



The Study of Tone in Kinguu Infinitive Verbs

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Abstract— This paper studied tone on Kinguu infinitive verbs; the study was guided by three objectives which were to describe tone in simple infinitive verbs, to describe tone in complex infinitive verbs and to establish tonological rules which govern tone assignment in Kinguu infinitives. The infinitives were studied in isolation and the study used the Autosegmental theory which was introduced by GoldSmith 1976. The method used in data collection was person interview of which the researcher guided the informants on the prepared corpus of Kiswahili infinitives to be pronounced in Kinguu by the Kinguu speakers, and then the pronunciations were recorded for marking tone. The main behavior observed in Kinguu infinitive tones is that there is High tone spread, shifting and penultimate back hopping.

Keywords— *Tone, Infinitives, Kinguu, Melodic high, Lexical tone, Grammatical tone.*

I. INTRODUCTION

Ethnic community languages are still facing a very strong challenge of not being documented enough, regardless of their unique features, majority of them are not well known. Bantu languages have variations in term of tone rules, but the common process is the expansion of the domain of High to the right or left (Odden, 1995). Most Bantu languages are tonal languages and have complex tone behaviors but the most fundamental phenomenon in Bantu tone is the mobility of the High tone (Nurse et al, 2003). Furthermore, a number of Bantu verbal tones are characterized by the attraction of the right most High tone to the penultimate stress syllable, (MacSavevy, 2009). Tone has been studied in many languages; however, tone in Kinguu is still a phenomenon that is not clear despite it being a very important aspect in language description. This paper therefore, deals with tone in both simple and complex infinitive verbs in Kinguu.

II. BACK GROUND OF THE LANGUAGE

Kinguu is one of Bantu languages spoken in North Eastern Tanzania in Tanga region at Kilindi district and in some parts of Morogoro region at Turiani and Mvomero districts. The language is spoken by about 300708 people in Tanzania, where 214586 speakers are found in Tanga who constitute 94.6% of the total population and 95622 speakers are found in Morogoro who constitute 5.4% of the total population (LoT, 2009). The origin of Wanguu may be traced back from the larger scale movement which involved split of the Bantu family into dialectical continuum and was out of that movement Wanguu spread in the entire area of Kilindi and some parts of Morogoro (Petzell, 2012). They are surrounded by other ethnic communities like Wazigula in the East, Wakaguu and Wasagala in the South-West, Wadoe and Wakwere in the South-East, Wakami and Waluguru in the South and the Maasai and Okiek in the North (Petzell, 2012).

Guthrie (1967) classified Kinguu as (G34) language. In this classification the alphabet “G” means the zone where the language belongs and “34” means the individual number of the language in that zone. The classification was very

important because equipped the researcher with extra knowledge on complicated features of Kinguu tone as the researcher could trace the general features of the languages classified under the same zone.

Data in this study was collected from six different people by using interviews of which the researcher guided the informants on the prepared corpus of Kiswahili infinitives to be pronounced in Kinguu by the Kinguu speakers, and then the pronunciations were recorded for marking tone. Also the researcher used anecdote narrations in data collection of which the informants were given chances to give stories in Kinguu, and then the researcher searched for relevant additional information from those stories.

III. THEORETICAL FRAME WORK

This study was guided by the Autosegmental theory as developed by John Goldsmith (1976). The theory is guided by three pillars; the first pillar requires phonological representation of segments be carried out in **multilinear** fashion (in different tiers), the second pillar requires phonological representations be unified by using what was proposed by Goldsmith as “**association lines**” and the third pillar requires a successful unification be guided by a condition “**A Well-formedness condition (WFC)**” (Massamba, 2010:225). The Well-formedness condition states as follows.

- i) Each vowel must be associated with (at least) one tone;
- ii) Each tone must be associated with (at least) one vowel;
- iii) Association lines do not cross.

This theory was useful in this study as it assisted in developing concepts and rules about why tone in Kinguu have a certain shape and how does it change from one shape to another.

IV. BASIC INFORMATION ON KINGUU TONE

The basic information that are to be discussed here are only those which have association with the limit of our study; therefore not all features of tone in Kinguu are described in this paper.

