elomwe”); all of these dialects are highly similar to Emihavani. However, a considerable number of other dialects have been referred to in the literature and we are not in a position to determine whether they all cohere together linguistically speaking. We consider the four dialects we have studied to represent a subset of Emakhuwa dialects that we will refer to as “Malawian Elomwe”.

In the literature on Bantu languages, there are a number of speech varieties located in Zambezia Province in Mozambique whose speakers self-identify as speaking Elomwe, just as Emihavani speakers do. While the Malawian Elomwe dialects that we have examined do seem to cohere together linguistically (e.g. they share a remarkable suppression of the pitch level of an utterance-final H tone), they do not share any unique linguistic elements with the Elomwe dialects spoken in Mozambique (setting aside perhaps a few lexical items). The main feature separating the Elomwe dialects in Mozambique from Emakhuwa more generally is the use of the affricates *c* and *ch* instead of the alveolar stops *tt* and *tth* found in Emakhuwa. Malawian Elomwe, on the other hand, uses *tt* and *tth*. There is no clear linguistic evidence for grouping Malawian Elomwe with Mozambican Elomwe. What is evident, however, is that they both are to be subsumed under the label “Emakhuwa” (at least from a linguistic point of view).

In the following sections, we summarise some aspects of Emihavani that will play a role when we examine the melodic H tone patterns.

## 2.1 Vowels and consonants

Emihavani has a segmental system that is not markedly different from other varieties of Emakhuwa. We use the system adopted in Mozambique for writing these segments (which unfortunately differs from the official Elomwe orthography used in the translation of the Bible in some critical cases).

There are five vowels: *i e a o u*. Each of these vowels may be short or long; the long vowels are written *ii ee aa oo uu*. The quality of these vowels does not differ significantly from the usual Bantu five-vowel system (found, for example, in Kiswahili).

The consonant system does not differ radically from other Emakhuwa dialects. The voiceless stops in Emihavani are *p t tt k*. The *t* is dental while *tt* is (post-)alveolar. There is a phonemic contrast between unaspirated and aspirated voiceless stops. The aspirated voiceless stops are written with a *h* following the stop: *ph th tth kh*. There is a voiceless alveopalatal affricate *c*. We have not observed a contrastive aspirated version of this affricate in Emihavani.

The voiced stops *b d g* and the affricate *j* are largely found in loanwords (it should be noted that Emihavani borrows extensively from Chichewa).

The voiceless fricatives are *f s x*. The sound written as *x* is the sound heard initially in the English *ship*. The use of *x* for this sound is of course a reflection of the role of Portuguese in Mozambique. The voiced fricatives are *v z dh* (the latter sound is an interdental fricative which occurs in a number of words, where other dialects use *s* or *c* or *ts* or *z*). The presence of *dh* in the Malawian Elomwe dialects is of course one piece of evidence that they represent a dialectal subgroup, but it must be emphasized that this same sound can also be found elsewhere (e.g. on the Nampula coast in Enlai, a southern Emakhuwa dialect).

The nasals are *m n ny ng'* (a velar nasal, which is fairly marginal), the liquids are *l r* (but also in borrowings a sound we write as *l̥*), and the glides are *w y*.

Emihavani has a number of pre-nasalized consonants where the nasal component does not count as a mora. These pre-nasalized consonants must be distinguished from sequences of a moraic nasal followed by a consonant. The moraic nasals in these sequences are derived generally from a Nasal-Vowel prefix where the vowel has elided, or from what Bantuists refer to as the “imbricated perfect suffix”, where the suffix *-al-* or *-il-* elides its vowel and metathesizes the *l* in front of the last consonant of the preceding stem. This *l* surfaces as a moraic nasal.

## 2.2 Tone

Emihavani, like all Emakhuwa varieties, exhibits a contrast between H tone and the absence of a H tone (= toneless). H tones can only associate to moras. In our transcription of Emakhuwa, we underline the mora which bears a H tone either as a result of a lexical specification or as a result of a H tone assignment rule (e.g. a rule assigning melodic H tones). We also place an acute mark over a mora that is actually realised with a H tone, whether or not it is underlyingly located on that vowel.

In Emihavani, unlike some other dialects, the underlying H-toned mora is usually pronounced with a H tone and no other mora has a H tone. Thus an underlining and an acute mark usually go together. It must be emphasized that this is not necessarily the case in Emakhuwa generally.

The maximal syllable consists of two moras. This can either be a long vowel or a short vowel and a moraic consonant. Long vowels, particularly in verbs, may be juxtaposed to a moraic consonant. When they are juxtaposed, the long vowel must shorten. In some cases, this has tonal implications, but we will not explore this matter here. When two short vowels are juxtaposed, they cannot be pronounced as belonging to two separate syllables. Either the first assimilates to the second, or one of them surfaces as a glide (*w* or *y*). If the vowel glides, the following vowel is compensatorily lengthened. These morphophonemic phenomena, which sometimes do have tonal implications, are not examined in detail in this paper.

Emihavani, like all Emakhuwa dialects, has limited lexical tone. Nouns have a limited degree of unpredictability, particularly due to Emihavani's extensive borrowing of Chichewa words (for a detailed discussion of Chichewa phonology, cf. Downing and Mtenje 2018). Verb stems, on the other hand, do not have any lexical tonal contrasts. Pre-stem elements do have an unpredictable tone pattern, but the macrostem tone shape is entirely a function of the assignment of melodic H tones.

Emakhuwa dialects are differentiated along certain well-defined parameters. The most fundamental difference is whether a dialect exhibits the phenomenon of High Tone Doubling. This is a process by which the underlying H tone is doubled onto the following mora. Dialects of this type themselves are differentiated with respect to the conditions governing whether doubling occurs as well as the realisation of the H tone and its double. Emihavani is one of the dialects that lacks this High Tone Doubling rule. A second tonal contrast is whether an underlying H tone can be pronounced on a word-final vowel. There is no necessary connection between whether a dialect has doubling and whether it allows a word-final underlying H tone. In the case of Emihavani, word-final H tones are allowed. At the same time, there is a critical phonetic aspect to a word-final H tone. If the word-final H tone is at the end of a phonological phrase, its H tone is radically suppressed (setting aside yes-no questions). What we mean by this is that, at best, it is only slightly raised in pitch above a preceding toneless mora (and multiple preceding toneless moras are generally flat in pitch rather than descending, in contrast with cases where the final mora is toneless). On the other hand, if it is in medial position in an utterance, it is fully H (although subject to a general phenomenon of downdrift by which a H tone is systematically lowered in pitch with respect to a previous H tone if separated by one or more toneless moras).

Despite the absence of High Tone Doubling in Emihavani, there are a limited number of cases where H tones are deleted and/or assigned that are outside the domain of the melodic H tone system. But their significance pales in comparison to the melodic H tone system analysed in the present paper.

### **2.3 Morphology**

Emihavani is a typical Bantu language from a morphological point of view. Much of this morphology is irrelevant to the topic of this paper (e.g. the details of the noun class system, the pattern of agreement, and so on). We will restrict ourselves here to the verb. In section 1, we described the nature of the Bantu

verb. The verb stem utilises the same system of derivational and inflectional extensions found generally in Bantu. A couple of points can be made about the pre-stem elements. In Emihavani as well as Emakhuwa generally, negation may be marked in word-initial position by the morpheme *kha-* or by the internal morpheme *-hi-*. The former occurs in main clause tenses and the latter in dependent clauses. Emakhuwa generally is remarkable in having only first- and second-person object marking, as well as object marking controlled by [cl.1(a)] and [cl.2(a)] objects. Nominals belonging to [cl.1/2] uniformly refer to human beings. Nominals belonging to [cl.1a/2a] comprise a much more diverse set of nouns, but these nouns govern the same pattern of agreement as the human nouns. Other noun classes do not control object marking on the verb. It is notable that Emihavani is an exception to this aspect of Emakhuwa verb structure and allows object markers that are controlled by the entire range of noun classes. There is at most one object marker in a verbal form.

There is one additional aspect of the Emakhuwa verb system that requires mentioning. There is a set of conjoint tenses, each of which has a disjoint counterpart (cf. van der Wal and Hyman 2017). The conjoint tense is used only when a complement to the verb follows, whereas the disjoint tense does not require a complement. Generally, a conjoint tense triggers application of a tonal rule that deletes the first H tone in a nominal complement. Van der Wal (2006) labels this rule “Predicative Lowering”, while we have used the label “Focal Lowering” in our own work. Only the conjoint tenses can be relativised; there is no relative version of a disjoint tense. The relative conjoint verb, however, does not demand a complement to the verb nor does it trigger Focal Lowering of a nominal complement. While Emihavani does have the same conjoint/disjoint contrasts found throughout Emakhuwa, it surprisingly lacks Focal Lowering in the conjoint tenses. There is a role for Focal Lowering outside the conjoint tenses in Emihavani, but we will not deal with this matter here. It should be noted that not all verb tenses exhibit a disjoint/conjoint contrast; for example, negative verbs lack this contrast.

We should note that in our transcription of verb words, we do not indicate any morphological separation between elements in the verb stem (including the final vowel that completes the verb stem). We do separate every prefixal morpheme from what follows with a hyphen. When a vowel in one morpheme assimilates to a following vowel in the next morpheme, we do not separate the moras in the long vowel with a hyphen. In our transcription of nouns and other word categories, we also show morphological separation only between a prefix and what follows.

With this much by way of background, let us turn to the Emihavani melodic H tone patterns. In section 3, we look at verb tenses where there is a single melodic H tone; in section 4, we examine tenses where there are no melodic H tones; section 5 considers tenses with two melodic H tones; section 6 shows that there are tenses where the melodic H tone pattern is not uniform across all forms of a tense; and section 7 discusses how a tense’s tone pattern is affected by virtue of being used as a relative verb.

