

Evolution of Tone in Bantu Languages

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Abstract

According to Heine and Nurse (2000), most African languages are tone languages, in that voice pitch that is used to distinguish between words. Normally, in a tone language every syllable in a word has a fixed tone, which may be high, low and sometimes in-between. In Bantu languages, a branch of Niger-Congo language family, tones are not associated to their original segmental units. They behave in a complex and dramatic manner, because they have disassociated themselves with their original anchors and are now stretching or displacing in different ways.

The aim of this article is to trace the factors and circumstances which led to the evolution and development of tone behaviour in multiple ways in Bantu languages. The study concludes by highlighting the implications of the complex and variable tone behaviour in Bantu languages, particularly in relation to orthography design, language acquisition, second language learning and lexical distinction in Bantu languages.

Key words: Bantu languages, tone, tone spread, tone shift, tone reversal.

Evolution du ton dans le langues Bantu

Résumé

Selon Heine et Nurse (2000), la plupart des langues africaines sont des langues tonales, ça veut dire que le ton de la voix est utilisé pour distinguer les mots. Normalement, dans une langue tonale, chaque syllabe dans un mot a un ton fixe, qui peut être haut, bas et parfois entre les deux. Dans les langues bantoues, une branche de la famille des langues nigéro-congolaises, les tons ne sont pas associés à leurs unités segmentales d'origine. Ils se comportent de manière complexe et dramatique, parce qu'ils se sont dissociés de leurs ancres originales et qu'ils s'étirent ou se déplacent de différentes manières.

Le but de cet article est de retracer les facteurs et les circonstances qui ont conduit à l'évolution et au développement du comportement des tons de multiples façons dans les langues bantoues. L'étude conclut en mettant en évidence les implications du comportement de tonalité complexe et variable dans les langues bantu, en particulier en ce qui concerne la conception orthographique, l'acquisition du langage, l'apprentissage de la langue seconde et la distinction lexicale dans les langues bantoues

Mots-clés: langues bantoues, ton, propagation des tons, changement de tonalité, inversion des tons.

1. Introduction

Tone is one of the common features of human languages. It is found among many languages in Africa, Asia, America, and even in some parts of Europe (Odden, 2005). According to Van Spaandock (1971), tone is defined as voice pitch used to distinguish between lexical items or grammatical functions in a language.

Although tone is distinctive, it is relative, as voice pitches differ according to age and gender (Pike, 1948). Tone may have two levels, namely high [H] and low [L], or three levels, namely high [H], mid [M] and low [L], marked by accents as (á), (a↓ or a) and (à) respectively. In two-level tone languages, tone marking is usually between high (á) and low (à or a). Examples (1) and (2) below show how tone can distinguish between lexical items and grammatical functions respectively.

- (1) Ngbaka, spoken in Central African Republic (Van Spaandock, 1971)

High:	<i>só^l</i>	(animal)
Mid:	<i>so</i>	(hunt)
Low:	<i>sò</i>	(tail)

- (2) Shisukama, spoken in Tanzania (Batibo 1977/1985)

<i>waasolá</i>	(he has just picked up)
<i>waasola</i>	(he picked up long ago)
<i>waasóla</i>	(you have just picked up)
<i>waásola</i>	(you picked up long ago)

2. Tone representation and its status

Although tone was recognized for a long time as a significant distinctive element in human languages, scholars are at variance in determining how it should be represented or how its linguistic status should be described. Some scholars, such as Jakobson and Halle, (1956) and Chomsky and Halle (1968), considered tone as a feature of languages, just like [+ voice] or [-coronal].

Other scholars, particularly those who belonged to the functionalist schools of linguistics like M.A.K. Halliday and T. Hill in Britain, and A. Martinet and E. Benveniste in France, regarded tone as a unit at the same level as a phoneme. They named it toneme (Martinet, 1970; Bouquiaux, 1971). Yet, other scholars recognised that tones usually characterised moras, particularly in long syllables, usually made up of two moras. They came up with the concept of Tone Bearing Unit (TBU) (c.f Hyman, 1975; Kisseberth and Odden, 2003).

