

Ikoma Verbal Tone

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ABSTRACT

Ikoma is a Bantu language spoken in the Mara Region (Western Tanzania). This paper describes the verbal tone system of Ikoma with the goal of widening our understanding of Bantu tonal grammars. Ikoma verbs do not show lexical tonal contrast, but the tense-aspect-mood system makes extensive use of melodic Hs, i.e. grammatical tones that are assigned according to specific rules to either the verbal stem or the inflectional morphemes of the verb. These melodic Hs, together with segmental formatives, mark tense-aspect-mood forms of Ikoma verbs. Although Ikoma has many tonal features common to other Eastern Bantu languages, some of its assignment rules for melodic Hs could be local innovations.

Keywords: Bantu languages, Ikoma, tone.

1. INTRODUCTION

In this paper I will give a preliminary analysis of the Ikoma verbal tone system. The verb forms that have been identified are presented with examples, and the tonal processes are analysed. Some compound forms are also presented.¹

Ikoma is a Great Lakes Bantu language spoken in the Mara Region (Western Tanzania) by approximately 19,000 speakers (Muzale & Rugemalira 2008). It is classified as E(J)45 on the updated Guthrie's list (Maho 2003). Ikoma is closely related to Nata and Isenye, which are listed under the same code as Ikoma by Maho. The speakers of these three varieties use these names as ethnonyms and identify themselves with these names. However, these varieties have been classified as dialects of the same language almost exclusively by lexicostatistics (Hill et al. 2007). Phonological and morphological evidence show more variation, and tonal systems in these varieties vary considerably (Aunio 2013). Historical evidence does not lump these three varieties into a single branch of Eastern Mara Bantu languages (Shetler 2007), and thus lexical similarities are likely to be at least partly a result of long term contact. Further, recent findings seem to point to the facts that Ikoma and Nata are more similar to each other and that Isenye varies more from the other two (Smith et al. 2008). The data for this paper was collected

¹ I would like to thank Laura J. Downing, Nancy Kula, David Odden, Holly Robinson, and Tim Roth for their valuable comments on an earlier draft of this paper. I would also like to thank the Emil Aaltonen Foundation and the Finnish Cultural Foundation for making the field work possible and Julie Uusinarkaus for checking the English.

in June–August 2008 and January–February 2010 in the town of Musoma as well as in the Burunga, Bwitenge, and Rwamchanga villages near Mugumu.

The Ikoma verb forms are divided into two groups: those with melodic Hs (H tones) and those without melodic Hs. Melodic Hs (MH) – typical of Bantu verbal tone systems – are tones that mark tense-aspect-mood categories, either solely or in combination with segmental morphemes (Odden 2009). Melodic Hs can be assigned both to verbal stems as well as to TA (tense-aspect) formatives. In some forms the syllable structure of the verb stem determines the place of realization of the grammatical tones.

This article describes how melodic Hs are assigned in different verb forms and what rules for deriving the surface patterns apply. The semantics of the verb forms are discussed only briefly since more research is needed before the whole TA system can be properly described. The paper is organized as follows. Section 2 describes the basics of the Ikoma tonal system as well as the structure of Ikoma verbs. The verb forms that do not have melodic Hs are presented in Section 3. The verb forms with melodic Hs are presented in Section 4. Section 5 summarizes the paper and includes a table with all the forms discussed.

2. PRELIMINARIES

Ikoma is a language which has not received much attention. The nominal tone system of Ikoma is described in Aunio (2010), while Higgins (2012) gives a short morphological sketch of the language and analyses the vowel harmony system. Ikoma is included in Walker (2013), a comparative work on tense and aspect in the Mara language, but only some surface tones are marked in this work. Therefore, this section presents some background information on Ikoma.

2.1 VOWELS AND TBU

Ikoma has seven phonemic vowels, and a rather peculiar system of vowel harmony. For example, the ATR harmony of the noun stems induces height harmony in nominal prefixes, and the vowels of some verbal suffixes harmonize with the vowels of the verb root, whereas other verbal suffixes cause the root vowels to harmonize. For a comprehensive description of the Ikoma vowel system, see Higgins 2012.

Ikoma has three types of long vowels: contrastive (in any position within the stems, but not word initially or word finally), conditioned (a result of gliding or prenasalization), and derived (at morpheme boundaries and as a result of consonant deletion). Although it has been noted by Higgins (2012:73) that long vowels conditioned by prenasalization are usually phonetically not as long as contrastive long vowels, conditioned and derived long vowels function as long vowels when it comes to tone rules (see, e.g. example (39) below). Contrastive

and derived long vowels are marked in this paper, but not conditioned long vowels, following the orthography proposal (SIL 2009).² Vowel length is neutralized word initially: only short vowels occur word initially.

The tone-bearing unit (TBU) is the syllable, i.e. each syllable can carry at most one H tone, and thus no underlying falling or rising tones appear (see Aunio 2010). The surface rising and falling tones either occur in predictable contexts or are in free variation with a level high tone; this variation is not marked in this paper. Bimoraic and monomoraic syllables both show only two tonal contrasts, and in tonal rules syllables, not morae, are counted when assigning grammatical tones. In addition, bisyllabic noun stems of the form CVCV, CVVCV, and VVCV all show only three tonal patterns, whereas trisyllabic noun stems (CVCVCV, CVVCVCV, etc.) show five tonal patterns.

2.2 NOMINAL TONE

Ikoma has two level tones, which are analysed here as H (High) and Ø (toneless), since only the H tones interact with each other, and the L is assigned as a default to any syllable that is not associated with a H after the tonal rules. Thus, in this paper only H tones are marked, either with an H (in rules and derivations) or as an accent mark on the vowel that carries the high tone. The Hs marked with accents are surface tones; underlying tonal patterns are given in capital letters, e.g. HØ and ØHØ.

Ikoma has a nominal tone system, which is partly traceable to the reconstructed Proto-Bantu tone system (for details, see Aunio 2010). For mono- and bisyllabic nouns, the Ikoma nominal tone system matches the common Eastern Bantu reduced tonal system (Philippon 1998), but longer nouns have more tonal classes: trisyllabic and longer noun stems have the same tonal patterns as the bisyllabic noun stems, i.e. toneless stems or a H on one of the stem syllables, but also a pattern where a H has spread to all syllables of the stem.

(1) Monosyllabic noun stems:

Ø: <i>a-ka</i>	‘lion’
H: <i>omo-byá</i>	‘arrow’

(2) Bisyllabic noun stems:

ØØ: <i>ogo-goro</i>	‘leg’
HØ: <i>oku-bókɔ</i>	‘arm’
ØH: <i>a-suná</i>	‘mosquito’

² The Ikoma spelling used in this paper follows the orthography proposal (SIL 2009) and should be obvious, except that IPA *ŋ* is represented by *ng*, following the Swahili convention.

(3) Trisyllabic noun stems:

ØØØ: *a-bugusi* ‘upper arm’

ØØH: *eke-hureró* ‘metal pot’

ØHØ: *a-nyagára* ‘lizard’

HØØ: *ege-tíngiro* ‘heel’

HHH: *a-mátóónyí* ‘vulture’

2.3 SEGMENTAL VERB STRUCTURE

The segmental structure of Ikoma verbs is rather straightforward and typical for Bantu languages of the area (Nurse 2008; Walker 2013). The inflectional slots for verbal morphemes are the usual subject marker slot (SM), the tense/aspect slot (TA), the object marker slot (OM), and the slot for the final vowel or suffix (FV). The verbal extensions which together with the verb root form the verb stem are not presented here. In Ikoma, multiple formatives cannot exist in the TA slot.

(PRESM) + (SM) + (NEG) + (TA) + (OM) + stem + FV

The pre-subject marker slot (PRESM) can be filled by a nasal in some verbal forms, but only in the indicative and not, for example, in the relative or in negative forms. The nasal has possibly grammaticalized from the copula *ni*, marking focus or emphasizing the verb (thus it is marked as FOC in this paper), but it has become lexicalized in present day Ikoma (Walker 2013).

In Ikoma, only one verbal negation morpheme is used. This *-ta-* negation morpheme is placed in the slot after the subject marker.

2.4 FEATURES OF IKOMA TONAL SYSTEM

H tones can occur on both word-initial and on word-final vowels; in many other Bantu languages especially final H tones are not allowed (Downing 2009; Yip 2002:96). HØH sequences are also commonly avoided in Bantu languages (Kisseberth & Odden 2003:67), but in Ikoma they are disallowed only word or utterance finally. Word medially, HØH sequences are avoided, but this is optional. In example (4), the surface tones are marked in the first alternative (as pronounced in careful speech), whereas the second indicates the H plateau commonly found in normal speech. In fact, H plateaus are favoured in Ikoma to such an extent that sometimes more than one toneless syllable occurs between the H syllables, but all are pronounced as a H plateau.

(4)

<i>ahíti</i>	<i>háno</i>	<i>éhurumukiri</i> ³	~	<i>ahítí háno éhurumukiri</i>
a-híti	há-no	e-hurumuk-iri		
6-HYENA	16-DEM	6-rush.away-ANT		
'when the hyena had rushed away'				

Ikoma utterances are also characterized with an automatic downstep, i.e. the phonetic level of a high tone is lowered after a toneless syllable or syllables. Subsequently, the pitch of the toneless syllables is also lowered but not as much as the pitch of the H tones. Figure 1 shows that the differences in pitch levels are greater at the beginning of the utterance.

In addition to this rather common type of automatic downstep, the Ikoma automatic downstep has a more complete variant, in which the pitch is not raised at all when an H follows a toneless syllable. This can happen in normal speech with sequences of high toned and toneless syllables, but at present it is not clear what triggers a complete downstep instead of the more gradual downstep exemplified in Figure 1.