### 3. Tenses with a single melodic H tone

In Emihavani, verb tenses with a single melodic H tone place that H tone on the first mora of the macrostem (MS1 H tone; §3.1), the second mora of the macrostem (MS2 H tone; §3.2), the third mora of the verb stem proper (S3 H tone; §3.3), or the final mora of the macrostem (§3.4). Space

considerations restrict the number of tenses that we can cite to illustrate these various locations. The number of examples for a given tense is likewise restricted.

### 3.1 Tenses with a MS1 H tone

The first tense with a MS1 H tone that we will illustrate is the conjoint past continuous, which can be summarised in terms of the formula SM-*a*-(OM-)stem-*a*. (Recall that “stem” here refers to an obligatory root plus one or more derivational suffixes.) The melodic H tone heard on the first mora of the macrostem is the only H tone that appears in this tense (in its non-relative use; relative verbs often have an additional final H tone and occasionally other differences). Neither the subject marker nor the *a* TAM element have a H tone.

Look first at some examples where there is no object marker and thus the macrostem and the verb stem proper are not differentiated. (Being a conjoint verb tense, the verb must have a complement in its non-relative use.)

- |                               |   |
|-------------------------------|---|
| (1) [k-a-cá e-ninga]          | ‘I was eating a banana’                         |
| [k-a-líma e-mátta]            | ‘I was cultivating a garden’                    |
| [mu-thíyana a-khúruwa e-síma] | ‘the woman was stirring/cooking stiff porridge’ |
| [k-a-vólociha e-njinga]       | ‘I was bringing in a bicycle’                   |
| [y-a-vítikelela mi-kwe]       | ‘they were twisting ropes’                      |

If the stem consists of a single mora ([k-a-cá...]), that mora bears the stem H tone. This piece of data does not, of course, tell us whether the stem tone is MS1 or final. The example [k-a-líma...] rules out a final melodic H tone, and is only consistent with a MS1 H tone. The longer stems continue to be consistent with a MS1 H tone, but in addition show that no other H tone appears.

The examples below show the tonal pattern if an object marker is present.

- |   |                                  |
|---|----------------------------------|
| (2) [k-a-yí-ca e-ninga]                                   | ‘I was eating the banana’        |
| (-yi- is the [cl.9] OM controlled by <i>e-ninga</i> )     |                                  |
| [k-a-ní-lima n-ttápo]                                     | ‘I was cultivating the marshland |
| (-ni- is the [cl.5] OM controlled by <i>n-ttápo</i> )     | (where rice is grown)’           |
| [k-a-dhí-kuliha e-sápatto]                                | ‘I was selling the shoes’        |
| (-dhi- is the [cl.10] OM controlled by <i>e-sápatto</i> ) |                                  |

When an object marker is present, there are no monomoraic macrostems. The example [k-a-yí-ca...] reveals immediately that it is a MS1 H tone that is assigned. There are no cases where a melodic H tone is assigned to the first mora of the verb stem proper. Longer macrostems, e.g. [k-a-dhí-kuliha...], show again that there is just one melodic H tone in the conjoint past continuous.

A second verb tense that exemplifies the MS1 H tone is the negative present, which has the morphological formula neg-SM-*na*-(OM-)stem-*a*. The first set of data illustrates the lack of an object



marker while the second illustrates the presence of an object marker. The location of the melodic H tone is the same as in the conjoint continuous past tense: on the first mora of the macrostem.

- |   |                              |
|---|------------------------------|
| (3) [n-gi-na-thíta]                                       | ‘I am not pounding’          |
| [n-gi-na-véetha]  | ‘I am not winnowing’         |
| [n-gi-na-khúruwa]   | ‘I am not cooking’           |
| [n-gi-na-rúkunusa]  | ‘I am not turning s.t. over’ |
| [n-gi-na-vítikelela]                                      | ‘I am not twisting s.t.’     |
| [n-gi-na-yí-ca]   | ‘I am not eating it’         |
| (-yi- is the [cl.9] OM)                                   |                              |
| [n-gi-na-á-ca ma-tháapa]                                  | ‘I am not eating the relish’ |
| (-a- is the [cl.6] OM controlled<br>by <i>ma-thaapa</i> ) |                              |
| [n-gi-na-mú-thita]  | ‘I am not pounding [cl.1]’   |
| (-mu- is the [cl.1(a)] OM)                                |                              |
| [n-gi-na-á-ttukhula]                                      | ‘I am not carrying [cl.6]’   |
| [n-gi-na-ní-vitikelela]                                   | ‘I am not twisting [cl.5]’   |
| (-ni- is the [cl.5] OM)                                   |                              |

As we will show later, a MS1 H tone *may* be combined with a second melodic H tone in some verb tenses.

### 3.2 Tenses with a MS2 H tone

A verb tense that is characterised by a MS2 melodic H tone is the negative past tense, which is summarised by the formula neg-SM-*aa*-(OM-)stem-perf-*e*. The pre-final inflectional morpheme labelled “-perf-” is rather complex in its realisation in Emihavani in particular and in Emakhuwa generally. This morpheme is realised either as a VC suffix located after the stem, or as a C infix located in front of the final consonant of a stem (as long as the final consonant is itself preceded by a vowel in the stem). In Emihavani, its VC shape is usually *al* (although *il* is used in some cases). When it appears as an infixed C, it is a moraic nasal. We are unaware of any usage differences between the suffix VC and the infix C. The examples given below are all ones where the suffix is used.

In the negative past, none of the pre-macrostem elements bear a H tone; thus the melodic H is the only tone that appears in the verb. The first set of data in (4) illustrates the case where no object marker is present.

- |                                   |                            |
|-----------------------------------|----------------------------|
| (4) [mu-sómbwe kh-aa-cilé m-vúka] | ‘the boy did not eat rice’ |
| [n-g-aa-khumále]                  | ‘I didn’t come out’        |
| [n-g-aa-khurúwale]                | ‘I didn’t stir/cook’       |
| [n-g-aa-thukúmelihale]            | ‘I did not shake it’       |

In this tense (and all tenses where the perfect element is present), the shortest verb stem is bimoraic. In an example like [kh-aa-cilé], where there are two moras, the melodic H is on the last mora. This is ambiguous because the last mora is both the final one and also the second one in the stem. We must look at an example like [n-g-aa-khumále] to see that the melodic H is not on the last mora but rather on the second mora. Longer stems continue to show that the melodic H is on the second mora, but also that there is no other melodic H in the stem.

On the basis of the above data alone, it would be conceivable to think that a melodic H tone could be assigned to the second mora of the verb stem proper. But in fact there is no evidence supporting this possibility. As soon as we include an object marker in the negative past, we see immediately that the melodic H is not on the second mora of the verb stem proper but rather on the second mora of the macrostem. In the presence of an object marker, the MS2 mora is in fact the first mora of the verb stem proper.

- (5) [n-g-aa-yi-cíle] ‘I did not eat [cl.9]’  
 [n-g-aa-wu-phúkale] ‘I did not brew [cl.14]’ – e.g. *o-theka* ‘beer’  
 [n-g-aa-yi-khúruwale] ‘I did not cook [cl.9]’  
 [n-g-aa-ni-vítikelele] ‘I did not twist [cl.5]’

Another verb tense where there is a MS2 H tone is the conjoint past tense, which has the morphological formula SM-*a*-(OM)-stem-perf-*e*. No pre-macrostem H tone occurs, and there is just the one melodic H tone. The data below in (6) from the conjoint past tense mirrors precisely what we saw above. (Being a conjoint verb tense, the verb must have a complement in its non-relative use.)

- (6) [k-a-cilé e-síma] ‘I ate stiff porridge’  
 [k-a-phukále o-théka] ‘I brewed beer’  
 [a-medhíle e-hópa sese] ‘he hooked four fish’  
 [k-a-khurúwale e-síma] ‘I cooked stiff porridge’
- [k-a-mu-cíle kharáka] ‘I ate the potatoes’  
 (-*mu-* is the OM triggered by  
 the [cl.1a] noun *kharaka*)
- [k-a-wu-phúkale o-théka] ‘I brewed the beer’  
 (-*wu-* is the OM triggered by  
 the [cl.14] noun *o-theka*)
- [k-a-yi-khúruwale e-síma] ‘I cooked the stiff porridge’  
 (-*yi-* is the OM triggered by  
 the [cl.9] noun *e-sima*)

We will see later that the MS2 H tone may be used in conjunction with a final H.

### 3.3 Tenses with a S3 H tone

We know of no Emakhuwa speech variety where there is a melodic H tone assigned to the third mora of a macrostem. However, there are dialects where a melodic H tone is assigned to the third mora of the verb stem proper. The affirmative present conditional verb tense is one where there is a melodic H tone on the third mora of the verb stem proper (with the caveat that if the stem is monomoraic, there is no melodic H realised, and if the stem is bimoraic, the melodic H appears on the final vowel). The morphological formula for this tense is SM-*a*-(OM-)stem-*a*.

The following examples lack an object marker:

- |                         |                            |
|-------------------------|----------------------------|
| (7) [k-a-ca ma-tháapa]  | ‘if/when I eat relish’     |
| [k-a-wiryá mu-káka]     | ‘if/when I drink milk’     |
| [w-a-paalá ma-dhúku]    | ‘if you look for pumpkins’ |
| [w-a-purulá mu-ttéekho] | ‘if you drag a tree’       |
| [y-a-kavihéra]          | ‘if they help’             |
| [k-a-thukuméliha]       | ‘if I shake’               |

If we look at verb stems with three or more moras, it is immediately clear that there is no MS1 or MS2 H tone. What we *do* see is a melodic H tone on the third mora of the stem. We cannot tell whether this is a MS3 H tone or a S3 H tone until we examine cases where an object marker is present. But even without answering that question precisely, we can see that there is an important issue: how does a melodic H tone that designates the third mora behave when the stem does not have three moras, but rather has only one or two moras? What the above data reveals is that if the stem has just a single mora ([k-a-ca...]), the melodic H is not realised; if the stem has two moras, then the melodic H tone appears on the final mora. This realisation pattern lacks any real generality. In some Emakhuwa dialects, one can explain the failure of a S3 H tone to be realised on a monomoraic stem by virtue of the fact that the dialect does not allow word-final H tones. This explanation obviously cannot work in Emihavani since there *are* word-final H tones generally and in [k-a-wiryá...] and [w-a-paalá...] in particular. Thus, in Emihavani, one has to stipulate that the S3 H tone is not realised when the stem is monomoraic, and is realised on the final vowel when the stem is bimoraic. Perhaps one could capture the facts by requiring the S3 H tone to be realised subject to the overriding principle that it cannot associate with the initial mora of the stem.