4.1 Grammatical Tone in Kinguu

Many Bantu languages use grammatical tones to mark different aspects. The same situation is also found in Kinguu in some cases. Consider data (1 and 2) below.

1. a) *h í t a* “I went”

b) *h i t a* “go”

2.a) *k u m w í t á n g a* “you called him/her?”

b) *k u m w i t á n g a* “to call him/her”

In data (1) example (a) the syllable /hí/ has High tone and /ta/ has Low tone, this word means “I went” but when the syllable /hi/ is Low toned and /ta/ is also Low toned like in (b), the word changed its tense aspect from past to present tense and it meant “you go”. In data (1b) the tense marker and the subject marker have been collapsed into one syllable.

In data (2) example (a) the syllable /ku/ has Low tone, /mwí/ has High tone, /tá/ has High tone, and /nga/ has Low tone this word means “you called him/her?” but in the same word (b) when the syllable /ku/ is Low toned, /mwi/ is also Low toned, /tá/ is High toned and /nga/ is Low toned the word changed its tense aspect from past to present tense and it meant “to call him/her”. Therefore, this shows that in Kinguu change of tone lead to change of some grammatical aspects; thus, this prove that Kinguu has grammatical tone.

4.2 Lexical Tone in Kinguu

Lexical tone differentiates the meaning of words which have the same morphology (different words which are spelled the same). The question to be asked here is whether there is lexical tone in Kinguu or not. Let us consider the set of examples in data (3 and 4) below.

3 a) *khonde* “farm” (LL)

b) *khónde* “marijuana” (HL)

4 a) *chi za* “dark” (LL)

b) *chí za* “we have came” (HL)

As seen in data (3) above, in example (a) the first syllable of the stem /kho/ is Low toned and the vowel of the final syllable of the stem /nde/ is Low toned, this word means “farm”. In (b) the same word when the first syllable of the stem /khó/ is High toned and the final syllable of the stem /nde/ is Low toned the word changed its meaning and meant “marijuana”.

In data (4) example (a) the first syllable of the stem /chi/ is Low toned and the final syllable of the stem /za/ is also Low toned, this word means “dark” but in (b) the same word, when the first syllable of the stem /chí/ is High toned and the final syllable of the stem /za/ is Low toned, the word changed its meaning and meant “we came”.

As seen in data (1,2 and 3,4) words of the same morphological structure (spelled the same), their meanings are differentiated by tone variations. Therefore, this gives us a proof that Kinguu has lexical tone.

V. ANALYSIS OF TONE IN KINGUU SIMPLE INFINITIVE VERBS

Simple infinitives are words formed by the infinitive prefix attached to a verb stem. The infinitives may be formed by one syllable stem or more than one syllable stems. The analysis of tone below begins with infinitive with one syllable stem.

5.1 Infinitives Stems with One Syllable.

In order to have a good understanding of the discussion of the infinitive stems with one syllable, first, let us consider the example in data (5) below.

5) *kú ja* “to eat”

In data (5) morphologically the word is made up of infinitive prefix attached to one syllable verb stem. In general, words in this category have two syllables; the infinitive syllable of which in Kinguu is the prefix /ku/ and the stem syllable. In this category, the first syllable of the stem has three functions; first, it stands as the first syllable of the stem, second, as the penultimate syllable of the word and third as the final syllable of the stem. In infinitives with one syllable stems, there is no any verbal extension.

A word in this category generally has High tone on the first syllable of the stem but since in this category, it is also the penultimate and the final syllable of the stem. This High is therefore hopped back one syllable and dock to the infinitive prefix. This process is to avoid High tone surfaces at the final position of the stem because Kinguu “Basic Tone Melody” does not allow such tone behavior.

5.2 Infinitive Stems with Two Syllables

Let us expand the discussion by considering infinitive with two syllable stems. Consider the following data below.

6 a) *ku v í n a* “to dance”

b) *ku v ú z a* “to tack back”

The words under this category, morphologically are made up of infinitive prefix /ku/ which is attached at the initial position of a two syllable stems.