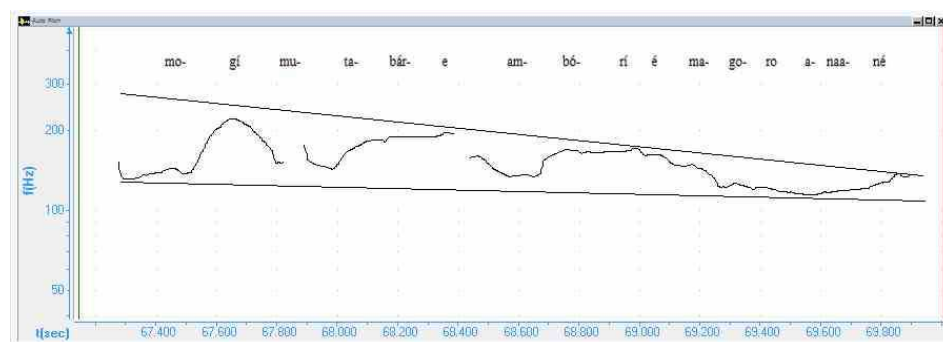


Figure 1. 'Go to look for a goat with eight legs!'

In the sequences where a complete downstep applies, the first high toned vowel is pronounced with a much higher pitch than the preceding toneless syllable, such as the syllable *hí* in the first word of Figure 2, but the pitch is not significantly lowered again on the following toneless syllable(s). When the next H tone occurs in the sequence (the syllable *mó* of the word *baramótugeka*), the pitch level is not raised again, but the pitch lowers after the H toned syllable (on the syllable *tu*). The same pattern may be repeated through the whole utterance. The pitch of subsequent toneless syllables between H toned syllables often drifts down slightly. Thus, in these sequences, the high tones can only be spotted by the fall after the high toned syllable.

³ The H tone of the subject marker is the tone of the relative verb form.

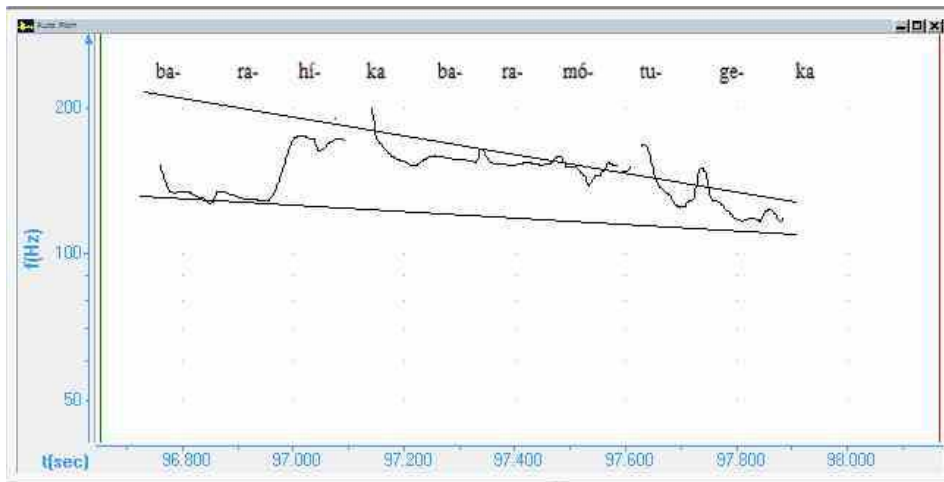


Figure 2. ‘They came, they made him sit.’

3. FORMS WITHOUT MELODIC H TONES

Several verb forms in Ikoma have no melodic H tones. These include the Imperative, Anterior, Negative Subjunctive, Non-Past Consecutive, and Situative (*ra- -a*). Moreover, the Situative (*ráá- -a*) and Habitual (*háá- -a*) have a H tone on the formative but no melodic H tones occur in these forms.

In many forms with no melodic H tones, the pre-stem TA-slot is empty. These include the Imperative (*-a*), Anterior (*n- -iri*), Negative Subjunctive (*ta- -a*), and Non-Past Consecutive (*-a*). The Imperative form (5) is only used for second person singular, and it has no formatives. The Anterior (6) is formed with the focus marker and the anterior suffix *-iri*. This suffix is subject to vowel harmony as well as *r* elision (which results in vowel lengthening; see Higgins 2012). Anterior also refers to the near past.

(5) Imperative

[*Tuka!*⁴

tuk-a

dig-FV

‘Dig!’

[*Raagera!*

raager-a

eat-FV

‘Eat!’

⁴ In the examples, the left end of the macrostem is marked by a square bracket ([]). The macrostem is a constituent often used in Bantu verbal morphology which consists of the verb stem together with an optional object marker (e.g. Mutaka & Hyman 1990). Multiple object markers are not allowed in Ikoma.

(6) Anterior

mba[raagiire
n-ba-raager-iri
FOC-2-eat-ANT
'they have eaten'

mbe[emiri
n-ba-emi-iri
FOC-2-sow-ANT
'they have sown'

nto[morooche
n-to-mo-rooche⁵
FOC-1PL-1-see.ANT
'we have seen him/her'

The Negative Subjunctive (7) is formed with the negative formative *ta-*, which follows the subject marker. As usual in Bantu languages, this form also functions as the negative form of the Imperative (Nurse 2008:44). The Non-Past Consecutive (8) is unmarked for both tense and aspect.⁶

(7) Negative Subjunctive

ota[raagera
o-ta-raager-a
2SG-NEG-eat-FV
'Do not eat!'

tota[moryeka
to-ta-mo-ryek-a
1PL-NEG-1-bury-FV
'Let us not bury her/him.'

⁵ The base form of 'to see' is *-rigi* as in example (9) below. Several verbal bases undergo imbrication with the Anterior suffix. In Ikoma, no final vowel occurs after the causative *-i* or the passive *-u* extension.

⁶ The Non-Past Consecutive form "has a timeless, action-focused meaning associated with it. The usage of this form in discourse needs to be researched more, but it appears to function like a relative tense marker [...] once the initial Tense/Aspect has been set by the first verb" (Walker 2013:92). The same segmental form as the Non-Past Consecutive is also used as a situative with an initial melodic H (see (99) below).

(8) Non-Past Consecutive

ba[hira
 ba-hir-a
 2-take-FV
 ‘and they take’

a[mutema
 a-mu-tɛm-a
 1-1-hit-FV
 ‘and s/he hits her/him’

Several situative forms in Ikoma are used to express if-clauses. One of these is the Situative (*ra-* -a), which has no tones (9).⁷ More research is needed on the semantic differences and discourse functions of the situative forms, but the Situative (*ra-*) often expresses some kind of uncertainty and is best translated into English as ‘if’.

(9) Situative (*ra-*)

Eryoba rera[siiga
 eri-oba re-ra-siig-a
 5-God 5-SIT-love-FV
 ‘if God wants’

tora[morigi
 to-ra-mo-rigi
 1PL-SIT-1-see
 ‘if we see her/him’

The Situative (*ráá-* -a) and the Habitual (*háá-* -a) are the only verbal forms with a long vowel in the formative.⁸ Both also have a H tone on the formative, but no melodic tones. The Situative (*ráá-*) can usually be translated as ‘when’ into English, as in (10). The Habitual has the same forms tonally both in affirmative and negative forms, as in (11).

(10) Situative (*ráá-*)

baráá[buga
 ba-ráá-bug-a
 2-SIT-say-FV
 ‘when they say’

⁷ This form is not listed in Walker (2013:174–175). It is differentiated only by tone from the Progressive (*ra-*) (see (26) below).

⁸ Situative (*ráá-*) is called Conditional in Walker (2013).

baráá[rɛɛta]
ba-ráá-rɛɛt-a
2-SIT-bring-FV
'when they bring'

baráá[morigi]
ba-ráá-mo-rigi
2-SIT-1-see
'when they see him/her'

(11) Habitual

mbaháá[raagera]
n-ba-háá-raager-a
FOC-2-HAB-eat-FV
'they eat'

taháá[rema⁹]
a-ta-háá-rem-a
1-NEG-HAB-cultivate-FV
's/he does not cultivate'

When the macrostem is vowel initial, the stem-initial vowel is concatenated with the vowel of the formative in both the Situative (*ráá-*) and the Habitual.¹⁰ The tone of the formative is realized on the long vowel, as in (12) and (13).

(12) Situative (*ráá-*)

barí[íkara]
ba-ráá-ikar-a
2-SIT-sit-FV
'when they sit'

(13) Habitual

mbahé[émi]
n-ba-háá-emi
FOC-2-HAB-sow
'they sow'

⁹ Subject marker *a-* and negation marker *ta-* surface together as *ta-* only.

¹⁰ In these forms it is difficult, if not impossible, to tell if the prefix vowel is deleted and compensatory lengthening takes place or if the two vowels are simply merged; no diphthongs exist in Ikoma so the quality of the adjacent vowels is always unified.

4. MELODIC TONE PATTERNS

The majority of the verb forms in Ikoma have melodic tones. These melodic Hs are assigned to the first syllable of the macrostem, to the second syllable of the macrostem, to the final syllable, or to the first syllable of the verbal word. Melodic Hs can co-exist with formative H tones. Verbal H tones do not spread in Ikoma, but in certain verb forms they are shifted to heavy syllables.

4.1 MELODIC H ASSIGNED TO σ_1 OF THE MACROSTEM

The first MH pattern discussed is one in which the MH is assigned to the first syllable of the macrostem. This pattern is found in the Infinitive, Non-Past, Negative Non-Past, and Progressive forms.¹¹

All Infinitive forms have a H tone which is assigned to the first syllable of the macrostem (14), that is, to the first syllable of the stem or to the object marker if it is present. Thus, no lexical tonal contrast occurs on verb stems. Final H tones are allowed in Ikoma, and thus with monosyllabic verb stems the MH is realized on the only stem syllable (15). If the stem is vowel initial, the vowel *u* of the infinitive marker *ku-* is glided (16).¹² The Reflexive marker *i-* is included in the macrostem in the same way as the object markers (17). Some Proto-Bantu forms are given after the Ikoma infinitives to show that the Proto-Bantu lexical tonal contrast of verbs has been lost in Ikoma.¹³

¹¹ At least one more form makes use of this MH assigned to the first syllable of the macrostem, but the status of this form is not clear. This form is listed as Negative Consecutive (*taa-* *-a*) in Walker (2013:174), but no examples are given. Walker (personal communication) reports examples of this form only with the auxiliary verb *-mara* ‘finish’. These are also found in my data, as in *totaa[mára [morigi* ‘we have not seen her/him’, and together with the main verb in the Non-Past Consecutive (but without the SM), these forms express the Negative Anterior. It is not known how this form differs in meaning from the single-word Negative Anterior with a final MH and if this form can be used with other verbs apart from ‘finish’. The Negative Consecutive is probably not an appropriate name for this form, but more research is needed before a proper title can be given.