3. Tone in African languages

According to Heine and Nurse (2000), most African languages are tone languages. The only African languages without tone distinction include the semitic languages, such as Arabic, Hebrew, Amharic, Geez and some languages which have lost their tone distinction, such as Kiswahili and Kidigo.

4. Aim, methods and theoretical framework

The aim of the study is to trace the reasons and circumstances which gave rise to the evolution of tone in Bantu languages, by identifying and outlining the factors which trigger the neutralization of low [L] tone and mobility of high [H] tone. The study will look at tone change in Bantu languages from both diachronic and synchronic perspectives. It will consider tone change from a diachronic perspective by tracing the paths that it has gone through over time and in specific circumstances. But it will also consider tone change from a synchronic point of view where specific rules apply to change tone occurrence from an underlying to a surface representation.

The description is based on documentary sources as well as recent studies which were carried out by scholars, such as Kisseberth and Odden (2003) and Odden (1999) as well as the more recent studies by the author of this article (Batibo, 2012). Some of these studies have made new revelations about the nature and behaviour of tone in Bantu languages, particular in relation to the tone shift phenomenon.

Moreover, this study is based on an historical and comparative approach as well as the evolutionary developments and trends which have taken place in Bantu languages. According to Byon (1977), historical and comparative linguistics aims at tracing the origins of linguistic features in languages and describing their development or evolution through the comparison between related languages. The method also identifies features that are retained as well as innovations in the evolutionary path of these languages. Moreover, Bantu linguistics is concerned with theoretical concepts related to the origins, development and diversification of Bantu languages, by considering the nature and extent of feature changes (Schadeberg, 2003).

In this study, the linguistic feature involved is tone and the languages are Bantu languages which have evolved, multiplied and diversified over the last 3,500 or so, years from their ancestral origin (Phillipson, 1977, 1994).

5. Tone in Bantu languages

According to Van Spaandock (1971), Bantu languages were typically tonal, meaning that in every word, syllables were characterised by fixed tone. There were two-level distinctions, namely high [H] and low [L]. But currently, only a few languages have maintained this pattern. They include Bobangi and Duala, spoken in Cameroon and Gabon. The other Bantu languages, over 600 of them, have changed their tone behaviour.

There are many factors which have been identified as causes to this change in tonal behaviour in Bantu languages. Firstly, in most Bantu languages, there is tone imbalance, meaning that the occurrence of low tones in lexical items is over 66%, while that of high tones is less than 34%. This makes most syllables to be low toned, particularly as many affixes are also low toned, making the low toned syllables to be the norm (Van Spaandock, 1971). Secondly, most functional words and morphemes in Bantu languages tend to be associated with low or neutral tones. These elements include prepositions, demonstratives, conjunctives, noun prefixes, derivational suffixes and the final vowel. Thirdly, the low-high distinction has a low functional load in most Bantu languages. In most cases, communication is not hampered if tones are left out. In fact, one of the major causes of change in human languages is the tendency to eliminate distinctions where the functional load is low, in order to bring economy in communication (Martinet, 2005).

6. Change of tone distinction and emergence of H tone as auto-segment

Because of these factors, therefore, the nature of tonal distinctiveness changed from High against Low to High against Zero or absence of tone. Thus given the frequency and therefore, the unmarked nature of L tone syllables, the H tone was left on its own, that is liberated or disassociated from syllabic restrictions.

As the only marked segment, H tone became an auto-segment or self-driven unit (Clements and Goldsmith, 1984; Goldsmith, 1990). This auto-segment, in its “liberated” form, could spread to other un-associated syllables, shift to another syllable or change their characteristics, such as low to high and vice versa. This auto-segment could also exist, in some syntactic structures, without syllabic support. In this case, it is considered to be a floating tone.

6.1. H tone spread

As a result of H tone being an auto-segment, in some Bantu languages, H tones have spread to other un-associated (not associated with H tone) syllables. Such languages include Shambala, Setswana, Sesotho, Sepedi, Bemba and Holoholo. In such languages, the H tone has spread several syllables to the right.