In data (6) the infinitive prefix has Low tone, the first syllables of the stems have High tone, and the final syllables of the stems have Low tone.

The infinitive stems with two syllables display a prominent High tone on the first syllable of the stems which also function as the penultimate syllable. In this category of words, since no any other syllable on the right side of the word rather than the final syllable which in Kinguu is characterized by Low tone, this lead to neither copying nor spreading of the High tone.

5.3 Infinitive Stems with Three Syllables

After observing tone behaviors in infinitive stems with two syllables, below is a presentation of infinitive stems with three syllables. Consider data (7) below.

7 a) *kuvú ní la* “to dance for”

b) *kuvú z í la* “to take back for”

Morphologically, the words under this category are made up of infinitive prefixes attached to the initial position of three syllable verb stems.

In data (7) the infinitive prefix /ku/ has Low tone, the first syllables of the stems have High tone, the penultimate syllables have High tone and the final syllables have Low tone. The infinitives with three syllable stems display a spreading behavior where High tone of the first syllable of the stem spreads to one more syllable on the right side of the word.

5.4 Infinitive Stems with Four Syllables

The previous analysis was based on Kinguu infinitive stems with three syllables. The following is a data of infinitive stems with four syllables. Consider data (8) below.

8 a) *kuvíní lá na* “to play for each other”

b) *kuhóngé z á na* “to congratulate each other”

In (8) above, the infinitive prefix /ku/ has Low tone, the first syllable of the stems is High toned, the second syllable of the stems is High toned, the penultimate syllable is also High toned and the final syllable of the stems is Low toned.

5.5 Infinitive Stems with Five Syllables

After having seen tone behaviors of infinitive stems with four syllables, below is a presentation of infinitive stems with five syllables. Consider data (9) below.

9 a) *kuvú ndú mu lá na* “to pull each other forcedly”

b) *kuzú ngú lú s í la* “to fence for”

In (9) the infinitive prefix /ku/ has Low tone, the first syllable of the stems has High tone, the second syllable of the stems has High tone, the third syllable of the stems has Low tone, the penultimate syllable has High tone and the final syllable of the stems has Low tone.

The infinitive stems with five syllables display tone copying and spreading behaviors, where the first syllable of the stem is copied to the penultimate, again the first syllable of the stem from the initial position of the stem spread to one more syllable on the right side of the word and before it reaches the penultimate syllable is blocked by one Low tone.

5.6 Infinitive Stems with Six Syllables

The preceded analysis was based on Kinguu infinitive stems with five syllables. The following is data of infinitive stems with six syllables. Consider data (10) below.

10 a) *kulómbélé ze lána* “to request for each other”

b) *kusúkú mí zi lána* “to push for each other”

In (10) above, the infinitive prefix /ku/ has Low tone, the first syllable of the stems has High tone, the second syllable of the stems has High tone, the third syllable of the stems has High tone, the fourth syllable of the stems has Low tone, the penultimate syllable has High tone and the final syllable of the stems has Low tone.

The infinitive stems with six syllables display tone copying and spreading behaviors, where the High tone of the first syllable of the stem is copied to the penultimate syllable, again the High of the first syllable of the stem from the initial position of the stem spread to two more syllables on the right side of the word and before it reaches the penultimate syllable is blocked by one Low tone.

5.7 Infinitive Stems with Seven Syllables

After observing tone behavior in infinitives with six syllable stems, below is the presentation of data in infinitive stems with seven syllables. Consider data (11) below.

11 a) *kulómbélézézé se lána* “to request for each other with intensity”

b) *kusúkú mí zísílána* “to push for each other with intensity”

In (11) the infinitive prefix /ku/ has Low tone, the first syllable of the stems is High toned, the second syllable of the stems is High toned, the third syllable of the stems is High toned, the fourth syllable of the stems is High toned, the fifth syllable of the stems is Low, the penultimate syllable is High toned and the final syllable of the stems is Low.

The infinitives with seven syllable stems also display tone copying and spreading behaviors, where the first syllable of the stem is copied to the penultimate, then the first syllable of the stem from the initial position of the stem spread to three more syllables on the right side of the word and before it reaches the penultimate syllable it is blocked by one Low tone.