The inclusion of an object marker establishes that the melodic H tone in the affirmative present conditional is S3 (i.e. the third mora of the verb stem proper) and not MS3.

- |                            |                           |
|----------------------------|---------------------------|
| (8) [k-a-mu-ca]            | ‘if/when I eat it [cl.1]’ |
| [k-a-mu-kulá gálimotto]    | ‘if/when I buy a car’     |
| [k-a-mu-kulihá gálimotto]  | ‘if/when I sell a car’    |
| [a-sómbwe y-a-ki-kavihéra] | ‘if the boys help me’     |
| [Maríya a-ki-khupaárela]   | ‘if Mariya hugs me’       |

Examination of the above data reveals that the location of the melodic H tone is the same as in the case where there is no object marker. In an example like [y-a-ki-kavíhéra], the melodic H tone does not appear on the third mora of the macrostem (\*[y-a-ki-kavíhera]) but rather on the third mora of the verb stem proper.

There are not many verb tenses which use the S3 H tone as their only melodic H tone. The situative verb form, characterised by the formula SM-(OM-)stem(-ak)-a, also has a S3 melodic H tone. However, this pattern characterises only macrostems that lack an object marker. The examples below illustrate:

- (9) [aá-mu-kakatthá a-khwá] ‘he cut him and he died’  
 [n-aá-mu-taphulá a-tthawá] ‘we freed him and he ran away’  
 [Mukwákwatta a-h-í-kuhá a-ngomowá] ‘Mukwakwata fell down and collapsed’  
 [naa-ri o-takhunáka e-nama] ‘although you are chewing the meat’  
 [naa-ri n-lúku ni-moreláka m-m-áádhi=ni] ‘although the stone is falling into the water’

The pattern is the same as in the affirmative present conditional: if the stem has a single mora, there is no melodic H tone; if the stem is bimoraic, the melodic H is on the final mora; if the stem has three or more moras, the melodic H tone is on the third mora.

### 3.4 Tenses with a final H tone

The negative subjunctive verb, which has the morphological formula SM-*hi*-(OM-)stem-*e*, exemplifies a final melodic H tone. The data below exemplifies a bare macrostem (i.e. where there is no object marker). No matter how many moras there are in the verb stem, the last mora of the verb is H-toned. Of course, if there is no complement, this final H tone is suppressed, i.e. it is only very slightly raised above the preceding toneless mora. We indicate this suppression by underlining the vowel but omitting the acute mark over the vowel. When a complement does follow, this final H tone is fully raised. We should remark that the contrast between a suppressed H-toned mora and a toneless mora is very robust and often audible to even a non-native speaker; there are also many spoken utterances where it is difficult for the non-native speaker to distinguish the difference. Putting the ambiguous form in medial position always resolves the matter clearly.

- (10) [o-hi-ce] ‘you should not eat’ [o-hi-cé n-oóce] ‘you should not eat an egg’  
 [o-hi-rike] ‘you should not fetch’ [o-hi-riké m-aádhi] ‘you should not fetch water’  
 [o-hi-rukule] ‘you should not pick’ [o-hi-rukulé ni-papáya] ‘you should not pick papaya’  
 [o-hi-vitikelele] ‘you should not twist’ [o-hi-vitikelelé mu-kwe] ‘you should not twist the rope’

When an object marker is included in the macrostem, the location of the melodic H is unchanged – it remains on the final vowel.

- (11) [mu-hi-mu-ce] [mu-hi-mu-cékáre]  
 ‘you (resp.) should not eat [cl.1]’ ‘you (resp.) should not eat curry’

[o-hi-wu-ri <u>k</u> e]	[o-hi-wu-rik <u>e</u> o-th <u>e</u> ka]
‘you should not fetch [cl.14]’	‘you should not fetch the beer’
[o-hi-wu-rukul <u>e</u> ]	[o-hi-wu-rukul <u>e</u> mu-h <u>a</u> wa]
‘you should not pick [cl.3]’	‘you should not pick the cucumber’
[o-hi-wu-vitikele <u>l</u> e]	[o-hi-wu-vitikele <u>l</u> e mu-kw <u>e</u> ]
‘you should not twist [cl.3]’	‘you should not twist the rope’

Another verb tense in Emihavani where there is a final melodic H tone is the negative situative, which has the morphological formula SM-*hi*-(OM)-stem-*ak-a*. Notice that in this tense there is a H tone on the negative marker *hi* in addition to the melodic H tone in the stem. The situative is a dependent tense.

(12) [naari e-kumb <u>a</u> e-h <u>i</u> -khwak <u>a</u> ]	‘although the pig is not dying’
[Ma <u>a</u> sa a-ki-phw <u>a</u> nyile ki-h <u>i</u> -konak <u>a</u> ]	‘Maasa found me not sleeping’
[Ma <u>a</u> sa uu-phw <u>a</u> nyile o-h <u>i</u> -pharak <u>a</u> mu-t <u>e</u> ko]	‘Maasa found you not working’
[naari a-th <u>i</u> yana e-h- <u>a</u> apeyak <u>a</u> ]	‘although the women are not already cooking’
[Ma <u>a</u> sa aa-phw <u>a</u> nyile a-s <u>o</u> mbwe e-h <u>i</u> -kaviherak <u>a</u> ]	‘Maasa found the boys not helping’
[naari Ma <u>a</u> sa a-h <u>i</u> -ni-kaviherak <u>a</u> ]	‘although Maasa is not helping us’
[naari Ma <u>a</u> sa a-h- <u>a</u> a-kaviherak <u>a</u> a-khw= <u>a</u> aye]	‘although Maasa is not helping his friends’

There is a final melodic H in all cases, whether the macrostem is bare or includes an object marker.

#### 4. Tenses with no melodic H tone

Cross-dialectally, in Emakhuwa, one finds that there are a few verb tenses where there is no melodic H tone in the stem. Sometimes this may be due to the fact that there are dialects which do not allow a word-final H tone, and verb tenses that in other dialects are characterised by a final H tone do not in these dialects exhibit this H tone. But there are also tenses which lack a stem melodic H tone, even in dialects where final H tones are allowed. One such tense is the negative infinitive, which has the morphological formula *o-hi*-(OM)-stem-*a*. Notice that the pre-macrostem negative morpheme *hi* is specified with a H tone. The examples in (13) below reveal that there is no other H tone in the word.

(13) [o-h <u>i</u> -ca] ‘to not eat’	[o-h <u>i</u> -ca e-s <u>i</u> ma] ‘to not eat stiff porridge’
[o-h <u>i</u> -rowa] ‘to not go’	
[o-h <u>i</u> -kuliha] ‘to not sell’	
[o-h <u>i</u> -hakalala] ‘to not be happy’	
[o-h <u>i</u> -thukumeliha] ‘to not shake s.t.’	
[o-h <u>i</u> -ki-ca] ‘to not eat me’	[o-h <u>i</u> -ki-ca v <u>e</u> neva] ‘to not eat me now’
[o-h- <u>u</u> -homa] ‘to not pierce you’ (from underlying: /o-h <u>i</u> -u-homa/)	
[o-h <u>i</u> -ki-kulela] ‘to not buy for me’	[o-h <u>i</u> -ki-kulela ma <u>l</u> aya] ‘to not buy for me a shirt’

[o-h-úu-thopooléla dh-oó-kattan̩ha]  
 ‘to not explain to you the problem’

A second verb tense in Emihavani that lacks a melodic H tone in the stem is the remote subjunctive, which has the morphological formula SM-a-(OM-)stem-*e*. While there is no melodic H in the stem, there is a H tone on the TAM element located before the macrostem.

- (14) [k-á-ce m-vúka] ‘(so that) I eat rice’  
 [k-á-ware e-cipéwa] ‘(so that) I wear a hat’  
 [k-á-khuruwe e-síma] ‘(so that) I cook stiff porridge’  
 [k-á-rukunuse ma-lúku] ‘(so that) I turn stones over’  
 [k-á-vitikelele e-kuwó] ‘(so that) I twist the cloth’
- [k-á-wu-ce] ‘that I eat [cl.3]’  
 [k-á-yi-ware] ‘(so that) I wear [cl.9]’  
 [k-á-yi-khuruwe] ‘(so that) I cook [cl.9]’  
 [k-á-rukunuse] ‘(so that) I turn [cl.6] over’  
 [k-á-yi-vitikelele] ‘(so that) I twist [cl.9]’

We should note that in every case in Emihavani where there is no stem H tone, the vowel preceding the macrostem has a H tone. This raises the possibility that perhaps an OCP principle was involved in the historical formation of these tenses, i.e. a MS1 H tone was deleted due to the preceding H tone. In other Emakhuwa varieties, however, tenses lacking a H tone may arise from a ban on word-final H tones.

## 5. Tenses with two melodic H tones

Some verb tenses are characterised by the presence of two melodic H tones (although there may be restrictions on when the second of these H tones may be realised).

### 5.1 MS1 + S3 H tones

There is no doubt that the most significant examples of two melodic H tones are tenses in which there is both a MS1 melodic H tone and a S3 H tone. The affirmative infinitive, which has the morphological formula *o*-(OM-)stem-*a*, exhibits this pattern. Let us begin by laying out the data for a bare macrostem (i.e. one that does not include an object marker).

