

DEEP-LEVEL HIGH TONE AS A RELATIONAL LINK IN CERTAIN IBIBIO CONSTRUCTIONS

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It has been widely observed among many African and Asian languages, that the tone carried by a word is an essential feature of the meaning of that word, and that in such languages, tone performs grammatical functions as well. With regard to Ibibio, existing works have described and analyzed tones as having both lexical and grammatical functions.

This paper makes a small contribution to the study of the tonal aspect of the Ibibio language by examining the role of tone in the formation of some nouns and verbs, within the general framework of autosegmental phonology as formulated in Goldsmith (1976 and 1985), and argues that a non-associated high tone is the operational morpheme in certain derivational processes which form nouns and verbs in Ibibio.

Il est attesté que dans beaucoup de langues africaines et asiatiques, les tons que porte un mot est un aspect essentiel de sa signification et que, dans de telles langues, les tons ont aussi des fonctions grammaticales. En ce qui concerne l'ibibio, les études existantes ont décrit et analysé que les tons possèdent des fonctions lexicales aussi bien que grammaticales.

La présente étude est une contribution modeste à la recherche sur l'aspect tonal de la langue ibibio. Elle examine le rôle des tons dans la formation de quelques noms et de verbes. L'analyse se situe dans le cadre de la théorie autosegmentale telle qu'elle est proposée par Goldsmith (1976 et 1985). On soutient qu'un ton haut sans support phonématique est le morphème opérateur dans certains processus par lesquels sont dérivés des noms et des verbes en ibibio.

1. INTRODUCTION

This paper¹ re-examines the associative construction in Ibibio, hitherto described by Urua (1987), Edet (1989), Essien (1989) and a few others, with particular reference to nominal compounding (NOUN + NOUN construction), and goes further to examine the role of tone in other nominal/noun-forming constructions such as sentences of the type ANAPHORIC PRONOUN + VERB + OBJECT (for example: *á sǎǎ̀ à ísǎ̀* 'he is walking' becomes *àsǎ̀ńísǎ̀* 'traveller', and PREFIX + VERB construction. In addition, the role of tone in verbal derivation is discussed.

It is important to note that Ibibio has two level lexical tones: high (H) and low (L), which, when in sequence, give rise to two contour tones: rising (LH) and falling (HL). In a subsurface tonal string, there is a downstep (D) wherever L is followed by H.

Furthermore, most Ibibio nouns are disyllabic and have a VCVC, NCVC, V, CV, or V, CV₂ structure with the following tonal patterns: /HH/, /HL/, /LH/, /LL/, /H HL/, and /HD/.

2. THE FORMATION OF NOUNS

2.1 NOMINAL COMPOUNDING

Nominal compounding is a syntactic process whereby two or more nouns are put together to derive a noun. This process is very productive in Ibibio (and in many languages of the world) and has accounted for the names of various objects.

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It is worth noting that languages do not compound just any two nouns, but select the nouns to be compounded to match each other semantically and logically. Thus, two nouns would enter into nominal compounding either because one of them forms a part of the other as in (1), or because one is an instrument of the other as in (2), or because one has its source from the other as in (3).

- (1) **ékáńú̀bòk**
'(hunch of the hand) elbow'
- (2) **étóńwèt**
'(stick of book) pen or pencil'
- (3) **ńmóóńébà**
'(water from breast) milk'

Languages can also use metaphor as a criterion for selecting the nouns which enter into nominal compounding. For instance, in **énáńkwàk** which literally means 'iron horse', the object in question (bicycle) is compared to a horse; a horse made of iron. Looking at the concept from another perspective, both the bicycle and the horse have something in common: they both are mounts. In all the cases mentioned above, the second of the two nouns modifies the first, and thus limits its semantic scope.

The first step in nominal compounding therefore appears to be the selection of the appropriate nouns to be compounded. At the selection stage, both nouns still maintain their semantic autonomy. The second step would then entail knitting together the two nouns hitherto selected. It is in this process that the semantic scope of one of the two nouns is restricted. The two nouns are thus bound together, and the only indication of the binding operation are tonal transformations. Considering the following examples:

- (4) a. H
- | | | | |
|-------------|-------------|-------------------|-------------------------------|
| HH | HH | H H H L | |
| | | | |
| ubòk | utom | → ubòkutom | |
| hand | work | hand of work | 'profession, job, occupation' |
- b. H
- | | | | |
|-------------|------------|-----------------------|-------------------|
| HH | LL | H H H L | |
| | | | |
| ayin | eka | → ayineka | |
| child | mother | child of (the) mother | 'brother, sister' |
- c. H
- | | | | |
|-------------|-------------|-------------------|----------|
| HH | HH | H D H L | |
| | | | |
| ufòk | ńwet | → ufòkńwet | |
| house | book | house of book | 'school' |
- d. H
- | | | | |
|-------------|-------------|-------------------|----------------------|
| HH | LH | H H H D | |
| | | | |
| obot | iton | → obotiton | |
| hill | neck | hill of neck | 'nape (of the neck)' |

As can be observed from the examples in (4), the second component of each compound noun undergoes tonal changes. In (4c), the second tone of the first noun in the combination also undergoes a change.