VI. ANALYSIS OF TONE IN KINGUU COMPLEX INFINITIVE VERBS

After having seen the simple infinitive verbs in Kinguu, let us see tone in Kinguu complex infinitive verbs. Under this category, only those infinitives which have more than four syllables are the one to be discussed. This is because complex infinitives which have four or fewer syllables have no any different tonological effects with the simple infinitives. Therefore, discussing them is reduplicating issues since simple infinitives were already discussed

(object prefix has no tonological effects to infinitive stems with four or fewer syllables)

Complex infinitive verbs include the infinitives which have object marker (OM). Morphologically, in Kinguu this kind of verbs are formed by infinitive prefixes attached to stems with object prefixes; the object prefix depends on the persons. Consider table (1) below.

Table (1): Object indicating Persons

	Singular	Plural
1 st Person	<i>kunizungu la</i>	<i>kuchizungu la</i>
2 nd Person	<i>kukuzungu la</i>	<i>kuwazungula</i>
3 rd Person	<i>kumzungu la</i>	<i>kuwazungu la</i>

In table (1) above, three object persons have been described: The first person, second person and third person both singular and plural and at each one a supportive example has been given. The first person singular uses the prefix /ni/, and its plural uses the prefix /chi/, the second person singular uses the prefix /ku/ and plural uses /wa/, the third person singular uses the prefix /m/ and plural uses /wa/.

In this work, the third person singular was the one which used, this is because it is the one which has been used by most of Bantu studies, but also was for simplification purpose because it was difficult to use all persons and could mislead the study.

6.1 Tone Behaviors in Complex Infinitive Verbs

A word under this category has High tone on the object marker which is situated on the left side and then it spreads to the right side of the word but it is blocked by a Low tone before it reaches the penultimate syllable. Another High tone surfaces on the penultimate syllable as a result of shifting of the High of the first syllable of the stem.

NOTE: Complex infinitives with less than five stem syllables in Kinguu have the same tone features with simple infinitives and those with five stem syllables and above have their unique features that is why the discussion on the complex infinitives has been done in complex infinitive with five stem syllables only as it has the same features with complex infinitive with six, seven syllables and above. Refer to the following set of examples in data (12) below.

12 a) *ku m' zúngú lusí la* “to fence/round for him/her”

b) *ku m' súkú mí zí la* “to push up for him/her”

In data (12) the infinitive prefix /ku/ has Low tone, the object prefix /m'/ has High tone, the first syllable of the stem has High tone, the second syllable of the stem has High

tone, the third syllable of the stem has Low tone, the penultimate syllable has High tone and the final syllable of the stem has Low tone.

VII. TONAL RULES

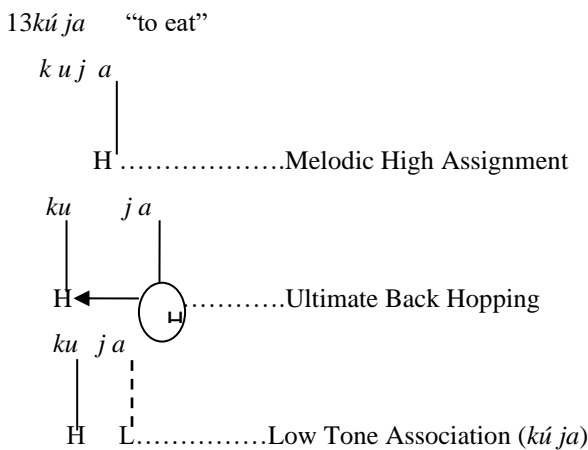
After observing the behaviors of tone in simple infinitives, let us see the rules which govern the assignment of tone in Kinguu.

7.1 Tonal Rules in Simple Infinitive Verbs

Simple infinitive verbs do not carry objects and therefore their rules do not show object effects on tone. Let us begin the observation by considering the infinitive stems with one syllable.

