

A NOTE ON TONAL MOBILITY IN CHICHEWA

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The aim of this paper is to describe tonal mobility in Chichewa. We will establish that the surface positions of Chichewa tonal contrasts do not always correspond to their original locations in the underlying structure, but rather that their point of origin may be in preceding syllables, morphemes or even words, for that matter. We will demonstrate that the difference between the surface and underlying positions of tonal contrasts is brought about by a number of rules that "distribute" high tones. These rules may move a high tone from its point of origin in the underlying structure to a new location after it in the same word or in a following word or phrase. We will also demonstrate that the presence of certain morphological material in a word form which occurs in specified syntactic environments can determine the tonal shape of the word form. Finally, we will show that the number of syllables which a particular word form contains can likewise determine its tonal shape.

First we will give a brief outline of the morphological structure of Chichewa verbs, their classification according to tone, and two of the most commonly applied tonal rules. In the course of the description, we will be examining some of the ways in which these factors affect the movement of tones.

Chichewa Verbal Morphology

Typologically, Chichewa is classified under the group of languages known as agglutinating. Verbs in Chichewa, as in most other Bantu languages, are built up by the process of affixation, or the chaining together of morphemes around a verb stem (also called a "core", "root" or "radical"). The shortest verb stems are those that consist of a single syllable terminating in the vowel suffix -a, e.g.:

(1)	swa	"break"	kha	"drip"
	gwa	"fall"	mva	"hear"

Some verb stems are bisyllabic, e.g.:

- | | | | | |
|-----|------|----------------------|-------|------------|
| (2) | gawa | "share" | nyada | "be proud" |
| | weta | "tend" (e.g. cattle) | suta | "smoke" |

Others are trisyllabic, e.g.:

- | | | | | |
|-----|----------|-----------|---------|----------|
| (3) | nong'ona | "whisper" | ulula | "reveal" |
| | kodola | "beckon" | pindula | "profit" |

And still others have four and five syllables, e.g.

- | | | | | |
|-----|-----------|-----------|----------|---------|
| (4) | longolola | "quarrel" | fafaniza | "erase" |
| | sungunula | "melt" | gagadula | "sting" |

and

- | | | | | |
|-----|-------------|---------------|-------------|-----------|
| (5) | khulupirika | "be faithful" | khulupirira | "believe" |
|-----|-------------|---------------|-------------|-----------|

Among the affixes which can be attached to the verb stem are those that mark subject and object concordance, negativity, tense and / or aspect. Some affixes mark the verb as being causative, dative or passive, while others signal emphasis or repeated action or serve locative functions. It is not uncommon, therefore, to come across a verb form with a highly complex structure, e.g.:

- (6) si - ndi - dzi - dza - ngo - dzi - mwe - ra - nso
 neg.- I - refl.- fut.- asp.- refl.- stem - dat.-iter.
 -di.
 emph

"I will definitely not just be drinking repeatedly"

Verb Tonal Classes

Writing in 1980, the author observed that there are two tonally distinct classes of verbs in Chichewa. By this is meant groups of verbs which share the same or similar tonal properties. Verbs of the first class, known as low tone verbs, are those which carry only low tones, e.g.:

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|-----|----------|----------|------------|-----------|
| (7) | yankha | "answer" | masula | "untie" |
| | fulumira | "hurry" | vina | "dance" |
| | oloka | "cross" | tanganidwa | "be busy" |

And verbs of the second class, known as high tone verbs, are those which carry a rising (or "contour") tone followed by a high tone, e.g.:

(8)	pězá	"find"	phunzĩtsá	"teach"
	pulumũká	"escape"	tsǎlá	"remain"
	thamǎngá	"run"	bwadamũká	"boil"

Throughout this paper, the acute accent [/] will be used to indicate a high tone, while the symbol [√] will be used to indicate a rising tone. (The latter normally occurs on penultimate syllables.) The absence of an accent will indicate a low tone.

Tone Doubling and Tone Simplifying

A number of general tonal rules are operative in Chichewa. Two of the most commonly applied rules are those of tone doubling and tone simplifying (Moto 1980, Mchombo and Moto 1981). The application of the rule of tone doubling means that whenever two or more syllables follow a high tone, the high tone is spread onto the succeeding syllable. See, for instance:

(9)	síndínakulúme	"I did not bite you"
	neg. - I - past - you - bite	

What happens here is that the high toned negative prefix **si-** passes its high tone onto the first person singular pronoun **ndi-**.

The application of the tone simplifying rule, on the other hand, means that a rising tone is reduced to low whenever more than two syllables follow the rising tone or whenever the word containing the rising tone does not appear in the final position in the sentence. See, for instance:

(10)	nyũmbá	"house"	nyumbá yángá	"my house"
	nkhũmbá	"pig"	nkhumbá yafa	"a pig has died"

Thus a rising tone must be followed by a high tone, and it must also alternate with a low tone. We shall now turn to the main issue of this paper - namely, a description of the movement of tones in Chichewa words. Let us first examine tonal mobility in verbs in the infinitive.