¹² The infinitive marker is subject to the voicing dissimilation (Dahl’s Law) common in Eastern Bantu languages: the consonant of the marker is voiced if the first consonant of the macrostem is voiceless (Schadeberg 2003:148, 158). In addition to this dissimilation, Ikoma *gu-[génda* ‘to walk’ displays an interesting assimilation (or exception to the dissimilation): if the first consonant of the macrostem is *g*, the prefix consonant is also voiced. The vowel of the infinitive marker is subject to vowel harmony (see Higgins 2012).

¹³ References for Proto-Bantu forms are from Bantu Lexical Reconstructions 3 (BLR 3, www.africamuseum.be/collections/browsecollections/humansciences/blr).

(14) Infinitive

<i>ko</i> -[bína 'to dance'	*bín 'to dance'
<i>gu</i> -[géndá 'to travel'	*gènd 'to walk, travel'
<i>ku</i> -[bára 'to count'	*bàd 'to count'
<i>ko</i> -[róma 'to bite'	*dóm 'to bite'
<i>ku</i> -[bá-roma 'to bite them'	
<i>ku</i> -[ráágera 'to eat'	
<i>ku</i> -[bá-raageri 'to feed them'	
<i>ko</i> -[bóóri 'to ask'	
<i>ko</i> -[mó-boori 'to ask her/him'	
<i>go</i> -[tú-rung'anera 'to receive us'	

(15) Monosyllabic stem in the Infinitive

<i>gu</i> -[yé 'to go'	*gì 'to go'
<i>ku</i> -[ré 'to eat'	*dí 'to eat'

(16) Vowel-initial stems in the Infinitive

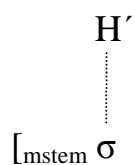
<i>kw</i> -[émba 'to sing'
<i>kw</i> -[émi 'to sow'
<i>kw</i> -[águra 'to crawl'

(17) Reflexives in the Infinitive

<i>kw</i> -[í-rigi 'to see oneself'
<i>gw</i> -[í-téma 'to hit oneself'

The melodic H assignment can be accounted for with the rule in (18), which is called Melodic H Assignment 1 (MHA1). The rules refer to syllables since a syllable, not a mora, is the tone-bearing unit in Ikoma.

(18) MHA1



The Non-Past, which is marked with the pre-stem formative *-Vko-* (allomorphs *-Vku-*, *-Vgo-*, *-Vgu-*, due to Dahl's Law and vowel harmony; see Higgins 2012), together with a focus marker nasal and a final *-a*, is used to express both present as well as future (19). In this form, the vowel preceding the syllable *ko-* is unspecified: it takes the quality of the subject marker and forms a long vowel with it. The Non-Past makes use of the rule Melodic H Assignment 1, and thus the melodic tone is realized on the first syllable of the macrostem.

(19) Non-Past

neeku[ráágera

n-ne-Vko-raager-a

FOC-1SG-NPST-eat-FV

'I eat/will eat'

nooku[ráágera

n-o-Vko-raager-a

FOC-2SG-NPST-eat-FV

'you eat/will eat'

naaku[ráágera

n-a-Vko-raager-a

FOC-1-NPST-eat-FV

's/he eats/will eat'

ntooku[ráágera

n-to-Vko-raager-a

FOC-1PL-NPST-eat-FV

'we eat/will eat'

mooku[ráágera

n-mo-Vko-raager-a

FOC-2PL-NPST-eat-FV

'you (pl.) eat/will eat'

mbaaku[ráágera

n-ba-Vko-raager-a

FOC-2-NPST-eat-FV

'they eat/will eat'

naako[bóóri

n-a-Vko-boori

FOC-1-NPST-ask

's/he asks/will ask'

naagu[génda

n-a-Vko-gend-a

FOC-1-NPST-travel-FV

's/he travels/will travel'

ntoogu[yé
n-to-Vko-yε
FOC-1PL-NPST-go
'we go/will go'

naako[báraana
n-a-Vko-baraan-a
FOC-1-NPST-play-FV
's/he plays/will play'

This melodic H is realized on the first syllable of the macrostem regardless of the syllable structure of the verbal word, as seen in example (19) above. When an object marker is present, the melodic H tone is realized on that object marker (20).

(20) Non-Past

mbaago[kúreetera
n-ba-Vko-ku-rεεt-εr-a
FOC-2-NPST-2SG-bring-APPL-FV
'they bring/will bring you'

mbaako[bátahera
n-ba-Vko-ba-tah-εr-a
FOC-2-NPST-2-scoop-APPL-FV
'they scoop/will scoop for them'

When the verb stem is vowel initial, the vowel *u* of the Non-Past formative is glided (21), in the same way as in the Infinitive form (see (16) above).

(21) Non-Past

mbaakw[émba
n-ba-Vko-emb-a
FOC-2-NPST-sing-FV
'they sing/will sing'

naakw[ómori
n-a-Vko-omori
FOC-1-NPST-shell
's/he shells/will shell'

The negation of the Non-Past is formed tonally in the same manner as the affirmative. The negation formative is *ta-*, as in all negative forms in Ikoma, and it follows the subject marker (22). The initial nasal does not occur in negative forms. The unspecified vowel of the Non-Past formative lengthens the vowel of the negation marker. In the first person singular, second person singular, and class

1 forms the negation marker is contracted with the subject marker, forming *nte-*, *to-*, and *ta-*, respectively (23).

(22) Negative Non-Past

bataago[tóra]
 ba-ta-Vko-tor-a
 2-NEG-NPST-be.able-FV
 ‘they cannot/will not be able’

totaako[mórigi]
 to-ta-Vko-mo-rigi
 1PL-NEG-NPST-1-see
 ‘we do/will not see her/him’

bataakw[émi]
 ba-ta-Vko-emi
 2-NEG-NPST-sow
 ‘they do not/will not sow’

(23) Negative Non-Past

nteeego[tóra]
 ne-ta-Vko-tor-a
 1SG-NEG-NPST-be.able-FV
 ‘I cannot/will not be able’

toogo[tóra]
 o-ta-Vko-tor-a
 2SG-NEG-NPST-be.able-FV
 ‘you cannot/will not be able’

taago[tóra]
 a-ta-Vko-tor-a
 1-NEG-NPST-be.able-FV
 ‘s/he cannot/will not be able’

In addition to the Situative (*ra-*) presented above in (9), another form has the formative *ra-*. The Progressive (*ra-*) forms a tonal minimal pair with the Situative (*ra-*), which has no melodic H:

- | | | |
|------|------------------------|-----------------------|
| (24) | Progressive | Situative |
| | <i>bara[mórigi]</i> | <i>bara[morigi]</i> |
| | ba-ra-mo-rigi | ba-ra-mo-rigi |
| | 2-PRG-1-see | 2-SIT-1-see |
| | ‘and they saw him/her’ | ‘if they see her/him’ |

The Progressive form has a H tone on the first syllable of the macrostem (MHA1). It is most frequently used in narratives (25). It is possible that in narratives it “indicates simultaneous or nearly simultaneous events rather than successive events” (Walker 2013:76), but the semantic and pragmatic difference between this formative and the Narrative (-*Vka-*) (see (49) below) needs further research. Since this formative is also used as Progressive in compound constructions (in the lexical verb), it is called the Progressive here.¹⁴ Since all the following examples are from past narratives, the translations show the narrative rather than the progressive meaning.

(25) Progressive

bara[búga
ba-ra-bug-a
2-PRG-say-FV
‘and they said’

bara[gé
ba-ra-gε
2-PRG-go
‘and they went’

bara[bóóka
ba-ra-book-a
2-PRG-wake.up-FV
‘and they woke up’

bara[génda
ba-ra-gend-a
2-PRG-travel-FV
‘and they travelled’

bara[mórigi
ba-ra-mo-rigi
2-PRG-1-see
‘and they saw him/her’

bara[bábanurera
ba-ra-ba-banur-εr-a
2-PRG-2-prepare-APPL-FV
‘and they prepared for them’

With vowel-initial verb stems, the vowel of the Progressive (*ra-*) is merged with the stem-initial vowel, and the melodic H is realized on the long vowel (26).

¹⁴ Walker (2013: 100) states that this formative is used as the Present Progressive in some other Mara Bantu languages, for example, in Kabwa.

(26) Progressive

aré[émba
 a-ra-emb-a
 1-PRG-sing-fv
 ‘and s/he sang’

kerí[íshereri
 ke-ra-ishereri
 7-PRG-agree
 ‘and it agreed’

In the forms where the MH is docked to the first syllable of the macrostem, the melodic H of the macrostem is realized on the vowel of the formative when the object marker is a nasal, i.e. the object marker of the first person singular (27)–(29). The nasal prefix merges with the preceding syllable, and therefore, the tone of the prefix is realized on the merged syllable. This is analogous with what happens when two vowels merge in (26). The merger of the vowel and the nasal also indicates that the nasal forms the coda of the preceding syllable instead of prenasalizing the following consonant (cf. Downing 2005). When the verb stem is nasal initial, the nasal object marker is not realized, but the placement of the MH indicates the presence of the object marker (30).