In Setswana, a language spoken in many parts of Southern Africa, H tone spreads to two other syllables, as shown in example (3) and (4)².

- | | |
|-----|--|
| (3) | Underlying Representation (showing the original position of H) |
| | <i>go símólola²</i> (to begin, start) |
| | <i>go ntshímólólela</i> (to annoy/ vex me) |
| (4) | Surface Representation (after H tone spread) |
| | <i>go símólóla</i> (to begin, start) |
| | <i>go ntshímólólela</i> (to annoy/vex me) |

However, H tone spread cannot take place if one of the syllables is already associated with H tone. In this case the spreading H tone is blocked, allowing distinction between the two H tones

(DALL, 1999). In Setswana, the spreading H tone is usually blocked one syllable away, as shown in examples (5), (6), (7) and (8) below (DALL, 2000):

- (5) Underlying Representation (before H tone spread)
 go réka kgomó (to buy a cow)
- (6) Surface Representation (after H tone spread)
 go réká kgomó (to buy a cow)
- But:
- (7) Underlying Representation (before H tone spread)
 go réka dikgomó (to buy cows)
- (8) Surface Representation (After H tone spread)
 go réká dikgomó (to buy cows)

In the above examples, the H tone in (6) can only spread onto one other syllable on the right, because the next one would be too close to the one already associated. While, in (8), the H tone is able to spread to the next two syllables, since there is, at least, one unassociated syllable before the one which is associated.

6.2 H tone shifting or displacing

In some Bantu languages, H tone shifts or displaces to another unassociated (not already associated with H tone) syllable. Such languages include Ruhaya, Runyambo, Kinyamwezi, Chagga and Shisukuma. In fact, one major distinction between Kinyamwezi and Shisukuma is the extent of H tone displacement, as shown in examples (9), (10) and (11).

- (9) Underlying Representation (before H tone shift)
 kubóna badugú sagala (to see strange relatives)
- (10) Surface Representation (in Kinyamwezi, after H tone shift)
 kuboná baduguí sagala (to see strange relatives)
- (11) Surface representation (in Shisukuma, after H tone shift)
 kubona badúgu sagála (to see strange relatives)

As it can be seen in example (11) above, the H tone in Shisukuma is shifted and surfaces two or three syllables away from their underlying or original syllable.

6.3 H tone reversal

In some Bantu languages, particularly in the Democratic Republic of Congo, H tone has changed status to L tones, making the unassociated syllables to appear as H tones. This is the case of Ciluba, a language spoken in south-eastern DRC, as shown in examples (12) and (13) below.

- (12) Underlying Representation (in the original form)
 mukáZi (woman)
 mutu (person)
- (13) Surface Representation (after tone reversal)
 múkaZi (woman)
 mútú (person)

As remarked above, such changes could be considered as either synchronic, if one looks at them as processes, or as diachronic, if considered as a result of evolution.

7. H tone spread and H tone shift as one process

In recent years, H tone spread and H tone shift have been regarded as similar operations. This is because of the following reasons:

- (a) They are both extensions of H tone to the right (or sometimes to the left)
- (b) In some languages, such as Xhosa, they are exchangeable depending on the context (Kisseberth and Odden, 2003).
- (c) Usually, no H tone can be associated with a syllable from which H tone has shifted. Hence, tone shift should not be regarded as shift or displacement but rather as extension.

In recent years, some new discoveries have been made with regard to the H tone “shift” phenomenon. Following a study carried out by David Odden on Kirebe, a language spoken in Ukerewe Island, in the southern part of Lake Victoria, it was discovered that the so-called H tone shift had intermediate stages, involving the tone levels of the syllables from which the H tone had shifted (Odden, 1999). These syllables were articulated as mid, rather than low, as demonstrated in examples (14) and (15) from Kikerebe.