- (15) [o-cá] ‘to eat’ [o-cá e-síma] ‘to eat stiff porridge’  
 [o-cápa] ‘to wash’ [o-cápa<sup>#1</sup> e-kuwó] ‘to wash clothes’  
 [o-rúkula] ‘to pick’ [o-rúkula ma-dhúku] ‘to pick pumpkins’  
 [o-rúkunúsa] ‘to turn s.t. over’ [o-rúkunúsa ma-lúku] ‘to turn stones over’  
 [o-vítikélele] ‘to twist s.t.’ [o-vítikélele n-ttápwatta] ‘to twist a rag’

From these examples, we can see that in every case there is a H tone on the first mora of the bare macrostem. If this mora is phrase-final (cf. [o-ca]), the H tone is suppressed. However, the presence of a complement permits this H tone to be fully H (cf. [o-cá e-síma]). A second melodic H tone cannot be seen when the verb stem has one, two, or three moras. We will discuss briefly the failure of a second melodic H tone to appear in these forms immediately below. Nevertheless, a second melodic H tone does appear when the bare macrostem has four or more moras, and in each case the H tone is located on the third mora. Thus it is evident that it is the S3 H tone that is at play.

But what about the verb forms where the S3 is not observable? Let us recall the facts discussed in section 3.3, where we saw that when S3 is the only melodic H tone in the macrostem, the S3 H tone does not appear when the stem is monomoraic, but appears on the final mora when the stem is bimoraic or trimoraic. Now, when we are considering stems where there is a MS1 H tone as well as a S3 H tone, the distribution of the S3 H tone is not the same. When the stem is monomoraic, there is simply no possibility of the S3 being observed since there is already a MS1 H tone on the stem. No explanation of the failure of the S3 H tone to be visible is required. But on the basis of the data in 3.3, we would expect the S3 H to be located on the final vowel of a bimoraic stem (if we assume that there is a principle that the S3 should be realised if at all possible). Yet the fact is that the S3 does not appear in the infinitive form [o-cápa e-kuwo]; \*[o-cápá e-kuwo] is ill-formed. If we look at the broad range of Emakhuwa dialects, it is certainly true that they disfavour *primary* H tones on successive moras (by “primary H tone”, we mean an underlying H tone, not one that arises by High Tone Doubling in some dialects). Thus the ungrammaticality of \*[o-cápá e-kuwo] would be explicable given a ban on successive H tones. Unfortunately, Emihavani has a number of cases where this ban on successive H tones is not in effect, undermining the appeal to this ban to explain the ungrammaticality of \*[o-cápá e-kuwo]. Finally, we need to consider the failure of the S3 H tone to appear when there is a trimoraic stem: [o-rúkula], not \*[o-rúkula]. In some dialects, the failure of the S3 H to land on the final vowel of a trimoraic stem can be explained by an appeal to the ungrammaticality of word-final H tones. This is clearly not possible in Emihavani, as word-final H tones are common. Indeed, in 3.3 we saw that a S3 H tone does appear on a word-final trimoraic stem. Thus, in order to describe the facts correctly, we must distinguish between the behaviour when S3 is the only melodic H tone and when it is preceded by another melodic H tone.

Below, we provide data illustrating the case when the infinitival macrostem contains an object marker.

- |      |  |   |
|------|--|---|
| (16) | [o-mú-ca] ‘to eat [cl.1]’                | [o-mú-ca kholówa] ‘to eat potatoes’                 |
|      | [o-yí-wara] ‘to wear [cl.9]’             | [o-yí-wará e-cipéwa] ‘to wear the hat’              |
|      | [o-mú-kulihá] ‘to sell [cl.1]’           | [o-mú-kulihá kholówa] ‘to sell potatoes’            |
|      | [o-mú-volocíha] ‘to bring [cl.1] inside’ | [o-mú-volocíha mw-aána] ‘to bring the child inside’ |
|      | [o-mú-thukuméliha] ‘to shake [cl.1]’     | [o-mú-thukuméliha mw-aána] ‘to shake the child’     |

These examples show, first of all, that the object marker bears a H tone. This clearly establishes that we are dealing with a MS1 H tone in the infinitive. Second, these examples show that the S3 H tone is assigned according to a pattern that precisely mirrors the examples in 3.3, where the S3 H tone is the only melodic H tone in the stem, rather than the examples discussed immediately above, where there is a MS1 H tone on the initial mora of the bare stem.

The disjoint affirmative perfect is another tense where we find a MS1 H tone and also a S3 H tone. The morphological formula for this tense is SM-*oo*-(OM-)stem-*a*. There are morphological complications when the *oo* TAM element precedes a vowel (either initial in the object marker or initial in the stem), but we chose examples that avoid these complications. The subject markers fuse with the *oo* TAM element. Third-person subject markers are H-toned (this H tone attaches to the initial mora of *oo*, due to the non-moraic nature of the subject marker once it fuses with *oo*). Examples with a bare macrostem appear in (17) below.

- |  |  |
|--|--|
| (17) [k-oó-ca] ‘I have eaten’          | [k-oó-ca ma-tháapa] ‘I have eaten the relish’        |
| [óo-kúla] ‘[cl.1] has bought s.t.’     | [óo-kúla e-ninga] ‘he has bought bananas’            |
| [mu-ttéekho w-óo-phúwa ma-kúkhu ma-xa] |  |
| ‘the tree has sprouted new leaves’     |  |
| [k-oo-ttúkhula] ‘I have carried’       | [k-oo-ttúkhula mu-ttéekho] ‘I have carried a tree’   |
| [va-mú-ríma=ni v-áye v-óo-kákatthíwa]  |  |
| ‘(on) his heart has been cut’          |  |
| [óo-vítikélela] ‘he has twisted s.t.’  | [óo-vítikélela n-ttápwatta] ‘he has twisted the rag’ |

This dataset echoes the infinitive with one exception: this tense exhibits an MS1 H tone in all cases except where the bare macrostem is monomoraic. In that case, the MS1 H tone does not actually appear on the monomoraic stem but instead is retracted to the second mora of the TAM element *oo*. This retraction of a MS1 H tone from a monomoraic bare stem is restricted in Emihavani to the tense under discussion, whereas it is commonly observed in Emakhuwa dialects that do not permit word-final H tones. Note that while *oo* is basically toneless, the initial mora will exhibit a H tone due to a H-toned subject marker (as documented above). This means that, in the case of a monomoraic bare stem, there may be a H tone both on the first mora of *oo* and also the second mora: [óo-ca] ‘he has eaten’ (from underlying /o-oo-ca/, where the H tone on the subject marker surfaces on the first mora of *oo* and the retracted MS1 H tone appears on the second mora).

The S3 H tone surfaces in a fashion identical to the infinitive. Specifically, it does not appear if the stem has one, two, or three moras, but does appear when the stem is longer.

Turning to macrostems where an object marker is present, the data precisely match the infinitival data.

- |   |   |
|---|---|
| (18) [k-oo-mú-ca] ‘I have eaten [cl.1]’                   | [k-oo-mú-ca kholówa] ‘I have eaten the potatoes’  |
| [k-oo-mú-koha] ‘I have asked [cl.1]’                      | [k-oo-mú-kohámu-thíyana] ‘I have asked the woman’ |
| [e-nówa y-óo-mú-kovola] ‘a snake has bitten him’          |   |
| [óo-yí-volocíha e-njinga] ‘he has brought the bicycle in’ |   |
| [óo-wú-vitikélela mu-kwe] ‘he has twisted the rope’       |   |

In every case, there is a MS1 H tone on the object marker. The S3 H tone fails to appear in the case of a monomoraic verb stem ([k-oo-mú-ca]) but appears on the final mora of a bimoraic verb stem



([k-oo-mú-kohá]). If the verb stem has three or more moras, the S3 H tone is located right where it should be, i.e. on the third mora of the verb stem proper.

## 5.2 MS2 and final H

The combination of a MS1 H tone and a S3 H tone is recurring in the Emihavani verbal system, but so is the combination of a MS2 H tone and a final H tone. We illustrate this combination first with the negative perfect, which has the morphological formula neg-SM-(OM-)stem-perf-*e*.

Examples of bare macrostems:

- |  |   |
|--|---|
| (19) [n-gi-cíle] ‘I have not eaten’      | [ngi-cíle e-síma] ‘I have not eaten stiff porridge’       |
| [n-gi-phukále] ‘I have not brewed’       | [n-gi-phukále o-théka] ‘I have not brewed beer’           |
| [n-gi-kurúwale] ‘I have not cooked’      | [n-gi-kurúwalé e-síma] ‘I have not cooked stiff porridge’ |
| [n-gi-vitíkelele] ‘I have not twisted’   | [n-gi-vitíkelelé n-ttápwatta] ‘I have not twisted a rag’  |
| [n-gi-thukúmelihale] ‘I have not shaken’ |   |

In all but one example, it is evident that there is a H tone on the second mora of the stem. The lone exception is [n-gi-cíle]. Recall from our discussion of the MS2 H tone in 3.2 that when the MS2 H tone is the *only* melodic H tone in the stem, it does surface on the final vowel of a bimoraic stem like *-cile*. So one has to ask why it does not do so here, yielding \*[ngi-cile] rather than the correct [ngi-cíle]? The answer seems to be staring us in the face. If the MS2 H tone were actually to appear on the second mora of the macrostem, then there would fail to be any realisation for the melodic final H tone that is also a feature of this tense. What appears to be going on here is that the presence of a melodic final H tone forces the MS2 H tone to retract to the first mora of a bimoraic stem.

In trimoraic and longer bare macrostems, there is room for both the MS2 H tone and the final H tone to associate in their expected fashion. We should note that in all cases when the verb is phrase-final, the melodic final H is suppressed and realised with a much lower pitch than the preceding H. When a complement is present, the word-final H is no longer suppressed. In examples like [ngi-cíle e-síma] and [n-gi-phukále o-théka], the final H tone is roughly the same pitch level as the immediately preceding H tone. In longer verbs, where one or more toneless moras intervene between the MS2 and the final H tone, the final H undergoes downdrifting (which is clearly quite different from the radical suppression noted in phrase-final position).