(27) Infinitive

gú[nkərəra
 ku-n-kər-ər-a
 INF-1SG-do-APPL-FV
 ‘to do for me’

(28) Non-Past

nookú[mbəna
 n-o-Vko-n-bən-a
 FOC-2SG-NPST-1SG-get-FV
 ‘you get/will get me’

noogó[ntoma
 n-o-Vko-n-tom-a
 FOC-2SG-NPST-1SG-send-FV
 ‘you send/will send me’

(29) Progressive

morá[mboorera
 mo-ra-n-boorer-a
 2PL-PRG-1SG-tell.sb-FV
 ‘and you told me’

(30) Infinitive

<i>ku[ménya</i>	vs.	<i>kú[menya</i>
ku-meny-a		ku-n-meny-a
INF-know-FV		INF-1SG-know-FV
‘to know’		‘to know me’

The Progressive (*ra-*) and the Situative (*ráá-*) (see (10) above) have identical surface forms with vowel-initial stems:

(31) Progressive (*ra-*) Situative (*ráá-*)

<i>bar[úkara</i>	<i>bar[úkara</i>
ba-ra-ikar-a	ba-ráá-ikar-a
2-PRG-sit-FV	2-SIT-sit-FV
‘and they sat’	‘when they sit’

4.2 MELODIC H ASSIGNED TO σ_2 OF THE MACROSTEM

In the Subjunctive, melodic H is assigned to the second syllable of the macrostem, as in (32), regardless of the number of syllables in the macrostem. The same assignment pattern of the subjunctive tone can be found in other Bantu languages (cf. e.g. in Tachoni; Odden 2009). The rule, Melodic High Assignment 2, is formulated in (33). In the Subjunctive, the focus nasal and the subject marker are optional. The final *-e* causes vowel harmony on the stem and extension vowels (see Higgins 2012). The Subjunctive is the only form in which this MH is attested.

(32) Subjunctive

ba[temé
ba-tɛm-e
2-hit-SUBJ
‘let them hit’

a[remé
a-rem-e
1-cultivate-SUBJ
‘let him/her cultivate’

[mohéte
mo-het-e
1-pass-SUBJ
‘(you) pass him/her’

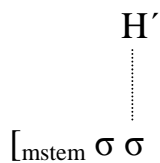
to[morígi
 to-mo-rigi
 1PL-1-see.SUBJ
 ‘let us see her/him’

ba[karáre
 ba-karar-e
 2-get.angry-SUBJ
 ‘let them get angry’

[baréétere
 ba-rɛɛt-ɛr-e
 2-bring-APPL-SUBJ
 ‘bring them’

ba[motómere
 ba-mo-tom-ɛr-e
 2-1-send-APPL-SUBJ
 ‘let them send her/him’

(33) MHA2



If the macrostem is monosyllabic, the melodic H of the Subjunctive is realized on the only stem syllable (34). Odden (1996:198) states that this not an unusual pattern of Bantu melodic tone assignment: if the target element does not exist, the final mora becomes the target. Thus MHA2 can be reformulated as (35). The subjunctive forms of the monosyllabic stems do not show the *-e* suffix of the Subjunctive.

(34) Subjunctive

to[gi
 to-gi
 1PL-go.SUBJ
 ‘let us go’

ba[gi
 ba-gi
 2-go.SUBJ
 ‘let them go’

to[rú
to-ru
1PL-leave.SUBJ
'let us leave'

(35) MHA2 (reformulated)

H'
⋮
mstem[(σ) σ

When the final vowel of the Subjunctive does not surface, the only difference between the Subjunctive and Non-Past Consecutive (see (8) above) is the tone:

(36)	Subjunctive	Non-Past Consecutive
	<i>to[ǵí</i>	<i>to[ǵi</i>
	to-ǵi	to-ǵi
	1PL-go.SUBJ	1PL-go
	'let us go'	'and we go'

If there is a long vowel on the first syllable of the macrostem, the melodic H of the Subjunctive is retracted to that long vowel, as in (37).¹⁵ The rule, Heavy Syllable Retraction (HSR) (Odden 1999:207), is formulated in (38).¹⁶

(37) Subjunctive

tu[rééte
tu-rɛɛt-e
1PL-bring-SUBJ
'let us bring'

¹⁵ There are no examples in the present set of data of Subjunctive verbs with a long vowel anywhere else than in the stem-initial position; if such cases are found, it will be interesting to see whether long vowels in other positions of the stem will also attract the H tone. If such forms do not exist in Ikoma, MHA2 has an alternative analysis: tone is assigned to the second mora of the macrostem and realized on both morae of a long syllable (personal communication David Odden). The present analysis was chosen because docking the tone to the second mora of a long vowel and the subsequent spreading of that tone to the whole syllable only occurs across morpheme boundaries in other contexts in Ikoma.

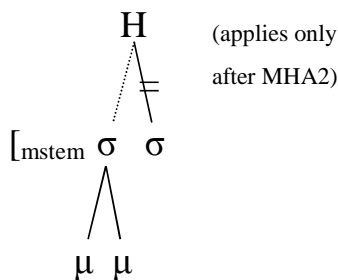
The distribution of long vowels in Ikoma is an issue that needs further investigation. It seems that it is possible to have more than one long stem vowel, but long stem vowels are not common, and it is not known at this stage if they are conditioned.

¹⁶ Heavy Syllable Retraction is attested non-finally also in Nata nouns (Angheliescu 2013).

mu[baréétere
 mu-ba-rɛɛt-ɛr-e
 2PL-2-bring-APPL-SUBJ
 ‘bring (you pl.) them’

ba[ráágere
 ba-raager-e
 2-eat-SUBJ
 ‘let them eat’

(38) Heavy Syllable Retraction (HSR)



The long vowel that attracts the high tone can also be a conditioned long vowel, i.e. a result of prenasalization or gliding, as in (39). Although phonetically often shorter than contrastive long vowels (Higgins 2012), the conditioned long vowels are considered long by the tonal rules.

(39) Subjunctive

to[kúndekeri
 to-kundekeri
 1PL-cover.SUBJ
 ‘let us cover’

o[kwíre
 o-kwir-e
 2SG-marry-SUBJ
 ‘marry (you sg.)’

The melodic H tone of the Subjunctive is *not* attracted by the stem-initial long vowel resulting from concatenation with a subject marker, i.e. only the long vowels within the macrostem are counted as long by MHA2, as in (40). Thus, the stem-initial vowel is counted as the first syllable of the macrostem and melodic H is assigned to the second syllable. When the concatenation takes place within the macrostem, i.e. between the object marker and the stem, the lengthened vowel retracts the grammatical high tone, as in (41).

(40) Subjunctive

be[emí
ba-emi
2-sow.SUBJ
'let them sow'

bi[ishéleri
ba-ishereri-e
2-agree-SUBJ
'let them agree'

bi[ité
ba-it-e
2-kill-SUBJ
'let them kill'

(41) Subjunctive

ba[búite
ba-ba-it-e
2-2-kill-SUBJ
'let them kill them'

Macrostems with nasal only object markers again behave in the same way as vowel-initial macrostems (see (40) above). In the Subjunctive, the first person singular object marker *n-* is counted as the first syllable of the macrostem, and thus the high tone is realized on the first vowel, i.e. on the second syllable of the macrostem (42). When the first person object marker *n-* is prefixed to an *h*-initial stem, the nasal object marker itself is not realized, but it can be seen in the compensatory lengthening of the subject marker vowel as well as in the placement of the Subjunctive tone: the tone is realized on the second syllable of the macrostem (43).¹⁷

(42) Subjunctive

nu[ngégere
n-u-n-gɛg-ɛr-e
FOC-2SG-1SG-carry-APPL-SUBJ
'carry (you sg.) for me'

mo[ntúgeke
mo-n-tugek-e
2PL-1SG-make.sit-SUBJ
'make (you pl.) me sit'

¹⁷ Compensatory lengthening takes place before prenasalization in other contexts as well, but it is not marked elsewhere since it is conditioned.

mo[ntóóri
 mo-n-toori
 2PL-1SG-help.SUBJ
 ‘help (you pl.) me’

(43) Subjunctive

mo[ohíre
 mo-n-hir-e
 2PL-1SG-take-SUBJ
 ‘take (you pl.) me’

4.3 MELODIC H ASSIGNED TO FV

This pattern of melodic H assignment shows it docking onto the final vowel of the verb. This vowel is either in the final suffix *-a* or in the Anterior marker *-iri*. In some of the forms with a melodic H on the final vowel, the melodic H is retracted to the penultimate syllable when that syllable has a long vowel. A melodic H is assigned to the FV in the Conditional, Negative Conditional, Negative Anterior, Narrative, and Inceptive forms. The copular verb ‘to be’ also has a MH on the final vowel both in the Non-Past and Past forms.

The Conditional (FOC- *nga- -iri*),¹⁸ Negative Conditional (*ta-nga- -iri*), and Negative Anterior (*ta- -iri*) have the Anterior suffix *-iri* and melodic H assigned to the final vowel.¹⁹ The affirmative form of the Conditional is also marked with a focus marker, but this nasal is not present in the negative form of the Conditional (44). The Negative Anterior has no pre-stem TA marking, only the negation formative and the anterior suffix (45). Assignment of the melodic H to the final vowel (MHA3) is formulated in (46).

(44) Conditional

mbanga[raagiiré
 n-ba-nga-raager-iri
 FOC-2-CND-eat-ANT
 ‘they would eat’

¹⁸ Conditional forms are called Hypothetical in Walker (2013). In addition to the *-iri*-suffixed Conditional, Ikoma has another form with the formative *nga-*, but with the final vowel *-a*, as in *nongabúga* ‘if you would say’. This form is found rarely, and it needs to be researched more before the meaning can be described and compared to the Conditional with the *-iri* suffix; this form is not mentioned in Walker (2013).

¹⁹ The final H can be attributed to the tone of the perfective suffix in reconstructed Proto-Bantu (Guthrie 1967–1971: *-ídé). Therefore, the final H may be a lexical H of the suffix instead of a melodic H. Since this suffix does not have a H tone in all forms (see Anterior in (6) above), it is considered a melodic H here.

nenga[kəriri
n-ne-nga-kər-iri
FOC-1SG-CND-do-ANT
'I would do'

mbanga[tosomiré
n-ba-nga-to-som-er-iri
FOC-2-CND-1PL-read-APPL-ANT
'they would read for us'

tanga[raagiiré
a-ta-nga-raager-iri
1-NEG-CND-eat-ANT
's/he would not eat'

(45) Negative Anterior

bata[goriri
ba-ta-gor-iri
2-NEG-buy-ANT
'they have not bought'

ta[raagiiré
a-ta-raager-iri
1-NEG-eat-ANT
's/he has not eaten'

bate[emiri
ba-ta-emi-iri
2-NEG-sow-ANT
'they have not sown'

(46) MHA3

H'
⋮
σ]_{stem}

In the Conditional, the final melodic H can also be pronounced on the penultimate syllable; this is in free variation with the surface form where the H tone is on the final syllable (47). This shift can take place even when the penultimate vowel is short (cf. below the Narrative and Inceptive where the shift takes place only when the penultimate vowel is long). This optional rule (Penultimate Shift) is formulated in (48). In the Negative Anterior (see (45) above) the tone never shifts to the penultimate; thus Ikoma allows word- and phrase-final H tones.