In a morphophonological description which would account for the tonal changes in the above constructions, an underlyingly non-associated high tone (the connective or relational tone)² is posited between the two elements of the compound noun, and a replacement rule is also posited, which would replace all the high tones of the second syllable of the second noun with low tones, except where the tonal pattern is /LH/, as in (4d).

During the compounding process, the relational high tone shifts towards the right, and appropriates the domain of the following tone. If the latter is itself high, as in (4a), the relational high tone is absorbed into it in view of their similarity. On the other hand, if the following tone is low, it is replaced by the relational high tone. Where the high tone of the second syllable of the second noun cannot be replaced by a low tone, it is lowered by the preceding low tone, thereby producing a downstep (4d).

In (4c), it is observed that the falling tone on the second syllable of the first noun gives way to a downstep. It is important to note also that when the noun with the falling tone becomes the modifier, the falling tone is simplified to a low tone:

- (5) a. H
- | | | | | |
|--------|-------|---|-----------------------|------------|
| L L | H H L | → | L L H L | |
| | | | | |
| eka | ufok | | ekaufok | |
| mother | house | | mother of (the) house | ‘mistress’ |
- b. H
- | | | | | |
|-------|-------|---|------------------|------------|
| L H | H H L | → | L H H L | |
| | | | | |
| ubom | ofim | | ubomofim | |
| canoe | air | | canoe of the air | ‘airplane’ |

The phenomenon in (4c), (5a), and (5b) is the effect of a tonal restriction within the language itself. As a matter of fact, if the contour tone were not simplified to either a downstep or a low tone, the resulting compound nouns would have had the following tonal structures: /H HL HL/, /LL H HL/, and /LH H HL/ respectively, and these seem to be surface patterns which the tonal system of the language does not allow.

With regard to nominal compounding therefore, we consider the non-segmental H morpheme posited between the nouns in a NOUN + NOUN construction as an internominal link, that is, a tool which associates two semantic bases, thereby, giving them a different status.

2.2 THE FORMATION OF NOUNS FROM WHOLE SENTENCES

This process is concerned with the conversion of whole sentences into nouns. The sentences prone to such conversion are limited to the ‘third person singular anaphoric pronoun + verb + direct object’ type.

In this type of derivational process, the three components of the sentence are amalgamated and only tonal changes indicate the linguistic operation in force. Consider the following examples:

- (6) á ñyám ùrùà → àñyám úrùà
 he sells market ‘trader’

² This is commonly known as the associative tone in Africanist circles.

- (7) **á sǎǎà ísǎǎ** → **àsǎǎá ísǎǎ**
 he walks walk 'traveller'
- (8) **á tǒ ìǎwǎǎ** → **àtó ìǎwǎǎ**
 he plants farm 'farmer'
- (9) **á túàk úkǒt** → **àtùàk úkǒt**
 he taps wine '(palm) wine tapper'
- (10) **á kpéèp ñwèt** → **àkpéèp ñwèt**
 he teaches book 'teacher'

Examples (6)–(10) show that tonal changes follow a regular pattern. The high tone of the anaphoric pronoun is replaced by a low tone when the pronoun is amalgamated with the other two components of the sentence. Likewise, the tonal pattern of the verb, which is /HL/, changes when the verb is amalgamated with the other two components of the sentence. Finally, the change in status of the sentence on the left has brought about a tonal change in the direct object.

To account for these tonal changes, we posit the same tonal rules that we had posited for nominal compounding, namely the presence of a relational high tone and a rule of replacement. The rule of replacement operates first and replaces the high tone of the anaphoric pronoun and the direct object (when this is high) with a low tone, and the predicative tone³ of the verb replaced by its inherent tone. During the derivational (nominal) process, the predicative sign disappears, leaving in its place the inherent tone of the verb.

The relational high tone is posited between the verb and the direct object. It makes a rightward movement during the derivational process, and appropriates the domain of the tone next to it.

Like nominal compounding, this derivational process also implies the restriction of the semantic scope of each of the three components of the sentence. The components lose their semantic autonomy, thus producing a semantically compact, indivisible structure. As a result **à - tá - ìǎwǎǎ**, for example, becomes a semantically inseparable entity, and the tonal changes bear evidence of the change.

2.3 THE FORMATION OF NOUNS BY PREFIXATION

In Ibibio, nouns can be obtained by adding a prefix to a verb. This process is very productive in Ibibio and accounts for the derivation of many abstract nouns. The following prefixes are often used: **u-**, **i-**, **e-**, **a-**, **n-**, **adí-**, and **andi-**. These are used to modify the semantic scope of the verbs, thus turning them into nouns. Some verbs are capable of producing more than one noun using different prefixes, as the examples in (11) show.