7.1.1 Tonal Rules in Infinitive Stems with One Syllable

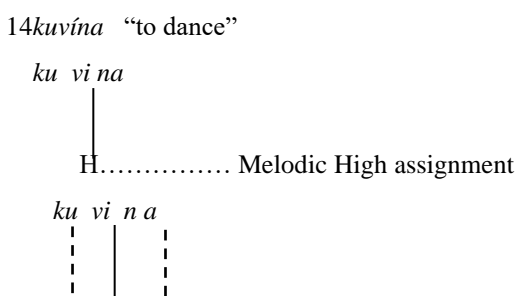
The rules governing tone assignment in infinitive stems with one syllable are established by using derivations and each rule at each stage is noted on the right side of the page as it can be seen in the following derivations. Consider the derivation in data (13) below.



In derivation (13) above, the Melodic High is assigned on the first syllable of the stem which at the same time function as the penultimate but also the final syllable of the stem, then ultimate back hopping rule is applied to avoid the stem ending up with High tone, Finally, Low tone is inserted to the final syllable of the stem.

7.1.2 Tonal Rules in Infinitive Stems with Two Syllables

The rules governing tone assignment in the infinitive stems with two syllables are established by using derivations and each rule at each stage is stated as shown in (14) below.

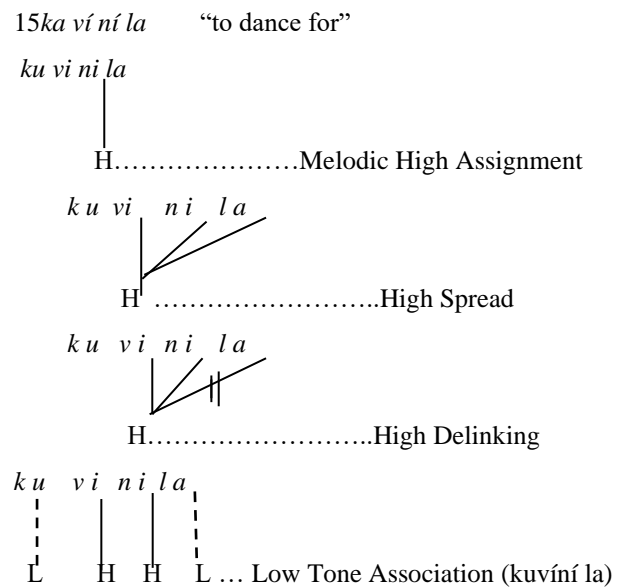


L H LLow Tone Association (*kuvína*)

In derivation (14) above, the Melodic High is assigned on the first syllable of the stem which at the same time functions as the penultimate; finally, the Low tones are associated to the infinitive prefix and the final syllable of the stem.

7.1.3 Tonal Rules in Infinitive Stems with three Syllables

The rules governing the assignment of tone in infinitive with three syllable stems are established by using derivations and each rule at each stage is stated. Refer the derivation in data (15).

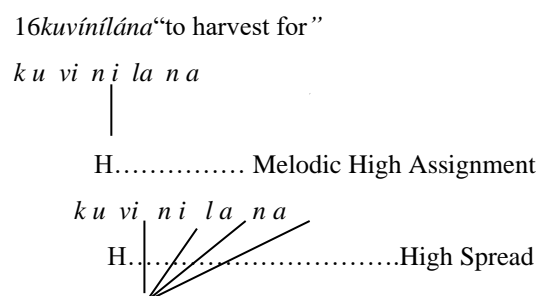


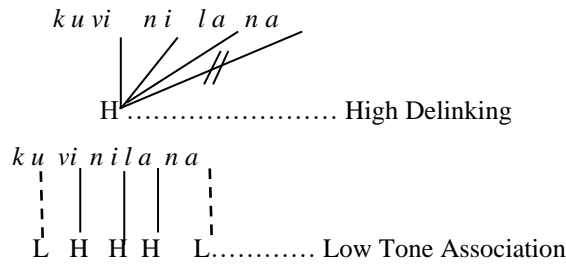
In derivation (15) above, the Melodic High is assigned on the first syllable of the stem and spreads to two more syllables up to the final syllable because no anything which blocks it. But if it will be left the way it spread up to the final syllable of the stem it will yields unacceptable form, therefore, it is delinked in the final syllable then Low tones are in associated.