Turning to macrostems that contain an object marker, all stems are three moras or longer. As a consequence, the MS2 H tone always lands on the second mora of the macrostem and the final H tone always lands on the final vowel. Of course, in these examples, the MS2 H is on the first mora of the verb stem proper since the presence of an object marker makes that vowel the second mora of the macrostem.

- |                            |                                       |
|----------------------------|---------------------------------------|
| (20) [n-gi-yi-cíle e-síma] | ‘I have not eaten the stiff porridge’ |
| [n-gi-wu-phúkalé o-théka]  | ‘I have not brewed the beer’          |

- [n-gi-yi-khúruwalé e-síma] ‘I have not cooked the stiff porridge’  
 [n-gi-ni-vítikelelé n-ttápwatta] ‘I have not twisted the rag’

No additional discussion of these data is required.

Another tense where there is both a MS2 H tone and a final H tone is the past counterfactual conditional, which has the morphological formula SM-*a*-(OM-)stem-perf-*ek-e*. Notice that this verb form has a H-toned TAM element *a* in position before the macrostem. The macrostem is particularly complex in that it has both the perfect morpheme that we encountered earlier and also an *ek* element located immediately before the final vowel. As usual, we will simplify the discussion by consistently using the suffixal form of the perfect as opposed to its infixal alternative. Because of the complexity of the macrostem in this tense, the minimal macrostem is trimoraic. Consequently, there is no situation where there can be a conflict with regard to the realisation of the MS2 H tone and the final H tone.

The following data from both bare and object-marked macrostems display the regularity of a MS2 and a final H tone in this tense.

- (21) [y-á-ciléke] [y-á-ciléké ma-tháapa]  
 ‘if they had eaten’ ‘if they had eaten relish’  
 [k-á-kuláleke] [k-á-kuláleké maɭay’ áala]  
 ‘if I had bought’ ‘if I had bought this shirt’  
 [k-á-ttukhúlaleke] [k-á-ttukhúlaleké e-ndówa]  
 ‘if I had carried’ ‘if I had carried a bucket’  
 [k-á-rukúnusaleke] [k-á-rukúnusaleké n-lúku]  
 ‘if I had turned s.t. over’ ‘if I had turned a stone over’
- [k-á-mu-cíleke]  
 ‘if I had eaten [cl.1]’  
 [k-á-wu-phúkaleke] [k-á-wu-phúkaleké o-théka]  
 ‘if I had brewed [cl.14]’ ‘if I had brewed the beer’  
 [k-á-yi-ttúkhulaleke] [k-á-yi-ttúkhulaleké e-ndówa]  
 ‘if I had carried [cl.9]’ ‘if I had carried the bucket’  
 [k-á-ni-rúkúnusaleke] [k-á-ni-rúkúnusaleké n-lúku]  
 ‘if I had turned [cl.5] over’ ‘if I had turned the stone over’

The phonological facts are the same as in the negative perfect. When the verb is phrase-final, the H tone on the last vowel is radically suppressed. In medial position, it is realised like any other H tone. In particular, if preceded by a H tone, it is pronounced at roughly the same pitch level as that H tone. If separated from an earlier H tone by one or more toneless moras, it is downdrifted.

## 6. Irregularity in the melodic tone system

For most verb tenses, there is a systematic melodic tone pattern that holds across both bare and object-marked macrostems and is independent of the choice of subject marking on the verb. There are a small number of exceptions, however, and these exceptions are detailed in the present section.

### 6.1 Choice of melodic tone pattern dependent on subject marking

The conjoint present tense, which has the morphological formula SM-*na*-(OM-)stem-*a*, exhibits different melodic tone patterns dependent on the choice of subject marker. If the subject marker is first- or second-person, there is a melodic final H tone. If the subject marker is third-person (i.e. is one of the set of subject markers governed by the various noun classes), then there is a MS1 H tone. It should also be noted that all of the third-person subject markers themselves are specified with a H tone, while first- and second-person subject markers are toneless.

Consider the following first-person forms with a bare macrostem. The only H tone in the word resides on the final vowel. Since this tense is a conjoint tense, there is always a complement present (in the non-relative use of this tense) and consequently the final H is always very audible. The suppression that occurs in phrase-final position is not heard.

- |      |   |   |
|------|---|---|
| (22) | [ki-na-cá e-síma]                           | ‘I am eating stiff porridge’                |
|      | [ki-n-ooná e-pálame]                        | ‘I see a bird’                              |
|      | (from: /ki-na-oná e-pálame/)                |   |
|      | [ki-n-aandusá m-péni]                       | ‘I am sharpening a knife’                   |
|      | (from: /ki-na-andusá m-peni/)               |   |
|      | [ki-na-paalá ki-thopóole m-un↔lo w-a khúni] | ‘I want to explain a fire made of firewood’ |
|      | [ki-na-volocihá e-púri]                     | ‘I am bringing goats in’                    |
|      | [ki-na-vitikelelá mu-kwe]                   | ‘I am twisting a rope’                      |

When the subject marker is third-person, there is a H tone on it and also on the first mora of the bare macrostem.

- |      |  |   |
|------|--|---|
| (23) | [a-námwani é-na-nyá m-máttá=ni]        | ‘children are defecating in the garden’ |
|      | [a-tthú a-th=eéne é-na-wéha o-dhulu]   | ‘all people are looking in the sky’     |
|      | [mw-anáka á-na-húdhéra w-aápadha]      | ‘my child is learning to crawl’         |
|      | [ki-na-volocihá <sup>#19</sup> e-púri] | ‘I am bringing goats in’                |

Turning to macrostems that contain an object marker, we see that with a first- or second-person subject, the only H tone is located on the final vowel.

- |      |                          |                        |
|------|--------------------------|------------------------|
| (24) | [ki-na-mu-cá kholówa]    | ‘I am eating potatoes’ |
|      | [ki-na-yi-wará e-cipéwa] | ‘I am wearing the hat’ |

[ki-na-yi-ttukhulá e-ndówa]	‘I am carrying the bucket’
[mu-na-mu-kaviherá aani]	‘who are you (resp.) helping?’
[ki-na-ni-vitikelelá n-ttápwatta]	‘I am twisting the rag’

Third-person forms, on the other hand, have a H tone on the subject marker and also on the first mora of the macrostem (which in this case is the object marker itself).

(25) [é-na-mú-ca kholówa]	‘I am eating potatoes’
[e-kumbá é-na-mú-hunya cinángwa]	‘the pig is rooting up the cassava’
[namúku á-n-aá-hudhiha o-khónya]	‘the adviser is teaching them how to shake the hips’
(from: /a-na-a-hudhiha/)	
[á-na-mú-hapihela mu ni-béseni]	‘she is bathing her in a basin’

## 6.2 Melodic H tone pattern difference: Bare macrostem versus object-marked macrostem

The situative verb, which has the morphological formula SM-(OM-)stem-*ak-a*, exhibits a S3 H tone if there is a bare stem. (We should note that there is a variant of this tense where the pre-final element *ak* is not employed. The tonal pattern is the same in both cases.)

We do not have an example of a monomoraic bare macrostem, so we cannot answer the question whether the S3 H tone would be realised on it. However, we do know that when the bare macrostem is bimoraic, there is a H tone on the final vowel (in other words, the S3 H tone must surface even though there is no third mora). Trimoraic and longer verb stems all have a H tone on the third mora.

(26) [ki-caká]	‘me eating’
[ki-limaká]	‘me cultivating’
[e-ttukhuláka]	‘[cl.2] lifting’
[ki-kothomólaka]	‘me coughing’
[e-rukunúsaka]	‘[cl.2] turning it over’
[o-khuneélaka]	‘you covering’
[mu-vitikélelaka]	‘you (resp.) twisting’

We would expect that when an object marker is included in the macrostem, there would be a S3 H tone but no other H tone. What actually happens is that indeed there *is* a S3 H tone, but there is also a H tone on the object marker. Phrased differently, the object-marked macrostem has both a MS1 H tone and a S3 H tone. This is illustrated by the following examples.

(27) [ki-mú-caká]	‘me eating [cl.1]’
[e-mú-kokaká]	‘[cl.2] pulling [cl.1]’
[ki-mú-tthukuláka]	‘me lifting [cl.1]’
[e-mú-rukunúsaka]	‘[cl.2] turning [cl.1] over’

- [o-yí-khuneélaka] ‘you covering [cl.9]’  
 [m-uú-vitikelélaka] ‘you (resp.) twisting [cl.3]’

Another tense where the melodic H tone pattern of the bare macrostem differs from the melodic H tone pattern of the object-marked macrostem is the affirmative subjunctive, which has the morphological formula SM-(OM-)stem-*e*.

In the case of a bare macrostem, there is a MS2 H tone. As the examples below show, if the bare macrostem has a single mora, then the MS2 is realised on the only available mora. If there are two or more moras, the MS2 H tone appears precisely where it is expected: on the second mora. (We use the label “MS2” here even though in fact the H tone always appears on the second mora of the stem, and thus one might well refer to it as a “S2 H tone”. However, there is no independent evidence for a stem H-tone assignment rule that refers to the second position of the verb stem proper.)

- (28) [o-ce] ‘you should eat’ [mu-cé e-síma] ‘you (resp.) should eat stiff porridge’  
 [o-hule] ‘you should open’ [o-hulé ni-wíndo] ‘you should open the window’  
 [o-kakátthe] ‘you should cut’ [o-kakátthe mu-ttékho] ‘you should cut a tree’  
 [o-pharéele] ‘you should hold’ [o-pharéele mu-ttékho] ‘you should hold a tree’  
 [o-thukúmelihe] ‘you should shake s.t.’ [o-thukúmelihe mw-etto] ‘you should shake the leg’

When the MS2 H tone is located on a phrase-final vowel, the H tone is radically suppressed as usual. In medial position, it is fully H.