Tonal Mobility in Verbs in the Infinitive

The infinitive in Chichewa, as in most other languages of the Bantu family, is made up of the prefix **ku-** followed by a verb stem terminating in the suffixal vowel **-a**. Here the tonal rule of root raising operates, which means that the tone on the initial syllable of the verb stem is raised to high when the infinitive prefix **ku-** is attached.

Let us consider a few examples of monosyllabic verbs in the infinitive when they occur in isolation:

- | | | | | |
|------|-------|------------|-------|-----------|
| (11) | kũbá | "to steal" | kũphá | "to kill" |
| | kũmwá | "to drink" | kũdyá | "to eat" |

It can be seen that these verb forms take the shape of a rising tone followed by a high tone. With the addition of another word, however, the rising tone on the infinitive prefix **ku-** is reduced to low according to the tone simplifying rule, e.g.:

- | | | | |
|------|------|--------|----------------------|
| (12) | kubá | nkhúku | "to steal a chicken" |
|------|------|--------|----------------------|

In Chichewa, other morphological elements such as object prefixes can be inserted between the infinitive prefix **ku-** and the verb stem. When the object prefix **chi-** is inserted in this position, the high tone on the suffixal vowel **-a** is lowered, while the object prefix retains its high tone, as follows:

- | | | |
|------|----------|---------------|
| (13) | kuchíba | "to steal it" |
| | kuchímwa | "to drink it" |
| | kuchípha | "to kill it" |

Now consider what happens to bisyllabic verb stems. These appear in the infinitive form as follows:

- | | | |
|------|---------|-----------|
| (14) | kuphíka | "to cook" |
| | kulíra | "to cry" |
| | kuménya | "to beat" |

But when the object prefix **chi-** is inserted, the resulting words take the following tonal shape:

- | | | |
|------|------------|-----------------|
| (15) | kuchíphíká | "to cook it" |
| | kuchílírá | "to cry for it" |

kuchíményá "to beat it"

It can be seen that the last three syllables of these verb forms have three high tones. It is clear from this that some rule must be responsible for the appearance of high tones on verbs that have underlying low tones.

Something interesting happens to low tone verb stems with three syllables. Look at the following:

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|------|---------|------------|
| (16) | samala | "care for" |
| | dikira | "wait for" |
| | landira | "receive" |

When these appear in the context we are now considering, their tonal shape is as follows:

- | | | |
|------|--------------|------------------|
| (17) | kuchísámǎlá | "to care for it" |
| | kuchídíkírǎ | "to wait for it" |
| | kuchílándírǎ | "to receive it" |

In the above cases we find a rising tone and a high tone on the penultimate and ultimate syllables respectively. This distribution of tones supports the observation that the tonal shape of words can be dictated by, among other things, the presence of given morphological elements and the number of syllables in a particular word.

When the verb stems have four syllables, as in the case of:

- | | | |
|------|------------|----------------------|
| (18) | kadamira | "ride" |
| | longosola | "explain" |
| | njenjemera | "tremble" or "shake" |

the tonal shape of the verb forms with the infinitive and object prefixes attached is as follows:

- | | | |
|------|----------------|-----------------|
| (19) | kuchíkádámírǎ | "to ride it" |
| | kuchílóngosóla | "to explain it" |

Although the above forms still have three high tones, the distribution of these tones is different in that the last high tone appears on the penultimate vowel. When more morphological material is added, such as the applicative morpheme **-ra**, the high tone simply shifts a syllable to the

right to create the form:

- (20) kuchínjénjemeréra "to tremble for it"

Tonal Mobility in Verbs with Additional Affixes

The appearance of high tones on the penultimate syllable of low-tone verbs is not only restricted to the infinitive form. The penultimate high also occurs in verb forms in the present habitual tense / aspect. See the examples below:

- (21)
- | | |
|---------------|------------------------------------|
| ámaphíka | "they cook" |
| ámapíta | "they go" |
| ámasamála | "they care for" |
| ámatukwána | "they swear" |
| ámanjenjéméra | "they tremble" |
| ámatsekéméra | "they are sweet/they become sweet" |

One is inclined to conclude, for the moment at least, that there is in Chichewa some long-distance high passing rule which is responsible for the appearance of high tones on penultimate syllables which bear underlying low tones, as in the examples shown above. This we shall call the **Penultimate High Passing Rule**. When a suffix or a number of suffixes are added to the verb form, the high tone is again moved to the penultimate syllable, e.g.:

- (22)
- | | |
|------------------------|-------------------------------|
| ámasamalána | "they care for each other" |
| ámanjenjeme-
rerána | "they tremble for each other" |

Let us now look at tonal mobility in the high tone class of verbs. As we have seen, the stems of verbs which belong to this class bear a rising and a high tone on the penultimate and ultimate syllables respectively. When the infinitive prefix **ku-** is attached to such verb stems, the rules of root raising and tone doubling apply, to yield, for example:

- (23) kukhúlúlúka "to forgive"

However, when one to three suffixes are attached to the above verb form, a process of tone shifting occurs in which the rising and high tones of the verb stem simply move one syllable to the right. This is further evidence of the constraint on the rising tone - i.e., it must always occur in the

immediate proximity of a high tone to its right. See the examples below:

- (24) kukhúlúlukítsá "to cause forgiveness"
 kukhúlúlukítsírǎ "to cause forgiveness for"
 kukhúlúlukítsirǎná "to cause forgiveness for each other"

A different situation occurs when either more than three suffixes or more than three prefixes are attached to the verb stem. In the former case, the rising tone not only fails to shift to the penultimate position but simplifies to a low. What remains is the penultimate high which occurs in forms we have already discussed, e.g.:

- (25) kukhúlúlukitsiranánsó "to cause forgiveness for each other again"

With the addition of an enclitic that signals emphasis, i.e. **-di**, the high tone on **-na** spreads onto **-nsó**, as follows:

- (26) kukhúlúlukitsi- "to cause forgiveness for each
 ranánsódi other again indeed"

In the latter case, where negative declaratives are involved, the rising tone on the penultimate syllable is replaced by a high, while the high on the ultimate syllable is lowered. For example:

- (27) síndínámukhululukíre "I have not yet forgiven him/her"
 síndízíd zamukhululu- "I will not be forgiving him"
 kǐra

What needs explanation in the above instances is the disappearance of the rising tone. We have noted that the rising tone simplifies to low when the word in which it occurs is not in the final position in the sentence. We must now add that the rising tone also simplifies when a sufficient number of prefixes and suffixes are added to the verb stem in a one-word sentence.

The Effect of Certain Tense/Aspect Morphemes on Tonal Mobility

Although tone doubling and tone simplifying are of general applicability in Chichewa, there are some instances

in which their application is arrested. To some extent, it would appear that particular tense / aspectual morphemes restrict the application of tone doubling (cf. Mchombo and Moto 1981).

As we have noted, the tone doubling rule means that a high tone is spread from one syllable to the next whenever there are two or more syllables following the high tone. The present habitual tense / aspect marker **ma-**, however, arrests tone doubling where it ought to apply. Look at the following:

- (28) *ámathandíza* "he/she helps"
 ámatukwána "he/she swears"

In theory the high tone on the subject prefix **a-** should have spread onto the following syllable since the structural requirement for tone doubling has been satisfied, yet in the above case it does not. The same is true for the progressive tense marker **ku-**, as in:

- (29) *ákupíta* "while he was going"
 ákulándira "while he was receiving"
 ákuñjénjémera "while he was trembling"

Again, the high on the prefix **a-** should theoretically have spread onto the following **ku-**, but it does not. It would appear, therefore, that the presence of the progressive prefix **ku-** is arresting tone doubling.

Tone simplifying, on the other hand, fails to apply in certain syntactic configurations, such as cleft clauses where focus is involved. See, for instance:

- (30) *ndi mwána wáchítá izi*
 "it is a child who has done this"

 ndi nyáni wába chímanga
 "it is a baboon that has stolen maize"

It can be observed above that although the condition of nonfinality has been met, the tone simplifying rule does not apply. Surprisingly enough, however, the rising tone on **mwana** simplifies if there is a word inserted between

mwana and **wachita**, as in:

- (31) ndi mwaná wángá wáchítá izi
 "it is my child who has done this"

Another point of interest may be noted. In the first example in (30) above, which involves the bisyllabic low toned verb stem **chita**, three high tones occur in succession. But if a three-syllabled verb stem belonging to the low tone class is involved, the high tones are restricted to only two syllables of the verb stem, e.g.:

- (32) ndi mwǎná wálándirá izi
 "it is a child who has received these"

Conclusion

One of the general claims made by the autosegmental approach to phonological analysis (see Goldsmith 1976, Clements and Keyser 1981) is that the tonal specification of particular units can be triggered, arrested or altered by certain rules. It is clear from this brief study that this principle operates in Chichewa. Given that tones in Chichewa are not 'tied' to particular vowels but are capable of movement from one tone-bearing unit to the next, and given that the surface positions of Chichewa tonal contrasts can be conditioned by such factors as we have described above, it appears that the autosegmental approach has been strengthened further.

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