The previous derivations show the rules governing the assignment of tone in infinitive stems with three syllables, let us see the rules of tone assignment in infinitive stems with four syllables

7.1.4 Tonal Rules in infinitive Stems with Four Syllables

The rules governing the assignment of tone in infinitive stems with four syllables are established by using the following derivations. Consider data (16).





Well formed structure *kuvínílána*

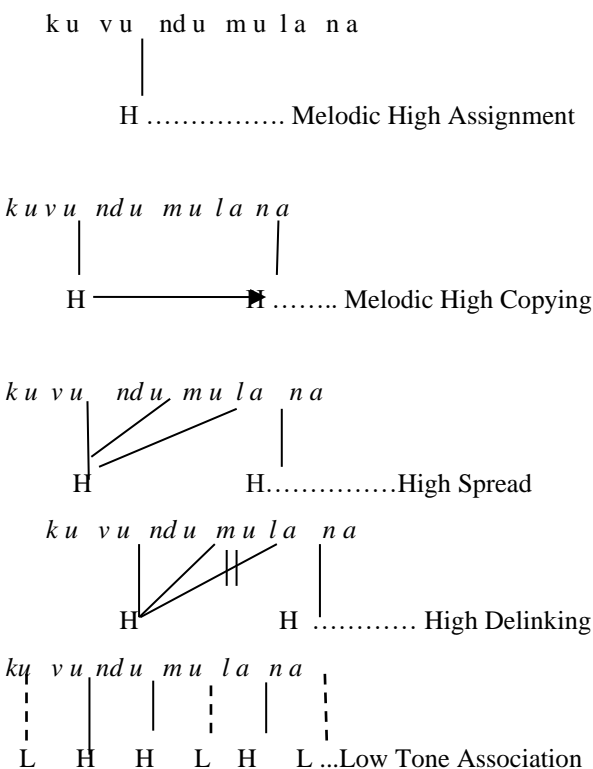
In derivation (17), Melodic High is assigned on the first syllable of the stem and spread to three more syllables, but the third syllable is the final of the stem if it will be left the way it spread it yield unacceptable form; therefore, to get acceptable form it is delinked and then Low tones are associated.

Having seen the rules in the derivations of infinitive stems with four syllables let us observe the rules in infinitive stems with five syllables.

7.1.5 Tonal Rules in Infinitive Stems with Five Syllables

The rules governing the assignment of tone in infinitive stems with five syllables are established by using the following derivations. Consider data (18).

18 *kuvúndú mu lána* “to pull each other harshly”



Well formed structure.....*kuvúndú mu lána*

In derivation (18) above, the Melodic High is assigned on the first syllable of the stem and copy to the penultimate syllable, the High tone on the first syllable of the stem then

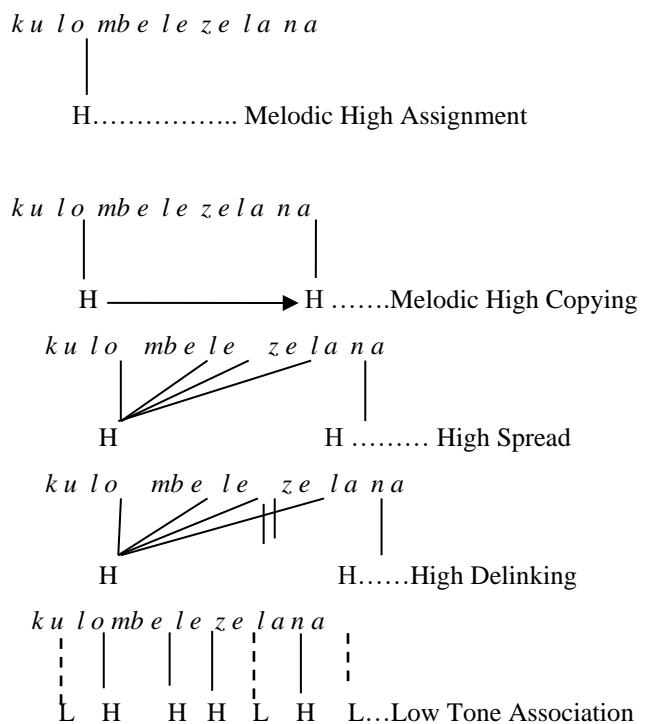
spread to two more syllables and come into succession with the penultimate syllable. If High tone will be left the way it spread yields unacceptable form, therefore it is delinked on the third syllable of the stem so as to avoid the succession of High tones, then Low tones are associated.