When we turn to a macrostem that contains an object marker, we find a radically different melodic H tone pattern: the melodic H is on the MS1 mora (i.e. the object marker itself) and there is no MS2 H tone.

- (29) [o-yí-ce] ‘you should eat [cl.9]’  
 [o-wú-hule] ‘you should open [cl.3]’  
 [o-wú-phareele] ‘you should hold [cl.3]’  
 [o-wú-thukumelihe] ‘you should shake [cl.3]’

We would be remiss if we did not point out that while this H-toned object marker pattern does represent the norm in Emihavani (and in fact is observed in other Emakhuwa dialects), there is a context (or possibly contexts) where the MS2 pattern is used in both the bare macrostem case and the object-marked macrostem. Subjunctive forms preceded by the complementizer *wi* attest this:

- (30) [wí ki-vahé ma-kóbiri] ‘so that I give money’  
 [wí ki-mu-váhe mw-aána ma-kóbiri] ‘so that I give the child money’

There is a variant form of the subjunctive with the morphological formula SM-(OM-)stem-*ek-e* which also displays a difference in melodic tone based on whether or not there is object marking. In terms of the bare macrostem, the tonal facts are identical: there is a MS2 H tone. The only

difference from the SM-(OM-)stem-*e* case is that the minimal bare macrostem is bimoraic and thus there is always a second mora to which the MS2 H tone can be assigned.

- |  |  |
|--|--|
| (31) [mu- <u>ceke</u> ]                              | [mu- <u>ceké</u> ma-tháapa]                    |
| ‘you (resp.) should eat’                             | ‘you (resp.) should eat the relish’            |
| [mu- <u>liméke</u> ]                                 | [mu- <u>liméke</u> e-máttá]                    |
| ‘you (resp.) should cultivate’                       | ‘you (resp.) should cultivate a garden’        |
| [mw-aar <u>ikeke</u> ] (from: /mu-ari <u>keke</u> /) | [mw-aar <u>ikeke</u> e-hómba]                  |
| ‘you should fry’                                     | ‘you (resp.) should fry fish’                  |
| [mu-kav <u>hereke</u> ]                              | [mu-kav <u>hereke</u> ve]                      |
| ‘you (resp.) should help’                            | ‘you (resp.) should still help’                |
| [mu-vit <u>ikeleleke</u> ]                           | [mu-vit <u>ikeleleke</u> n-ttáp <u>watta</u> ] |
| ‘you (resp.) should twist’                           | ‘you (resp.) should twist a rag’               |

When this form of the subjunctive has an object marker, its behaviour is similar to the simpler form in that it has a MS1 H tone and not a MS2 H tone, but it is different in that it also has a final H tone.

- |   |   |
|---|---|
| (32) [mw-aá- <u>ceke</u> ] (from: /mu-a- <u>ceke</u> /) | [mw-aá- <u>ceké</u> ma-tháapa]                    |
| ‘you (resp.) should eat [cl.6]’                         | ‘you (resp.) should eat the relish’               |
| [mu-yí- <u>limeke</u> ]                                 | [mu-yí- <u>limeké</u> e-máttá]                    |
| ‘you (resp.) should cultivate [cl.9]’                   | ‘you (resp.) should cultivate the field’          |
| [mu-kí- <u>kavhereke</u> ]                              | [mu-kí- <u>kavhereké</u> ve]                      |
| ‘you (resp.) should help me’                            | ‘you (resp.) should still help me’                |
| [mu-ní- <u>vitikeleleke</u> ]                           | [mu-ní- <u>vitikeleleké</u> n-ttáp <u>watta</u> ] |
| ‘you (resp.) should twist [cl.5]’                       | ‘you (resp.) should twist the rag’                |

In phrase-final position, this final H tone is radically suppressed, but the addition of another word allows it to appear fully H (but of course downdrifted since it is always separated from a previous H tone by one or more toneless moras).

There is yet another case where there is asymmetry between the bare macrostem and the object-marked macrostem with respect to the melodic H tone pattern. The affirmative imperative verb has the morphological formula stem-*a*(=*ni*) in the absence of an object marker and OM-stem-*e*(=*ni*) in the presence of an object marker. Notice that there is no subject marker. If the enclitic element =*ni* is present, this means that the subject of the verb is a respected second person or plural. In the absence of the enclitic, the subject is not shown respect.

In the case of a bare macrostem, the imperative has a final melodic H tone. It must be understood that the enclitic =*ni* counts as part of the macrostem.

- |                                  |   |
|----------------------------------|---|
| (33) [cá] ‘eat!’                 | [ca= <u>ní</u> ] ‘(resp.) eat!’                     |
| [cá ma-tháapa] ‘eat the relish!’ | [ca= <u>ní</u> ma-tháapa] ‘(resp.) eat the relish!’ |

[kattá] ‘dig!’	[katta=ni] ‘(resp.) dig!’
[kattá n-lítti] ‘dig a hole!’	[katta=ní n-lítti] ‘(resp.) dig a hole!’
[khuruwá] ‘cook!’	[khuruwa=ni] ‘(resp.) cook!’
[khuruwá e-síma] ‘cook stiff porridge!’	[khuruwa=ní e-síma] ‘(resp.) cook stiff porridge!’
[vitikelela] ‘twist!’	[vitikelela=ni] ‘(resp.) twist!’
[vitikelelá mu-kwe] ‘twist a rope!’	[vitikelela=ní mu-kwe] ‘(resp.) twist a rope!’

As usual, in phrase-final position the final melodic H is radically suppressed, but in medial position it is fully H.

If the macrostem is object-marked, there is a MS2 H tone. But there is a wrinkle: the enclitic =*ni* is also H-toned.

(34) [mú-ce] ‘eat [cl.1]!’	[mú-ce=ni] ‘(resp.) eat [cl.1]!’
[mú-ce kholówa] ‘eat potatoes!’	[mú-ce=ní kholówa] ‘(resp.) eat potatoes!’
[ni-kátte] ‘dig [cl.5]!’	[ni-kátte=ni] ‘(resp.) dig [cl.5]!’
[ni-kátte n-lítti] ‘dig the hole!’	[ni-kátte=ní n-lítti] ‘(resp.) dig the hole!’
[y-aárike] ‘fry [cl.9]!’ (from: /e-árike/)	[y-aárike=ni] ‘(resp.) fry [cl.9]!’
[y-aárike e-namá] ‘fry the meat!’	[y-aárike=ní e-namá] > [y-aárike=n’ é-namá] ‘(resp.) fry the meat!’
[a-rúkunuse] ‘turn [cl.6] over!’	[a-rúkunuse=ni] ‘(resp.) turn [cl.6] over!’
[a-rúkunuse ma-lúku] ‘turn the stones over!’	[a-rúkunuse=ní ma-lúku] ‘(resp.) turn the stones over!’
[wu-vítikelele] ‘twist [cl.3]!’	[wu-vítikelele=ni] ‘(resp.) twist [cl.3]!’
[wu-vítikelele mu-kwe] ‘twist the rope!’	[wu-vítikelele=ní mu-kwe] ‘(resp.) twist the rope!’

## 7. Enclitics

In our discussion of the melodic H tone system in Emihavani, we have seen the critical notion of the macrostem. In the case of the MS1 and MS2 H tones, the significant issue is where the macrostem begins. But in the case of a final melodic H tone, the question is where the macrostem *ends*, i.e. what is the *final* mora to which the melodic H is attached? Throughout this paper, we have considered the macrostem to end with the final vowel that characterises every verb tense. But the fact is that there are a number of monomoraic elements that might well be regarded as enclitics to the verb. An example of such an enclitic (=ni ‘marking respect in the imperative’) was illustrated immediately above. Each of these enclitics must be examined in detail to determine whether they count as part of the macrostem.

It is beyond the scope of this paper to undertake a thorough review of the set of enclitics in Emihavani. What we would like to do is to argue that, at the very least, the locative enclitic =*wo* does systematically count as part of the macrostem. We do this by showing that in each tense where

a melodic H tone would be expected to land on a final vowel, the enclitic =*wo* receives this H tone and the preceding final vowel in the tense does not. On the other hand, whenever the final mora of the macrostem does not receive a H tone, =*wo* is toneless (thus ruling out the analysis that =*wo* is basically H-toned).

Recall that the imperative verb is assigned a final H tone. In the example [yaa=w<sub>ó</sub> mw-a w-ákuva] ‘go there quickly!’, we see that the H tone is assigned to *wo* (and note also that the monomoraic verb *ya* is lengthened). There is also a final H in the case of a conjoint present tense verb with a first- or second-person subject marker. Once again, we see that *wo* is assigned the H tone in this tense: [ki-na-yaa=w<sub>ó</sub> mw-a w-ákuva] ‘I am going there quickly’. Recall that the present conditional does not target the final vowel, but rather has a S3 H tone that lands on the last vowel if the macrostem is bimoraic or trimoraic. In the example [Nángondo a-yaa=w<sub>ó</sub> mw-a w-ákuva] ‘if Nangondo goes there quickly’, we see that *wo* receives that H tone and not the final vowel of the verb proper (\*[yaa=wo]).

In contrast to the above cases, the subjunctive has a MS2 H tone and thus, in the example [o-yeé=wo ma-híiyw’ aala] ‘you should go there tonight’, *wo* is toneless since it does not receive the melodic H tone. Similarly, in the disjoint perfect bare macrostem, there is a MS1 H tone and a S3 H tone only if the stem has at least four moras. In the example [namwáli óo-wála=wo o mu-láko] ‘the girl has closed the door’, *wo* does not receive a H tone since it is not the MS1 mora nor are there four moras in the stem. On the other hand, when the disjoint perfect macrostem is object-marked, the S3 H tone *does* appear on the final vowel of bimoraic or trimoraic stems. Examination of the example [Khweéliwa óo-mú-kula=w<sub>ó</sub> gálimotto] ‘Khwelliwa has bought there a car’ shows that *wo* receives this S3 H tone and not the final vowel of the verb stem proper (\*[óo-mú-kulá=wo]).