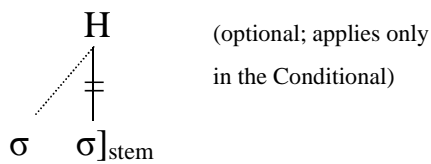
(47) Conditional

mbanga[raagiiré ~ mbanga[raagúire
 ‘they would eat’

nenga[torirí ~ nenga[toríri
 ‘I would be able to’

tanga[raagiiré ~ tanga[raagúire
 ‘s/he would not eat’

(48) PSHIFT



In the Narrative and Inceptive, the melodic H is also assigned to the final syllable. In these forms, the final H is retracted to the penultimate syllable when that syllable has a long vowel. The same kind of retraction has been attested in other Bantu languages, such as Kimatuumbi, and the phenomenon has been named Heavy Syllable Retraction (Odden 1984, 1989). When the penultimate syllable has a short vowel, the melodic H is deleted in the Narrative and Inceptive.²⁰ Both are formed with the formative *Vka-*.²¹ In this formative, the first vowel is unspecified, in the same way as in the Non-Past, and it forms a long vowel with the vowel of the subject marker. In addition to the segmental marking, a H tone occurs on the Inceptive formative (i.e. *Vká-*); this tone marks the difference between the two forms.

²⁰ This analysis was pointed out by David Odden (personal communication). An alternative analysis would be to assign the melodic H to the Narrative and Inceptive forms only when the penultimate syllable has a long vowel. The present analysis was chosen since the melodic H on the final vowel can be retracted to heavy syllables on other forms as well (cf. the Conditional in (47) above and the Past in (74) below).

²¹ Walker (2013:111) calls the Ikoma Inceptive the Past Inceptive. He writes that “[t]his form has some relationship to the temporal frame of an immediate past tense, but its aspectual component is more in focus. The PST.INCE indicates that an action has just started and carries current relevance.” The notion of beginning is often seen in translations of the inceptive form, either with or without the auxiliary verb *-seema* ‘to begin’.

(49) Narrative

baaka[raagera
ba-Vka-raager-a
2-NAR-eat-FV
'and they ate'

*aga[soma*²²
a-Vka-som-a
1-NAR-read-FV
'and s/he read'

aka[motukeri
a-Vka-mo-tuk-er-i
1-NAR-1-dig-APPL-CAUS
'and s/he buried her/him'

aka[muraageri
a-Vka-mo-raager-i
1-NAR-1-eat-CAUS
'and s/he fed her/him'

baaga[keboorera
ba-Vka-ke-boorer-a
2-NAR-7-tell.sb-FV
'and they told it'

(50) Inceptive

baaká[raagera
ba-Vká-raager-a
2-INCE-eat-FV
'they began to eat'

baaká[buga
ba-Vká-bug-a
2-INCE-say-FV
'they have said'

baaká[herekerera
ba-Vká-herekerer-a
2-INCE-accompany-FV
'they have accompanied (her/him)'

²² Long vowels are not allowed word initially in Ikoma; thus the concatenated vowel is realized as short.

baagá[karara
 ba-Vká-karar-a
 2-INCE-get.angry-FV
 ‘they have got angry’

baagá[mboorera
 ba-Vká-n-boorer-a
 2-INCE-1SG-tell.sb-FV
 ‘they have told me’

Since there are no melodic tones in any of the forms presented above in (49) and (50), these forms were first believed to not have melodic tones (cf. e.g. Higgins 2012). However, both of these forms do have a melodic H tone on the macrostem which is realized on the penultimate syllable, but *only* if that penultimate has a long vowel (51). This is shown with Narrative forms in where the first stem (‘put’) has a long vowel on the penultimate syllable, but the second stem (‘pierce’) does not (52). The rules (Heavy Syllable Retraction 2, as opposed to HSR, which applies in the Subjunctive, and MH Deletion) are formulated in (53) and (54).

(51) Narrative

baaka[bóóka
 ba-Vka-book-a
 2-NAR-wake.up-FV
 ‘and they woke up’

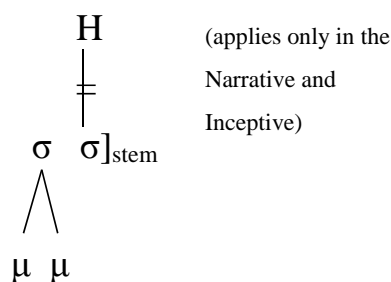
baaka[moshóómi
 ba-Vka-mo-shoomi
 2-NAR-1-spy.on
 ‘and they spied on her/him’

(52) Narrative

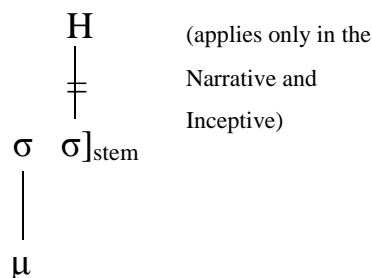
baaga[chetóóra
 ba-Vka-che-toor-a
 2-NAR-7-put-FV
 ‘and they put it’

baaga[chetora
 ba-Vka-che-tor-a
 2-NAR-7-pierce-FV
 ‘and they pierced it’

(53) Heavy Syllable Retraction 2 (HSR2)



(54) MH Deletion



The position of the Narrative or Inceptive verb in the phrase does not change the realization of the tones: HSR2 can also apply when the verb is phrase medial, as in (55) and (56).

(55) Narrative

baaka[mobóóki omóóna
 ba-Vka-mo-booki omo-Ŵna
 2-NAR-1-wake.someone.up 1-child
 ‘and they woke the child up’

(56) Inceptive

baaká[mobóóki omóóna
 ba-Vká-mo-booki omo-Ŵna
 2-INCE-1-wake.someone.up 1-child
 ‘they have woken the child up’

The melodic H of the Narrative and Inceptive is also realized on conditioned long vowels, caused both by gliding as well as prenasalization, as in (57). Therefore, syllables with conditioned long vowels are treated as heavy syllables, similarly to what happens in the Subjunctive as well (example (39) repeated here as (58) for convenience).

(57) Narrative

baaka[byéma
 ba-Vka-byem-a
 2-NAR-hunt-FV
 ‘and they hunted’

baaka[nénda
 ba-Vka-nend-a
 2-NAR-protect-FV
 ‘and they protected’

(58) Subjunctive

to[kúndekeri
 to-kundekeri-e
 1PL-cover-SUBJ
 ‘let us cover’

o[kwíre
 o-kwir-e
 2SG-marry-SUBJ
 ‘marry (you sg.)’

Since the Inceptive formative has a tone, at least one syllable must be present between the formative and the penultimate syllable for the penultimate H to be realized (59). Thus, if the macrostem has only two syllables, the H of the stem is not realized even if the penultimate syllable has a long vowel (60); since the melodic H would be adjacent to the H of the formative in these stems, it is deleted by the well-known Meeussen’s Rule (61) (Yip 2002:100).

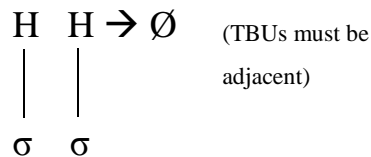
(59) Inceptive

baaká[moshóómi
 ba-Vká-mo-shoomi
 2-INCE-1-spy.on
 ‘they have begun to spy on her/him’

(60) Inceptive

baagá[seema kwémi
 ba-Vká-seem-a ku-emi
 2-INCE-begin-FV INF-sow
 ‘they have begun to sow’

(61) Meeussen's Rule (MR)



As in the Subjunctive forms above, only the long vowels formed within the macrostem are considered long by the HSR2. In the Narrative, the MH is deleted when it fails to be retracted. Therefore, in vowel-initial macrostems the MH is deleted, as in (62). However, the MH is realized if the long vowel is derived within the macrostem, i.e. at the morpheme boundary between the object marker and the vowel-initial stem (63).

(62) Narrative

baake[emi
ba-Vka-emi
2-NAR-sow
'and they sowed'

baagi[ishereri
ba-Vka-ishereri
2-NAR-agree
'and they agreed'

baagi[ita
ba-Vka-it-a
2-NAR-kill-FV
'and they killed'

(63) Narrative

baaka[bíita
ba-Vka-ba-it-a
2-NAR-2-kill-FV
'and they killed them'

In the Inceptive the H of the formative is realized on the vowel of a vowel-initial stem (64), in the same way as, for example, in the Progressive (example (26) repeated here as example (65)). Thus the tonal difference between the Narrative and Inceptive forms is retained in vowel-initial stems (compare the first two examples in (62) and (64)).

(64) Inceptive

baaké[émi
 ba-Vká-emi
 2-INCE-sow
 ‘they started to sow’

baagí[íshereri
 ba-Vká-ishereri
 2-INCE-agree
 ‘they started to agree’

eké[énderera
 e-Vká-enderer-a
 9-INCE-continue-FV
 ‘it continued’

(65) Progressive

aré[émba
 a-ra-emb-a
 1-PRG-sing-FV
 ‘and s/he sang’

kerí[íshereri
 ke-ra-ishereri
 7-PRG-agree
 ‘and it agreed’

The copular verb ‘to be’ has different forms in the Past and Non-Past, but both have a MH on the final syllable. The stem for the Non-Past is *-Vnyi* (66) and for the Past *-Vre* (67). In these copular verbs, the vowel preceding the copular stem is lengthened, and it has the quality of the vowel of the preceding morpheme, in the same way as, e.g. with the Non-Past formative *-Vko-*. In the Past, the lengthening of the vowel could also be caused by the Past formative *a-*. However, since the Past formative *a-* never surfaces in these forms, it is not possible to know whether the lengthening is caused by an unspecified vowel in the copular stem (as indicated in the examples) or by the Past formative. These copular forms always have the subject marker, and optionally the initial nasal (in main clauses) or the negative formative *ta-*.