- (14) Underlying representation (original H position)
kubóhana (to tie each other)
- (15) Surface representation (as articulated)
[kùbo ʋhána] (as articulated)

In example (15), the second syllable was found to be articulated at a higher level than the first syllable, but lightly lower than the third syllable, where the H tone was conspicuous. In this case, H tone shift could be more appropriately called H tone depression. The discovery by Odden (1999), that tone shift did not really take place, as the syllable where the H tone originated had a depressed H (realised as mid tone), was supported, in another study, by the present author who in 20012 used sonographic results to show that in Shisukuma, H tone “shift” was really a depression of H tone on the first two syllables (Batibo, 2012). It was shown in this study that H tone was not shifted, but depressed at a slightly higher level than that of l tone, as shown in Shisuhuma examples (16) and (17), below:

- (16) In a word which has no H tone
kusolela (to pick up by means of),
[kùsòlèlà] (as articulated)
- (17) In a word which has an underlying H tone
kubónela (to see by means of)
[kùbo ʋnel ʋá] (as articulated)

As it can be seen, in (17) above, the “shifted” H tone is realized as mid tone on the two first syllables. It is only realized as H tone on the third syllable. Hence, this could be seen as H tone spread in which the first two H tones are depressed.

Moreover, apart from the three most conspicuous tone changes in Bantu languages, namely H tone spread, H tone shift or depression and tone reversal, other changes have happened in specific languages. These include H tone lowering in final positions before pause, H tone being conditioned by morphological or syntactic factors, down-stepping and tone depression caused by adjacent consonants or vowels (Kisseberth and Odden, 2003; Meeussen, 1958).

8. Conclusion

There are many implications of H tone spread, shift/depression or reversal in Bantu languages. The first implication concerns the designation of orthography. Orthography is a writing convention in which words are spelt and used in text in the same way. The users of the language normally create a picture of the appearance of each word and this picture is conceptualized in their memory. However, where a word appears in different shapes, such conception is difficult. For example,

Byarushengo (1972) reported that in Ruhaya, a language spoken in north-west Tanzania, the word for “tree” appears as *omúti*, *ómutí*, *ómúti*, *omútí* and *omutí* depending on the syntactic and tonal context in which the word is used. It becomes therefore difficult to conceptualise the tonal spelling of the word.

The second implication has to do with language acquisition. Mastering the tone system of a language with spreading or shifting/depressing H tones is often difficult, as it is not easy to generalize tone occurrences. In fact, as remarked by Janson and Tsonope (1991), the Setswana speakers are sometimes at variance on how to apply their tone rules, as demonstrated in examples (18), (19) and (20).

- (18) Underlying Representation (with original position of H tone)
mosádi wamé (my woman/wife)
- (19) Surface Representation (as articulated by some speakers)
mosádi wamé
- (20) Surface Representation (as articulated by other speakers)
mosádi wáme

Thus, Setswana has developed many variations in the way the speakers realise their tones. These variations are often characterised by geographical, stylistic or age differences. The third implication concerns second language learning. It is difficult to learn a language with tone spreading or shifting/depressing occurrences. When a language has many second language learners, tone is usually left out. This is presumed to have happened to Kiswahili, which is believed to have had tones, but shaded them off when it became a lingua franca in eastern and central Africa, attracting many second language speakers. Such second language speakers could not have managed to master the Kiswahili complex tone system, but could easily communicate without using tone (Polome, 1967). In fact, many Bantu languages have lost their tonal distinctiveness when their use was extended to non-mother-tongue speakers (Van Spaandonck, 1971).

The future of tone distinctiveness in Bantu languages is grim, given that its functional load is low, that is there are very few cases where meaning or communication is hampered because of not observing or marking tone. As rightly pointed out by Gleason (1961), not marking tone does not make texts incomprehensible in Bantu languages where the functional load of tone is low. This would explain the fact that most writing conventions of Bantu languages do not mark tone. In addition, many colonial administrators and missionaries, who learnt and were able to speak Bantu languages, often left out tones in their speeches when communicating with the relevant communities, but their messages were usually understood.

End notes

1. In this study, for practical reasons, examples will be written in the respective conventional orthographies. Phonetic transcription will be used only where there is a need to show phonetic peculiarities.
2. In cases of tone spread, shift or reversal, the syllable where H tone originates will be underlined to show how the process has taken place.

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