The issue of whether enclitics count or not for the assignment of melodic H tones has not yet been thoroughly examined. It is apparent that not all enclitics count, but at this point not much else can be said.

## 8. Melodic H tones and the relative verb

A detailed discussion of the relative verb in Emihavani is not possible here. However, one critical point needs to be made. When the relative verb modifies a nominal that functions as an object inside the relative clause, the subject of the relative verb is marked by a possessive enclitic that is controlled by this subject. This possessive enclitic is vowel-initial, and fuses with the final vowel of the verb into a bimoraic vowel. The possessive enclitic does *not* behave as though it is part of the macrostem. A second critical point is that in those cases where there is a paired disjoint and conjoint form, only the conjoint form can be used to form a relative clause. In their relative clause usage, the conjoint tenses *do* appear in clause-final position. Finally, we should note that while there are cases of verb tenses that only have a relative clause usage, most relative clause tenses have the same morphological formula as a non-relative counterpart. For our present purposes, the critical point is that there may be melodic difference between a relative and a corresponding non-relative form. The difference in melodic tone pattern largely reduces to the following: the relative use of a tense involves a final melodic H tone that is not present in the non-relative use of that tense.



We will not attempt a complete survey of the relative tenses, but we will illustrate two representative examples. The first example is the conjoint past continuous which has a MS1 H tone.

(35) Conjoint past continuous: MS1 H tone

[k-a-cá ni-papáya]	‘I was eating a papaya’
[k-a-líma e-máta]	‘I was cultivating a garden’
[n-a-khúruwa e-síma]	‘we were stirring/cooking stiff porridge’

vs.

Relative past continuous: MS1 H tone and final H tone

[a-cá e-síma taani]	‘who was eating stiff porridge?’
[a-thípá taani]	‘who was digging?’
[a-lápuwá mu-hínje taani]	‘who was crossing the river?’
[aa-rí Zalíya oyó aápeya]	‘it was Zaliya who was cooking’
[aa-rí Ophíko oyó a-kí-kaviherá o-ttúkhula mu-ttéekho]	‘it was Ophiko who was helping me to carry the tree’

As the above examples show, if the MS1 H tone is on the only mora in the macrostem, then there is no difference between the relative and the non-relative form. In all other cases, there is both a MS1 H tone and a final H tone in the relative form but not in the non-relative form.

The second example is the conjoint past tense which has a MS2 H tone.

(36) Conjoint past: MS2 H tone

[k-a-phukále o-théka]	‘I brewed beer’
[k-a-khurúwale e-síma]	‘I cooked stiff porridge’
[k-a-vitíkelele n-ttápwatta]	‘I twisted a rag’

vs.

Relative past: MS2 H tone and final H tone

[taaní a-rosílé e-nwi]	‘who provoked the bees?’
[akulelá o-lóttá w-a-lottí=éewe] (from: /w-a-lottíe=ewe/)	‘repeat what you said!’
[taaní aaríkalé mu-tteza] (from: /a-aríkale/)	‘who fried the groundnuts?’
[a-mw-iíphalé mw-anákhw=aáka taani] (from: /a-a-mu-iphale/)	‘who killed my chicken?’

[mw-anámunnaka oyó w-a-m-oónil =éewéó-wáani ti mu-húdhíhi] (from: /w-a-mu-onile=ewe/)	‘my brother, the one who you saw at the house, is a teacher’
[ti niiní k-a-w-íttthanil=éemi] (from: /k-a-u-ítthanile=emi/)	‘when did I call you?’
[elá ti e-káamb=iíwa k-a-mw-ííkarel=éemi] (from: /k-as-mu-íkarele=emi/)	‘this is the reason I chased him’
[y-a-mu-rípelihalé ti a-khwáaye] (from: /y-a-mu-ripelihale/)	‘who made him come late was his friends’

In all relative clause examples of this tense, there is a final H tone in addition to the MS2 H tone.

## 9. Conclusion

At the beginning of this paper, we explained that, like many Bantu languages, Emihavani has a contrast between H-toned moras and toneless moras, but that there is no lexical tone contrast in the verb stem. We further indicated that, unlike many other Bantu languages and a number of Emakhuwa dialects, there is no phonological spreading of H tones either within the word or across words. Other rules, like the deletion of a H tone in a HH sequence (often referred to as “Meeussen’s Rule” in Bantu studies), have a very limited role to play in Emihavani. Meeussen’s Rule basically can only be seen in possessive forms like [a-tthw=áaka] ‘my people’ (from underlying /a-tthu=aka/). The major tonal phenomenon is the radical suppression of phrase-final H tones (which in some cases may be difficult to perceive, at least for the non-native speaker). Of course, the phonetic implementation of toneless and H moras does require careful description.

Given these observations, one would be forgiven for drawing the inference that, as Bantu languages go, Emihavani has a relatively simple tonology. The problem with this inference is that it is based on neglecting the role of melodic H tones in the verbal system. Emakhuwa has a very large number of verb tenses. We have referred to a number of these tenses, but we have not provided a comprehensive listing. The stem in each of these tenses must be assigned a melodic H tone pattern, and we have illustrated enough tenses to show that it is no simple matter. One really needs to be able to count and one must know what to count! The remarkable fact is that speakers do consistently put the H tones right where they should be according to the rules sketched in this paper. There is no doubt that Emihavani has undergone and is undergoing significant linguistic developments that are separating it from the Emakhuwa dialects spoken in Mozambique. But these developments do not involve a simplification of the melodic tone patterns.

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## Appendix

In this appendix, we present a list of verbal formations (“tenses”) in Emihavani which have at their core a position occupied by a member of the lexical set of verb stems. We have organised this list in terms of the particular stem tone pattern that they employ. Since there is no literature known to us on the structure of Emihavani, this list is entirely a result of our ongoing research and does not purport to be exhaustive. Continued research may unearth additional tenses or modify our understanding of the ones listed here. Nevertheless, a very large amount of data has been examined and the tenses listed here certainly represent the vast majority of such tenses. For each tense, we have indicated the morphemes making up the tense: “neg” (=negative), “SM” (=subject marker), pre-stem elements (e.g. *a*, *aa*, *hi*, *na*), “macrostem” (=possibly an object marker plus the obligatory verb stem), a pre-final element (such as “perf” =perfect, *ak* or *ek*), and a final vowel (*-a* or *-e*). In these formulas, an underlined mora indicates that the mora is specified with a H tone independent of stem tone pattern. We should note that some of the tenses listed can be used as relative verbs, in which case they have an additional H tone on their vowel. Relative verb forms in some cases differ from the corresponding non-relative tense form in additional ways besides this final H tone, but we have not discussed any such differences in the list below.

At least one example is provided for each tense. If a MS1 or MS2 is involved, we generally provide both an example without an object marker and an example with an object marker. A H-toned mora is both underlined and written with an acute mark over it, except that in final position no acute mark is written since the H tone is strongly suppressed in pitch height. Pre-macrostem elements are separated by hyphens, but in the macrostem the object marker is separated from the verb stem by a hyphen; no other morphological structure is indicated.

### MS1

**neg-SM-*na*-macrostem-*a*** (negative present)

[**kh-o-na-phíyíwa**] ‘it is not reachable’

[**Nangwále kh-a-na-mú-kuliha gálimott=w-aáye**] ‘Nangwale isn’t selling his car’ (object marker present)

**SM-*a*-macrostem-*a*** (conjoint past continuous)

[**k-a-kátta n-lítí**] ‘I was digging a hole’

[**Nángondo a-kí-kulela ma-búkhu míyaáno**] ‘Nangondo was buying books for me’ (object marker present)

**neg-SM-*aa*-macrostem-*a*** (negative past continuous)

[**kh-aa-khúneela e-kárikho**] ‘he was not covering a pot’

[**kh-aa-kí-kulela e-mphette**] ‘he was not buying a ring for me’ (object marker present)

**SM-*a*-*hi*-macrostem-*a*** (negative past continuous)

[**Mahátta a-hi-pháriha mu-téko ttini**] ‘what was Mahatta not using?’

[**Mahátta a-hi-mú-phariha mu-téko gálimotto**] ‘Mahatta was not using his car’ (object marker present)

S3 (we do not discuss here variations in the assignment of S3 tone to monomoraic/bimoraic macrostems)

**SM-macrostem-*ak-a*** (situative, but if an OM present, both MS1 and S3)

[k-aá-mu-phwanyá a-thekeláka m-péni] ‘I found him cutting using a knife’

**SM-*a*-macrostem-*a*** (present conditional)

[k-a-seliwá mu-ki-ttíyere] ‘if I am late, wait for me’

**SM-*aa-na*-macrostem-*a*** (disjoint past continuous)

[á-khole y-aa-ná-nyakulá m-mú-tteekhó=ni] ‘the baboons made noise in the tree’

**SM-*aa*-macrostem-*a*** (disjoint affirmative past, where *aa* has the allomorph *ahV* if the macrostem is vowel-initial)

[k-aá-kavihéra] ‘I helped’

**SM-*a*-macrostem-*ak-a*** (past subordinate continuous)

[naa-ri m-aádi y-á-ttatthiyáka mu-ndówa=ni] ‘although water was spilling from the bucket’

**SM-*a*-macrostem-*a*** (situative)

[...k-á-thapulá e-púri] ‘...(and) loosened the goat’

MS1+ S3

***o*-macrostem-*a*** (affirmative infinitive)

[o-phíyihána] ‘to cause each other to arrive at’

[khe-y-aa-woríle o-mú-ciriha] ‘they were unable to cure her’ (object marker present)

**SM-*oo*-macrostem-*a*** (disjoint affirmative perfect, with *oo* alternating with *ohV* in front of a vowel; third-person SMs are H-toned)