(66)	Non-Past	Non-Past Focus	Negative Non-Past
	<i>anyí</i>	<i>naanyí</i>	<i>taanyí</i>
	a-Vnyi	n-a-Vnyi	a-ta-Vnyi
	1-be	FOC-1-be	1-NEG-be
	‘s/he is’	‘s/he is’	‘s/he is not’
	<i>toonyí</i>	<i>ntoonyí</i>	<i>totaanyí</i>
	to-Vnyi	n-to-Vnyi	to-ta-Vnyi
	1PL-be	FOC-1PL-be	1PL-NEG-be
	‘we are’	‘we are’	‘we are not’
(67)	Past	Past Focus	Negative Past
	<i>aré</i>	<i>naaré</i>	<i>taaré</i>
	a-Vre	n-a-Vre	a-ta-Vre
	1-be.PST	FOC-1-be.PST	1-NEG-be.PST
	‘s/he was’	‘s/he was’	‘s/he was not’
	<i>tooré</i>	<i>ntooré</i>	<i>totaaré</i>
	to-Vre	n-to-Vre	to-ta-Vre
	1PL-be.PST	FOC-1PL-be.PST	1PL-NEG-be.PST
	‘they were’	‘they were’	‘they were not’

The Past copula *-Vre* is also used with the Persistentive formative *ke-*,²³ and this is the only verb to which the Persistentive formative can be prefixed. The final MH of the copular verb is retained. The copular verb in the Persistentive, together with another verb in the Progressive, indicates a holding situation without any indication of time, i.e. the time perspective is understood by the context or it is indicated with an adverbial of time (68).

(68) Persistentive

Eratábara egesúsu níbeere ekeéré eratóbara egesúsu...

e-ra-tabar-a ege-súsu ni-ibéere e-ke-Vre e-ra-tabar-a ege-súsu
 9-PRG-look.for-FV 7-hare COP-now 9-PER-be.PST 9-PRG-look.for-FV 7-hare

‘And it looked for the hare and until now it is still looking for the hare...’

...mbagá básiire ekeéré eratóbara egesúsu

mbagá básiire e-ke-Vre e-ra-tabar-a ege-súsu
 until 2.days.away 9-PER-be.PST 9-PRG-look.for-FV 7-hare

‘...and until the day after tomorrow it will still be looking for the hare.’

The copular verb with the Persistentive formative is also used with Infinitive forms (69). These are used to express the Negative Anterior. The difference between this

²³ The vowel of the Persistentive formative could also be long and the copular stem only *-re*, or *-re* preceded by the Past formative *a-*. The Persistentive formative is found with both short and long vowels in other Mara languages (Walker 2013:108).

form and the one-word form for the Negative Anterior (e.g. *batagorirí* ‘they have not bought’ in (45) above) is unknown.

(69) Persistentive

bakeeré gugáruka
 ba-ke-Vre ku-garuk-a
 2-PER-be.PST INF-return-FV
 ‘they have not returned’

4.4 MELODIC H ASSIGNED TO $\sigma 1$ OF THE MACROSTEM AND FV

The Past (*a- -iri*) has two melodic H tones: a melodic H on the first syllable of the macrostem and on the final vowel, i.e. on the suffix *-iri* (70). Therefore, both Melodic H Assignment 1 and 3 (see (18) and (46) above) are applied in the Past. Ikoma does not express multiple degrees of past reference. Therefore, this past covers the time from the immediate past to very remote events.

(70) Past

naa[réremirí
 n-a-a-re-rem-iri
 FOC-1-PST-5-cultivate-ANT
 ‘s/he cultivated it (e.g. the field)’

mbaa[móshoomirí
 n-ba-a-mo-shoomi-iri
 FOC-2-PST-1-spy.on-ANT
 ‘they spied on her/him’

mbaa[túnyaakirí
 n-ba-a-tu-nyaak-i-iri
 FOC-2-PST-1PL-suffer-CAUS-ANT
 ‘they disturbed us’

When looking at shorter macrostems, we see that the final H is not always realized (71). The surfacing of the final H tone has a restriction: four stem syllables are needed in the macrostem for the final H to be realized. With two syllables in the macrostem, the H tones would fall on consecutive syllables, in which case the second H of the adjacent Hs is deleted by Meeussen’s Rule (formulated in (61) above).²⁴ Three syllables in the macrostem would result in a word-final HØH

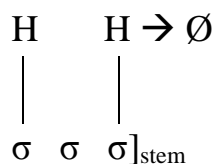
²⁴ Monosyllabic macrostems in the Past are only found for defective verbs which have special forms (see (67) above).

sequence. This is not allowed in Ikoma, and thus the right-most H is deleted. HØH Deletion rule is formulated in (72).²⁵

(71) Past

- nee[róóche*
 n-ne-a-rooche
 FOC-1-PST-see.ANT
 ‘I saw’
- nee[mórooche*
 n-ne-a-mo-rooche
 FOC-1-PST-1-see.ANT
 ‘I saw him/her’
- naa[rémiri*
 n-a-a-rem-iri
 FOC-1-PST-cultivate-ANT
 ‘s/he cultivated’
- mbaa[túkiri*
 n-ba-a-tuk-iri
 FOC-2-PST-dig-ANT
 ‘they dug’
- mbaa[shóómiri*
 n-ba-a-shoomi-iri
 FOC-2-PST-spy.on-ANT
 ‘they spied on’
- naa[ráágiire*
 n-a-a-raager-iri
 FOC-1-PST-eat-ANT
 ‘s/he ate’

(72) HØH Deletion



The fact that the first melodic tone is indeed assigned to the first syllable of the macrostem – and not to the second syllable of the verbal word, where it happens

²⁵ Both Meeussen’s Rule and HØH Deletion apply to Ikoma nominals as well (see Aunio 2010). When nominals have a HØH pattern at the end of the word, the right-most H can be deleted in the same way as in Past forms. With nominals, an alternative solution is Plateauing, in which the two Hs are merged and one H is associated with all three syllables.

to be in the affirmative forms above (71) – is proven with the Negative Past (*ta-a- -iri*) in which the melodic H tone is on the third syllable of the word (73). The vowel of the negation marker *ta-* and the vowel of the formative *a-* merge and form a long vowel in this form.

(73) Negative Past

bataa[róóche
 ba-ta-a-rooche
 2-NEG-PST-see.ANT
 ‘they did not see’

bataa[górir
 ba-ta-a-gor-iri
 2-NEG-PST-buy-ANT
 ‘they did not buy’

When a four-syllabic, or longer, macrostem has a long vowel on the penultimate syllable, the final H is retracted to this heavy syllable, as in (74) and (75). Heavy Syllable Retraction 2 is the same rule which functions with the Narrative and Inceptive forms. With four-syllabic macrostems, the result is a HØH sequence, but since this sequence is not word-final, it is allowed. The long penultimate vowel is caused by the combination of the Applicative extension *-er-* and the *-iri* suffix. Although some derivation suffixes in some other Bantu languages have a H tone (see, e.g. Marlo 2013), this H tone is the MH of the Past since Applicatives do not have a H tone in other verbal forms.

(74) Past

mbaa[kúndekíri
 n-ba-a-kundekeri-iri
 FOC-2-PST-cover-ANT
 ‘they covered’

mbaa[bábooríre
 n-ba-a-ba-boorer-iri
 FOC-2-PST-2-say.to-ANT
 ‘they told them’

nee[gótooríre
 ne-a-ko-toor-er-iri
 1SG-PST-2SG-put-APPL-ANT
 ‘I put for you’

mbaa[yékundekíri
 n-ba-a-ye-kundekeri-iri
 FOC-2-PST-9-cover-ANT
 ‘they covered it’

mbaa[twérekeríri
n-ba-a-to-erekereri-iri
FOC-2-PST-1PL-show-ANT
'They showed us.'

mbaa[múherekeríre
n-ba-a-mo-herekerer-iri
FOC-2-PST-1-accompany-ANT
'they accompanied her/him'

(75) Negative Past

bataa[tógoríre
ba-ta-a-to-gor-er-iri
2-NEG-PST-1PL-buy-APPL-ANT
'they did not buy for us'

bataa[gútaaríre
ba-ta-a-ko-taarer-iri
2-NEG-PST-2SG-visit-ANT
'they did not visit you'

When the macrostem is vowel-initial the first MH of the Past is realized on the first CV syllable of the macrostem (76)–(77). This differs from the assignment of the MH in the Non-Past (e.g. *mbaakw[ém̄ba* 'they sing' in (21) above), as well as in the Infinitive and Progressive in which the MH is realized on the stem-initial vowel of vowel-initial stems. A possible reason for this difference is that the MH cannot be realized on the same syllable as the subject marker or the negative formative. Vowel-initial stems with a CV object marker have the MH on the first syllable of the macrostem (78).

(76) Past

mbe[emíri
n-ba-a-em-iri²⁶
FOC-2-PST-sow-ANT
'they sowed'

mbe[embíri
n-ba-a-emb-iri
FOC-2-PST-sing-ANT
'they sang'

²⁶ Note that the three vowels (SM, TA, and macrostem) become a long vowel with the quality of the stem-initial vowel. Thus the Past and Anterior forms for vowel-initial macrostems are only differentiated by tone (*mbeemíri* 'they sowed' vs. *mbeemiri* 'they have sown', as in examples (76) and (6) above).

(77) Negative Past

bate[embíri
 ba-ta-a-emb-iri
 2-NEG-PST-sing-ANT
 ‘they did not sing’

(78) Past

nee[gwékeríri
 n-ne-a-ku-ek-er-iri
 FOC-1SG-PST-2SG-roast-APPL-ANT
 ‘I roasted for you’

When the macrostem in the Past has the first person object marker which is only a nasal (*n-*), the tone is again realized on the first CV syllable of the macrostem (79) and not on the stem-initial nasal or the vowel preceding it. This is analogous to what happens with vowel-initial stems.

(79) Past

naa[mbérekíre
 n-a-a-n-bereker-iri
 FOC-1-PST-1SG-call.sb-ANT
 ‘s/he called me’

Both Heavy Syllable Retraction rules (HSR1 (38) and HSR2 (53) above) count only long vowels within the macrostem as long vowels that can be targets of these rules. The Melodic H Assignment of the Past has a similar restriction: only syllables within the macrostem can be assigned a MH. The rule MHA1 from (18) above is modified in (80) to account for the fact that in the Past the melodic H is assigned to the first CV syllable of the macrostem.