Having seen the rules in the derivations of infinitive stems with five syllables let us observe the rules governing assignment of tone in infinitive stems with six syllables

7.1.6 Tonal Rules in Infinitive Stems with Six Syllables

The rules of assigning tone in infinitive stems with six syllables are established by using the following derivations. Consider derivation (19).

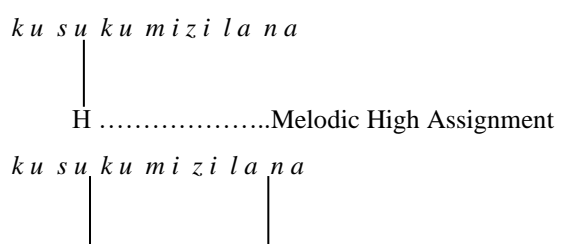
19 *kulómbélè ze lána* “to bag for”

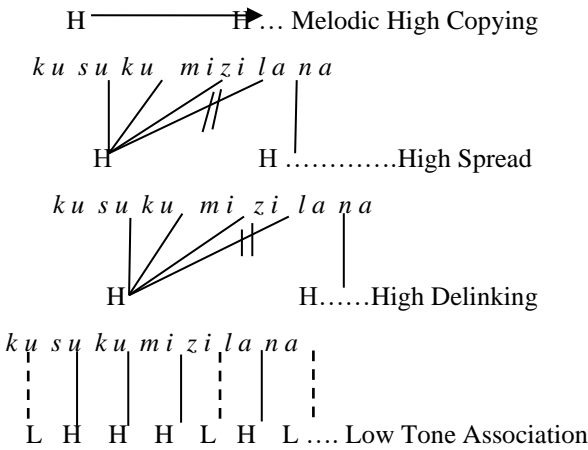


Well formed structure*kulómbélè ze lána*

In derivation (20) above, the Melodic High is assigned on the first syllable of the stem and copy to the penultimate syllable. The High tone on the first syllable of the stem then spread to three more syllables and come into succession with the penultimate syllable, but leaving it the way it spread it yields unacceptable form. Therefore the High tone is delinked on the syllable before the penultimate to avoid succession. Let us see other derivations of the same status

21 *kusúkúmi zi lána* “to push for each other”





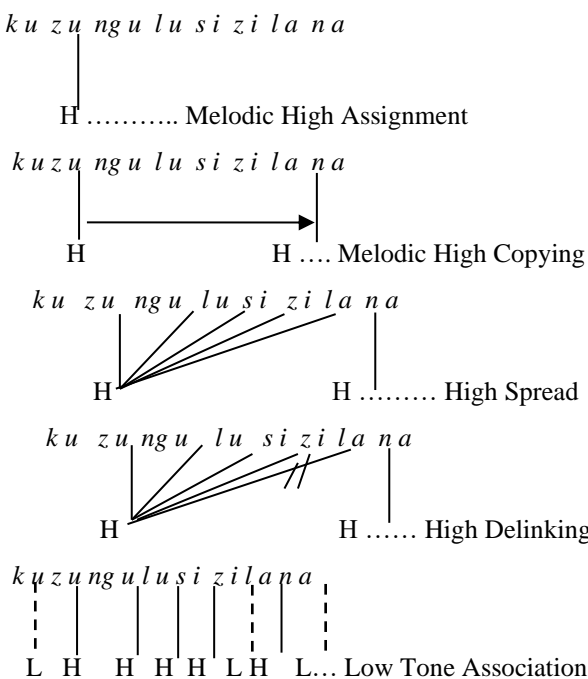
Well formed structure kusúkú mi lána

After having seen the rules in the derivations of infinitive stems with six syllables let us focus on the rules of assigning tone in infinitives with seven syllable stems

7.1.7 Tonal Rules in Infinitive Stems with Seven Syllables

The rules the governing assignment of tone in infinitive stems with seven syllables are established by using the derivations and each rule at each stage is stated. Consider the derivation (22).