[e-mátt’ eelá y-óo-kóholéya phaáma] ‘this garden is well weeded’ (third-person subject H realised on the *oo* element)

[k-oo-mú-kula<sup>#3+OP</sup> bélo m-uúlupali] ‘I have bought a big bell’ (object marker present)

**SM-*ni-ma*-macrostem-*a*** (disjoint affirmative present; third-person SMs are H-toned)

[á-ni-ma-vítikélela] ‘he is twisting’

[ki-ni-ma-dhí-volocíha e-púri] ‘I am bringing the goats in’ (object marker present)

**SM-*n-na*-macrostem-*a*** (affirmative habitual; third-person SMs have a H tone)

[á-napathá a-ńcici é-n-na-phwánaphwána] ‘many twins are similar’

[ki-n-na-mú-rukunúsa] ‘I turn [cl.1] over’ (object marker present)

**SM-*hi-na*-macrostem-*a*** (negative subjunctive)

[mu-hi-na-kávihéra] ‘you (resp.) should not help’

[a-hi-na-kí-kavihéra] ‘he should not help me’ (object marker present)

MS1 + Final

**neg-SM-macrostem-*a*** (negative future)

[kh-e-káviherá o-líma e-máttá] ‘they won’t help cultivate the garden’

[kh-e-mú-kulihá gálimotto] ‘they won’t sell the car’ (object marker present)

MS2

**neg-SM-aa-macrostem-perf-e** (negative past)

[n-g-aa-phukále o-théka] ‘I did not brew beer’

[kh-aa-mu-círihale mw-aána] ‘he did not heal the baby’ (object marker present)

**SM-macrostem-e** (affirmative subjunctive, but the MS2 stem tone holds invariably only in the absence of an OM; if an OM is present, there is systematic variation between whether there is a MS2 H tone or whether there is a H tone on the OM instead. Furthermore, a variant form of the subjunctive with a pre-final element *-ek-* exhibits an additional complexity that has not yet been fully explored)

[o-kakátthe mu-ttéekho] ‘you should cut a tree’

[waa=wo=ní mu-kí-thitihe címanga] ‘come and help me pound maize’ (object marker is H-toned)

[wí a-mu-dhívelihe mamúne] ‘that she makes her husband feel good’ (object marker counts for MS2 H)

**SM-a-macrostem-perf-e** (conjoint past tense)

[m-pira w-a-vokhéliwe w-a Jéke] ‘a ball was thrown to Jeke’

[k-a-mu-phwányile a-silaká va-ń-sílo=ni] ‘I found him grinding on a grinding stone’ (object marker present)

**SM-hi-macrostem-perf-e** (negative perfect)

[Maríya a-hi-kulále ttini] ‘what hasn’t Mariya bought?’

[á-tiith=aáka e-hi-ki-rúmihele y-oó-ca] ‘my father hasn’t sent me food’ (object marker present)

**SM-a-hi-macrostem-perf-e** (negative past subordinate)

[Maása a-hi-kulále ttini] ‘what didn’t Maasa buy?’

[Maása a-hi-mu-kúlale gálimotto] ‘Maasa did not buy a car’ (object marker present)

**SM-naa-macrostem-(ek)-e** (future imperfect; third-person SMs have a H tone, and in the *ek* variant there is also a final H tone in addition to the MS2 H tone)

[mu-naa-ki-kúlele ttini] ‘what will you buy for me?’ (object marker present)

[Maása á-naa-khalé<sup>#94</sup> váava] ‘Maasa will be here’

[ki-naa-lembéleké ma-kálatta a-khw=áaka] ‘I will be writing letters to my friends’

[á-naa-mu-póttokoseké gálamottw=aáye] ‘he will be repairing his car’ (object marker present)

**neg-SM-aa-macrostem-e** (would/could not have done)

[n-g-áa-volówe mpa] ‘I would not have entered the house’

[n-g-áa-w-uu-váhe] ‘I could not have given you’ (object marker present)

**SM-aa-macrostem-e** (how would?)

[n-áa-tthunyéle e-nyumb’ éeyo ni ttini] ‘what would we roof the house with?’

[w-áa-mu-váhe ttini] ‘what would you give her?’ (object marker present)

**OM-verb stem-e(=ni)** (imperative with an OM present; caveats: MS2 H tone retracts to OM from a monomoraic stem, and the enclitic =*ni* is H-toned)

[ni-kátte n-lítiti] ‘dig the hole!’ (*ni* is [cl.5] object marker)

[a-rúkunuse=ní ma-lúku] ‘(resp.) turn the stones over!’ (*a* is [cl.6] object marker)

MS2 + Final

**neg-SM-macrostem-perf-e** (negative perfect)

[n-gi-kurúwale] ‘I have not cooked’

[n-gi-wu-phúkalé o-théka] ‘I have not brewed the beer’ (object marker present)

**SM-a-macrostem-perf-e** (situative, though the final H here is a reflex of the relative clause use of this tense)

[naa-ri w-á-takhúnalé e-nama] ‘although you chewed the meat’

[naa-ri mu-sómbwe á-ki-káviheré] ‘although the boy helped me’ (object marker present)

**SM-a-macrostem-perf-ek-e** (past counterfactual conditional)

[k-á-kuláleké malay=áala] ‘if I had bought this shirt’

[k-á-yi-ttúkhulaleké e-ndówa] ‘if I had carried the bucket’ (object marker present)

**SM-a-hi-macrostem-perf-ek-e** (negative past counterfactual conditional)

[n-á-hi-wíleke] ‘suppose we did not come’ (no object marker)

[k-á-hi-mu-kúsaleke] ‘suppose I did not take it’ (object marker present)

**SM-a-macrostem-ek-e** (conditional; third-person SMs have a H tone)

[k-a-kuláleké malay’ áala] ‘if I had bought this shirt’

[y-á-kakáthileké mu-tteekho yóola] ‘if they had cut down this tree’

**SM-a-hi-macrostem-ek-e** (third-person SMs have a H tone, realised on the following *a*)

[k-a-hí-kuláleké malay’ áala] ‘if I had not bought this shirt’

[y-á-hí-kakáthileké mu-tteekho yóola] ‘if they had not cut down this tree’

**SM-hi-naa-macrostem-e** (relative negative future, with the caveat that this form is actually used only as a relative clause form, and relative verb forms regularly require a final H tone in addition to any other stem tone)

[t’ aaní a-hi-naa-kavíhere] ‘who will not help?’

[taaní a-hi-naa-ni-kávihere] ‘who will not help us?’ (object marker present)

**SM-h-aa-macrostem-perf-e** (relative negative past, with the caveat that this form is actually used only as a relative clause form, and relative verb forms regularly require a final H tone in addition to any other stem tone)

[mu-thíyana a-h-aa-límalé e-máta] ‘the woman who did not hoe a garden’

[mu-thíyana oyó a-h-aa-yi-límalé e-máta] ‘the woman who did not hoe the garden’ (object marker present)

**SM-hi-na-macrostem-a** (relative negative present, with the caveat that this form is actually used only as a relative clause form, and relative verb forms regularly require a final H tone in addition to any other stem tone)

[mu-lupa mu-teko táani a-hi-na-róromeleya] ‘what kind of a worker is not trusted?’

[t’ aaní a-hi-na-kí-kulelá e-ninga] ‘who is not buying bananas for me?’ (object marker present)

Final

**SM-hi-macrostem-ak-a** (negative situative)

[Maása aa-phwányile a-sómbwe e-hí-kaviheraka] ‘Maasa found the boys not helping’



**SM-*hi*-macrostem-*e*** (negative subjunctive)

[mu-lúku óo-kí-leelá wí ki-hi-khupanyeke] ‘God has told me not to worry’

**SM-*na*-macrostem-*a*** (conjoint present; generally only a final stem H tone in this tense, with the exception that in the non-relative form of this tense, third-person SMs have a H tone, and the stem tone is MS1 and not final)

[ki-na-khuruwá e-síma] ‘I am cooking stiff porridge’

[t’ aaní a-na-tthawá] ‘who is running away?’ (relative form with a third-person subject marker)

[e-mbwéri é-na-háttiwa mu e-límwe] ‘peas are harvested in summer’ (main clause, third-person subject)

**SM-macrostem-perf-*e*** (conjoint perfect; third-person SMs have a H tone)

[mw-aáraka á-konaathilé va-bédi=ni] ‘my wife is lying down on a bed’

**neg-SM-*na*-macrostem-(*ek-*)*e*** (another negative perfect construction)

[n-gi-ná-kavihere] ‘I have not helped’

**SM-*hi-na*-macrostem-*e*** (“negative counterexpectational” situative)

[aá-koná á-hi-ná-kavihere] ‘he slept before he helped’

**verb stem-*a*(=*ni*)** (imperative; if the enclitic =*ni* (plural subject) is present, it counts as final)

[rukunusa] ‘turn it over!’, [rukunusa=ni] ‘you (respect/plural) turn it over!’

**SM-*hi*-macrostem-*a*** (‘and not do’)

[e-hí-wirya o-théka] ‘and they not drink beer’

### Toneless

***o-hi*-macrostem-*a*** (negative infinitive)

[o-hí-venyihavenyiha] ‘to not move from place to place’

**SM-*a*-macrostem-*e*** (remote subjunctive)

[wí e-nyumba dh-á-makiwe] ‘that houses be built’

**SM-*aa-hi*-macrostem-*a*** (negative present conditional; there is a variation with the pre-final element *ak* where there is in addition a final H tone)

[k-aa-hí-taphula e-púri] ‘if I do not untie the goat’

[k-aa-hí-seliwaka] ‘if I am not late’

**neg-SM-*na*-macrostem-*a*** (negative present continuous)

[mw-aána kh-a-ná-luma ni-péle a-n-aamw=áaye] ‘a baby does not bite a breast (s)he is sucking’

**SM-*na*-macrostem-*a*** (present continuous)

[ni-ná-hakalalana mw-aán’ ooyo] ‘we celebrate with the child’