(80) MHA1b

H´ (applies only in
 the Past)

 [mstem (V/N)CV

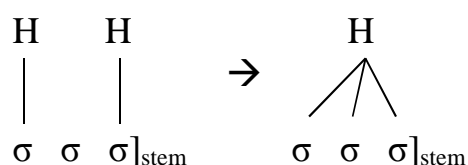
When a vowel-initial macrostem has four syllables in the Past, another rule applies. In these forms, all three final syllables are realized with a H tone (81). The first MH is assigned to the first CV syllable of the macrostem and the second MH to the final syllable. This results in a HØH sequence at the end of the word, which is not allowed in Ikoma. Contrary to HØH Deletion with consonant-initial macrostems (e.g. *mbaa[túkiri* ‘they dug’ in (71) above), with these vowel-initial

macrostems the final HØH sequence is avoided by Plateauing (Odden 2009; Aunio 2010), formulated in (82).²⁷ The motivation for the application of Plateauing instead of HØH Deletion is not known. With nominals, these two rules are in free variation (Aunio 2010).

(81) Past

mba[anékííré
 n-ba-a-aneker-iri
 FOC-2-PST-spread.out-ANT
 ‘they spread (something) to the sun’

(82) Plateauing



Trisyllabic macrostems with a nasal object marker also make use of the Plateauing rule, not HØH Deletion:

(83) Past

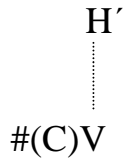
naa[ng'íníí
 n-a-a-n-ng'in-iri
 FOC-1-PST-1SG-deceive-ANT
 ‘s/he deceived me’

4.5 THE MELODIC H ASSIGNED TO THE FIRST σ OF THE VERB

The final MH presented in this paper is assigned to the first syllable of the verbal word, i.e. to the subject marker. This MH is found in a variety of verbal forms that are either in compound constructions or in relative and other types of subordinate clauses. Thus, this is the typical MH of non-main clause verbs. A full account of the constructions where this MH is used or how these constructions are used is beyond this description. In most instances where the initial MH is used, it is assigned to verb forms that do not have other MHs. None of these forms have the initial nasal of focus. The rule Melodic H Assignment 4 is formulated in (84). The TBU vowel of the initial MH is bolded in the following examples.

²⁷ See fn. 25. In nominal morphology, the H tone that results from Plateauing functions as a single H tone, not as three consecutive Hs (Aunio 2010).

(84) MHA4



4.5.1 Relatives

The Relative forms of the verbs that do not have other MHs have the initial MH. Relatives are marked with the demonstrative pronoun *-no*.²⁸ The distinction between the Anterior and Past is neutralized in the Relative, and only Anterior forms are found in the Relative, but the meaning covers the Past as well (85). The Anterior does not have MHs in the main clause form (as in *mbeemiri* ‘they have sown’ in (6) above).

(85) Anterior Relative

eritúnda ríno négoriri
 eri-túnda ri-no ne-gor-iri
 5-fruit 5-DEM 1SG-buy-ANT
 ‘fruit that I bought’

omóoto úno émiri ambúsúró
 omo-Ŵto u-no a-emi-iri am-búsúró
 1-person 1-DEM 1-sow-ANT 9-seed
 ‘person who sowed the seed’

In forms with other MHs or a H tone in the formatives, these tones are retained in the Relative forms, and the initial MH is *not* assigned.

(86) Non-Past Relative & Non-Past

abááto báno baakwémi
 aba-Ŵto ba-no ba-Vko-emi
 2-person 2-DEM 2-NPST-sow
 ‘people who sowed’

mbaakwémi
 n-ba-Vko-emi
 FOC-2-NPST-sow
 ‘they sow/will sow’

²⁸ Demonstrative pronoun *-no* has a H tone when it is not utterance initial. In some Bantu languages of the area, the demonstrative has a different tone in the Relative (e.g. in Kabwa; Walker 2013:138), but in Ikoma the tone of the demonstrative remains the same.

(87) Negative Non-Past Relative & Negative Non-Past

<i>omóoto úno ataakwémi</i>	<i>bataakwémi</i>
omo-Ŵto u-no a-ta-Vko-emi	ba-ta-Vko-emi
1-person 1-DEM 1-NEG-NPST-sow	2-NEG-NPST-sow
‘person who does not sow’	‘they do not/will not sow’

(88) Negative Anterior Relative & Negative Anterior

<i>omóoto úno ateemirí</i>	<i>bateemirí</i>
omo-Ŵto u-no a-ta-emi-iri	ba-ta-emi-iri
1-person 1-DEM 1-NEG-SOW-ANT	2-NEG-SOW-ANT
‘person who did not sow’	‘they have not sown’

The Relative with the class 16 demonstrative *hano* is frequently used to express when-clauses (89). In these clauses, *hang’u* can also be used to mark the Relative (90),²⁹ and *hang’u* may also follow the verb (91). Other words can be present between the demonstrative pronoun and the verb. The MH is still assigned to the first syllable of the verb (92).

(89)

<i>hano áhikiri</i>
ha-no a-hik-iri
16-DEM 1-arrive-ANT
‘when s/he (had) arrived’

(90)

<i>hang’u éhikiri</i>
hang’u e-hik-iri
like.this 9-arrive-ANT
‘when it (had) arrived’

(91)

<i>orúmu búkeere hang’u</i>
oru-mú ba-ikar-iri hang’u
11-one 2-sit-ANT like.this
‘one (day) when they (had) sat’

²⁹ It is difficult to give a precise translation for *hang’u*. Depending on the context, it is sometimes translated as ‘only’ and in other contexts as ‘like this’.

(92)

hano egesúsu kúchiri
 ha-no ege-súsu ke-Vch-iri
 16-DEM 7-hare 7-come-ANT
 ‘when the hare came/had come’

The Persistentive forms are also used in the Relative (93). The final MH assigned to the Persistentive form in main clause forms (e.g. *ekeéré eratábara* ‘it is still looking for’, as in (68) above) is not realized in the Relative, but the Persistentive Relative has the initial MH. This is the only form where the main clause MH is replaced by the relative clause MH. In all the other forms with MHs – the Non-Past (MH on the first syllable of the macrostem) and the Negative Anterior (MH on the final syllable) presented in (85)–(92) above – the initial MH of the Relative is not realized at all.

(93) Persistentive Relative

hano bákeere baanyí
 ha-no ba-ke-Vre ba-Vnyi
 16-DEM 2-PER-be.PST 2-be
 ‘when they still were/are’

abááto báno bákeere kwémi
 aba-Ŵto ba-no ba-ke-Vre ku-emi
 2-person 2-DEM 2-PER-be.PST INF-SOW
 ‘people who have not sown yet’

Without the Persistentive formative the copular verbs do not have the initial MH in the relative forms:

(94) Relative

omóoto úno anyí
 omo-Ŵto u-no a-Vnyi
 1-person 1-DEM 1-be
 ‘person who is’

omóoto úno aré
 omo-Ŵto u-no a-Vre
 1-person 1-DEM 1-be.PST
 ‘person who was’

4.5.2 Compound constructions

The Anterior form also has the initial MH when it is the lexical verb in compound constructions expressing the Past Anterior (95). The auxiliary is the copular verb ‘to be’ in the Past form. Other forms, for example, the Non-Past, Progressive, and Inceptive, do not have the initial MH in compound constructions (96)–(98).

(95) Past Anterior (Anterior with auxiliary)

mbaaré bámobooriire
n-ba-Vre ba-mo-boorer-iri
FOC-2-be.PST 2-1-tell.sb-ANT
‘they had told him’

(96) Non-Past with auxiliary

mbaaré baakwémi
n-ba-Vre ba-Vko-emi
FOC-2-be.PST 2-NPST-sow
‘they are sowing’

(97) Progressive with auxiliary

mbaaré baratóboorera
n-ba-Vre ba-ra-to-boorer-a
FOC-2-be.PST 2-PRG-1-tell.sb-FV
‘they were telling us’

(98) Inceptive with auxiliary

mbaaré baagátunyááki
n-ba-Vre ba-Vká-to-nyaaki
FOC-2-be.PST 2-INCE-1PL-disturb
‘they used to disturb us’

4.5.3 Situative

The initial MH is used with the Non-Past Consecutives to form yet another Situative (99), which is often used in narratives to refer to events that preceded the events expressed with the main clause. The Non-Past Consecutive does not have other MHs (as *amutema* ‘and s/he hits her/him’ in (8) above).

(99) Situative formed with Non-Past Consecutive

Egesúsu gétoorera nyina...

ege-súsu ke-toor-er-a nyina
7-hare 7-put-APPL-FV mother

‘Having put (food) for his mother the hare...’

Abííkoma bányahareka biitu ná Abiikwabe.

aba-íkoma ba-nyahar-ek-a ba-it-u ná aba-ikwabe
2-Ikoma 2-hurt-STAT-FV 2-kill-PASS with 2-Maasai

‘The Ikoma being hurt they are killed by the Maasai.’

4.5.4 Relative tenses

The initial MH is also shown in some contexts involving relative tenses, i.e. tenses where events are ordered in relation to each other (Nurse 2008:316). These are the Narrative (100) and Non-Past Consecutive (101) forms. The initial MH is realized both in the Narrative form in which the final MH is deleted (see (102) below) and in addition to the final MH (100). As described above, the Non-Past Consecutive does not have tones at all in the basic form.

(100) Narrative

Hano kímariri bararééta chanyama baagayé báá gachetóóra kure hááre.

há-no ke-mar-iri ba-ra-réet-a cha-nyama ba-Vka-yε
16-DEM 7-finish-ANT 2-PRG-bring-FV 10-meat 2-NAR-go

ba-Vka-che-toor-a kure ha-Vre
2-NAR-10-put-FV far 16-DEM

‘When it had finished they brought the meat and they went and put them far away there.’

(101) Non-Past Consecutive

...amoboorera ábuga:...

a-mo-boorer-a a-bug-a
1-1-tell.sb-FV 1-say-FV

‘...and he told her/him and said:...’