22kuzúngúlúsí zì lána “to fence for each other”



Well formed structure kuzúngúlúsí zì lána

In derivation (22), the Melodic High is assigned on the first syllable of the stem and copy to the penultimate syllable. The High tone on the first syllable of the stem then spread to four more syllables and come into succession with the penultimate syllable. If the High tone will be left the way it spread yields unacceptable form. Therefore in order to get

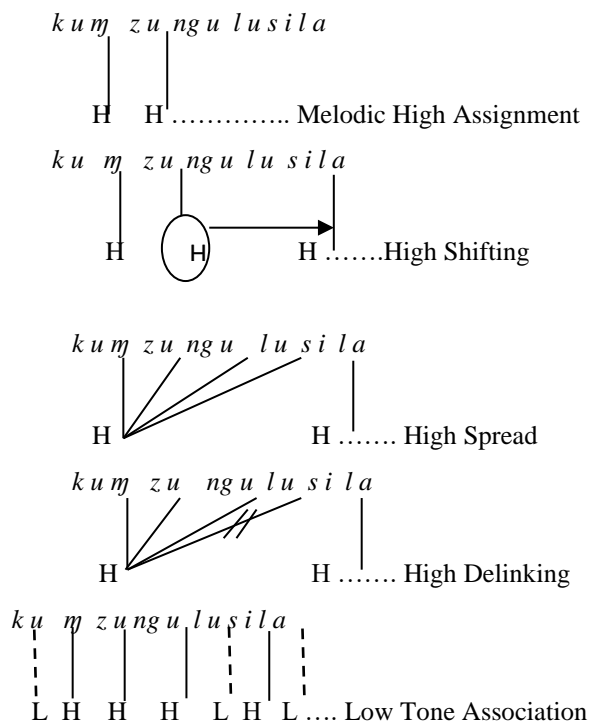
acceptable form, the High tone is delinked on the syllable before the penultimate and then Low tones are associated.

After having done with the rules in simple infinitive verbs let us see the tonological rules governing the assignment of tone in complex infinitive verbs

7.2 Tonal Rules in Complex Infinitive Verbs

It should be noted that complex infinitive verbs carry objects, and therefore their rules shows the effects of the object prefix in tone. Let us consider the following derivations.

23ku m’ zúngúlúsí la “to fence for him/her”



Well formed structure ku m’ zúngúlúsí la

In derivation (23) above, the Melodic High is assigned on the object prefix and on the first syllable of the stem. High tone of the first syllable of the stem then shift to the penultimate syllable. High tone of the object marker is superior to the High tone of the first syllable of the stem. High tone of the object marker therefore spreads to the right side of the word and come into succession with High tone of the penultimate syllable because no anything which block it. If the spread of the High tone of the object marker is left the way it is, yields unacceptable form. Therefore it is delinked on the immediate syllable before the penultimate syllable.

Tone in Kinguu therefore for the simple infinitive verbs with more than four syllable stems display long distance copying and the complex infinitive verbs with more than four syllable stems display shifting behavior, where High

shift from the stem initial syllable to the penultimate syllable as it has already observed in the derivations above.

VIII. CONCLUSION

The study was done basing on the insights of the autosegmental theory but it is possible and necessary to test other theories on the language or even on the same data contained in this study and compares the findings. Kinguu generally adheres to most of the general features of Bantu languages described in the literature reviews. What is peculiar in Kinguu is the long distance copying and shifting of the High tone from the first syllable of the stem to the penultimate syllable.

IX. RECOMMENDATIONS FOR FURTHER STUDIES

Kinguu is an under investigated language; it needs more serious linguistic studies. This work was based on the infinitive verbs but there are many areas which need to be studied such as; tone in other verbal categories and phrases because they are generally not studied in this language.

Finally, the researcher suggests other studies to be done on the other suprasegmentals in order to have a wider coverage on the phonological issues on the language and also other linguistic levels such as semantics, morphology, and syntax are recommended for study.

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