In both of these forms the initial MH of the latter verb is required when the two verbs follow each other. However, when other words intervene, the initial MH does not always appear (102). Whether this is free variation or conditioned by some other factors in the context is unknown.

(102) Narrative

Egesúsu géékabuga ...

ege-súsu ke-Vka-bug-a

7-hare 7-NAR-say-FV

‘And the hare said:...’

Akaacha Ikoma ákabuga:...

a-Vka-Vch-a Ikoma a-Vka-bug-a

1-NAR-come-FV Ikoma 1-NAR-say-FV

‘And s/he came to Ikoma and said:...’

Egagitema egekúndi egagíta.

e-Vka-ke-tɛm-a ege-kúndi e-Vka-ke-it-a

9-NAR-7-hit-FV 7-fist 9-NAR-7-kill-FV

‘And it hit it and killed it.’

Although the Progressive is also used in narratives to convey successive events, it never has the MH on the initial syllable:

(103) Progressive

...barabyéma bararééta...

ba-ra-byem-a ba-ra-rɛɛt-a

2-PRG-hunt-FV 2-PRG-bring-FV

‘...and they hunted and brought...’

5. CONCLUSIONS

This paper describes the basics of Ikoma verbal tonology: verb forms are listed (see Table 1 below), and their segmental morphology, tones, and some of the characteristics known about them are presented. Tonally, Ikoma verb forms can be divided into those with melodic Hs, i.e. tones that are assigned to certain syllables depending on the verb form, and to those that are toneless or have tones only on formatives. The melodic Hs can be assigned to the first syllable of the macrostem, to the second syllable of the macrostem, to the final syllable, or to the first syllable of the verbal word.

MHs are not morphologically predictable in the sense that a particular formative triggers a particular MH pattern. For example, the Past and Conditional have the same MH for both the affirmative and the negative forms, but in the Subjunctive and Anterior the MHs are different for the affirmative and negative forms. Moreover, the presence of the object marker does not affect the type of MH even though the forms with the object marker have slightly modified MHs in some forms, e.g. in the Past. Phonologically, the MHs are not predictable either. All roots and subject and object markers are toneless, and therefore their tones do

not play a role in assigning MHs. Formatives with a H tone may or may not have MHs, e.g. the Habitual (*háá-*) has no MH, whereas the Inceptive (*Vká-*) has a final MH. On the other hand, all MH types are found with formatives without H tones.

The only MH that is predictable to some extent is the subordinate/compound form MH (MH on SM). The forms without MHs or H tones on the formative in the main clause forms often have the MH on the subject marker in the subordinate clause form. However, more research is needed so that other possible conditioning factors for this MH can be identified.

Table 1. *Ikoma verbal forms and their melodic tone patterns.*

	FOC	NEG	TAM	FV/ANT
No MH				
Imperative				-a
Anterior	n-			-iri
Negative Subjunctive		ta-		-a
Non-Past Consecutive				-a
Situative			ra-	-a
Situative			ráá-	-a
Habitual			háá-	-a
MH on σ1 of mstem				
Infinitive			ku-	-a
Non-Past	n-		-Vko-	
Negative Non-Past		ta-	-Vko-	
Progressive			ra-	-a
MH on σ2 of mstem				
Subjunctive	(n-)			-e
MH on FV				
Conditional	n-		nga-	-iri
Negative Conditional		ta-	nga-	-iri
Negative Anterior		ta-		-iri
Narrative			-Vka-	-a
Inceptive			-Vká-	-a
Persistent			-ke-	
MH on σ1 of mstem & FV				
Past	n-		a-	-iri
Negative Past		ta-	a-	-iri

MH on SM				
Relative: -Anterior -Persistive			-ke-	-iri
Situative				-a
Compound constructions: -Anterior				-iri
Relative tenses: -Narrative -Non-Past Consecutive			-Vka-	-a -a

Most aspects of Ikoma tone are encountered in many other Bantu languages, such as Meeussen's Rule, Plateauing, Heavy Syllable Retraction, and the assignment of melodic Hs to the first or the second syllable of the macrostem. The melodic H of the Narrative and Inceptive forms is rare and possibly a local innovation shared only with the varieties closest to Ikoma. More research is needed both on Ikoma and the other Mara Bantu languages before we can fully understand their TA systems and see how these languages relate to each other.

ABBREVIATIONS

Numbers refer to noun classes and persons

∅	toneless TBU
μ	mora
σ	syllable
ANT	Anterior
APPL	applicative
ATR	advanced tongue root
C	consonant
CAUS	causative
CND	Conditional
COP	copula
DEM	demonstrative
FOC	focus
FV	final vowel
H	high tone
HAB	Habitual
HSR	Heavy Syllable Retraction
INCE	Inceptive
INF	Infinitive
L	low tone
MH	Melodic H tone
MHA	Melodic H Assignment
MR	Meeussen's Rule

mstem	macrostem
N	nasal
NAR	Narrative
NEG	negation/negative
OM	object marker
PASS	passive
PER	Persistent
PL	plural
PRESM	pre-subject marker
PSHIFT	Penultimate Shift
NPST	Non-Past
PRG	Progressive
PST	Past
SG	singular
SIT	Situative
SM	subject marker
SUBJ	Subjunctive
TA	tense/aspect
TBU	tone-bearing unit
V	vowel

REFERENCES

- Anghelescu, Andrei 2013.
Morphophonology and tone in Nata. Paper presented at the Bantu 5 conference, Paris 12th–15th June, 2013.
- Aunio, Lotta 2010.
Ikoma nominal tone. **Africana Linguistica** XVI: 3–30.
- 2013 *Tonal variation in Bantu language varieties: The Case of Ikoma-Nata-Isenye*. Paper presented at SOAS, London, 19th Nov. 2013.
www.soas.ac.uk/linguistics/events/deptseminars/19nov2013-tonal-variation-in-bantu-language-varieties-the-case-of-ikoma-nata-isenye.html.
- Downing, Laura J. 2005.
 On the ambiguous segmental status of nasals in homorganic NC sequences. In: Marc van Oostendorp & Jeroen van de Weijer (eds), *The Internal Organization of Phonological Segments*, pp. 183–216. Berlin: De Gruyter Mouton.
- 2009 Optimality Theory and African language phonology. In: Masangu Matondo, Fiona Mc Laughlin & Eric Potsdam (eds), *Selected Proceedings of the 38th Annual Conference on African Linguistics*, pp. 1–16. Somerville, MA: Cascadilla Proceedings Project.

Guthrie, Malcolm. 1967–1971.

Comparative Bantu: An Introduction to the comparative linguistics and prehistory of the Bantu languages. 4 vols. Amersham: Gregg International.

Harjula, Lotta. 2004.

The Ha language of Tanzania: Grammar, texts and vocabulary. (East African Languages and Dialects 13) Cologne: Rüdiger Köppe.

Higgins, Holly Ann 2012.

Ikoma vowel harmony: Phonetics and phonology. www.sil.org/resources/publications/entry/51528.

Hill, Dustin, Anna-Lena Lindfors, Louise Nagler, Mark Woodward & Richard Yalonde 2007.

A Sociolinguistic survey of the Bantu languages in Mara Region, Tanzania. Unpublished ms. Dar es Salaam: SIL.

Kisseberth, Charles & David Odden 2003.

Tone. In: Derek Nurse & Gérard Philippson (eds), *The Bantu Languages*, pp. 59–70. London: Routledge.

Maho, Jouni 2003.

A Classification of the Bantu languages: An Update of Guthrie's referential system. In: Derek Nurse & Gérard Philippson (eds), *The Bantu Languages*, pp. 639–651. London: Routledge.

Marlo, Michael R. 2013.

Verb tone in Bantu languages: Micro-Typological patterns and research methods. **Africana Linguistica XIX**: 137–234.

Mutaka, Ngessimo & Larry M. Hyman 1990.

Syllable and morpheme integrity in Kinande reduplication. **Phonology** 7:73–119.

Muzale, Henry R.T. & Josephat M. Rugemalira 2008.

Researching and documenting the languages of Tanzania. **Language Documentation and Conservation** 2(1): 68–108.

Nurse, Derek 2008.

Tense and Aspect in Bantu. Oxford: OUP.

Odden, David 1984.

An accentual approach to tone in Kimatuumbi. In: Didier Goyvaerts (ed.), *African Linguistics: Studies in memory of M.W.K. Semikenke*, pp. 345–419. Amsterdam: John Benjamins.

1989 Predictable tone systems in Bantu. In: Harry van der Hulst & Norval Smith (eds), *Autosegmental Studies on Pitch Accent Systems*. pp. 225–251. Dordrecht: Foris.

1996 *The Phonology and Morphology of Kimatuumbi.* (The Phonology of the World's Languages) Oxford: Clarendon Press.

- 1999 Typological issues in tone and stress in Bantu. In: Shigeki Kaji (ed.), *Proceedings of the Symposium Cross-Linguistic Studies of Tonal Phenomena, Tonogenesis, Typology, and Related Topics*, pp. 187–215. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.
- 2009 *Tachoni verbal tonology*. **Language Sciences** 31: 305–324.
- Philippon, Gérard 1998.
Tone reduction vs. metrical attraction in the evolution of Eastern Bantu tone systems. In: Larry M. Hyman & Charles W. Kisseberth (eds), *Theoretical aspects of Bantu tone*, pp. 315–329. Stanford: CSLI Publications.
- Schadeberg, Thilo 2003.
Historical linguistics. In: Derek Nurse & Gérard Philippon (eds), *The Bantu Languages*, pp. 143–163. London: Routledge.
- Shetler, Jan Bender 2007.
Imagining Serengeti: A History of landscape memory in Tanzania from earliest times to the present. (New African Histories Series) Athens: Ohio University Press.
- SIL 2009.
Ikoma orthography sketch. Unpublished ms. Dar es Salaam: SIL.
- Smith, Bryan, Rachel Smith, Holly Higgins & Bernadette Mitterhofer 2008.
Dialect survey among the Ikoma-Nata-Isenye peoples. Unpublished ms. Dar es Salaam: SIL.
- Walker, John B. 2013.
Comparative tense and aspect in the Mara Bantu languages: Towards a linguistic history. www.sil.org/resources/archives/55388.
- Yip, Moira 2002.
Tone. Cambridge: CUP.

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