- (11) **a. ú-kpéép** 'learning, teaching'
 PREFIX-teach, learn
- b. àdí-kpéép** 'to learn, learning, to teach, teaching'
 PREFIX-teach, learn
- c. àndí-kpéép** 'learner, teacher'
 PREFIX-teach, learn

Some verbs undergo the process of nominalization without any modification of their inherent tones, as the examples in (12) show.

³ The tonal pattern /HL/ on the verbs on the left-hand column is the present tense or progressive aspect marker in Ibibio.

- | | | | | | |
|------|----|--------|--------------------|----------|---------------------|
| (12) | a. | nò | 'give!' | è-nò | 'gift' |
| | b. | kóót | 'call!' | í-kóót | 'calling, vocation' |
| | c. | kárá | 'govern, control!' | ú-kárá | 'government' |
| | d. | bíááńá | 'deceive!' | á-bíááńá | 'deceit' |
| | e. | sù | 'tell a lie!' | ń-sù | 'lie(s)' |

In (12), it can be observed that the prefixes have the same tones as the verbs which they nominalize. This gives the impression that either the prefixes take on the inherent tones of the verbs to which they adhere or that prefixes adhere to verbs which have tones identical with theirs. But this supposition is contradicted by examples such as in (13).

- | | | | | | |
|------|----|-------|------------|---------|--------------|
| (13) | a. | fón | 'be good!' | ù-fón | 'usefulness' |
| | b. | wòk | 'swim!' | è-wòk | 'swimming' |
| | c. | bòòrò | 'respond!' | í-bòòrò | 'response' |
| | d. | má | 'love!' | à-má | 'lover' |
| | e. | kpá | 'die!' | ńkpá | 'death' |

From (12) and (13) above, it is difficult to tell whether or not the tones of the prefixes are conditioned by those of the verbs.

Furthermore, tonal modifications such as the ones in (14) seem to confirm the hypothesis that prefixes have their own inherent tones.

- | | | | | | |
|------|----|-------|-------------------|---------|-----------------|
| (14) | a. | kpémé | 'take care of!' | ú-kpémé | 'care' |
| | b. | fìòk | 'know!' | í-fìòk | 'knowledge' |
| | c. | máná | 'be born!' | é-máná | 'birth' |
| | d. | bìà | 'betray!' | ń-bìà | 'traitor' |
| | e. | ńwám | 'help!' | ú-ńwám | 'help' |
| | f. | ńyìm | 'refuse to give!' | ú-ńyìm | 'selfishness' |
| | g. | dòk | 'harvest, dig!' | í-dòk | 'harvest' |
| | h. | dòp | 'be silent!' | í-dòp | 'silence' |
| | i. | fré | 'forget!' | é-fré | 'forgetfulness' |

It can be observed that all the derived nouns above have a /H HL/ tonal pattern. To account for the tonal changes in the examples (12)–(14), we posit a non-segmental H morpheme between the prefix and the verbal root. The H morpheme spreads onto the verb during the nominalization process and is either assimilated to the tone of the verb if the latter is itself high, or replaces it if it is low. This analysis does not however explain cases such as the ones in (12a), (12e), and (13c).

2.3.1. The prefix àdí- forms verbal nouns such as those in (15).

- | | | | | | | |
|------|----|------|-----------|---|---------|--------------------------|
| (15) | a. | wèt | 'write' | → | àdíwèt | 'writing, to write' |
| | b. | kwòk | 'sweep' | → | àdíkwòk | 'sweeping, to sweep' |
| | c. | bán | 'sharpen' | → | àdíbán | 'sharpening, to sharpen' |
| | d. | dìkò | 'sift' | → | àdídìkò | 'sifting, to sift' |
| | e. | kéré | 'think' | → | àdíkéré | 'thinking, to think' |
| | f. | trě | 'stop' | → | àdítrě | 'stopping, to stop' |
| | g. | sák | 'laugh' | → | àdísák | 'laughing, to laugh' |

If the inherent tone of the verb is /L/ or /LH/, it changes to /HL/ when the verb is affixed to *àndí-*. It clearly indicates that an /H/ tone has come into play. It would thus be plausible to posit a relational high tone between the prefix and the verb. The high tone spreads rightwards and appropriates the domain of the next tone, as is the case with the prefixes already discussed above.

2.3.2. The prefix *andi-* adheres to verbs to form agentives as in the examples in (16).

(16)	a.	sàná	'walk'	àndí-sáńà	'traveller, walker'
	b.	wèt	'write!'	àndí-wèt	'writer'
				one who writes	
	c.	ńyàm	'sell!'	àndí-ńyàm	'seller'
				one who sells	
	d.	kpéép	'teach, learn'	àndí-kpéép	'teacher, learner'
				one who teaches, learns	
	e.	kwó	'sing!'	àndí-kwó	'singer'
				one who sings	

It is clear, from the above examples, that the process of nominalizing the verbs does not stop at prefixing *àndí-*. Here too, tones play a primordial role. It would be observed that the inherent tones of the verbs change when they become associated with the prefix *àndí-*. The tonal changes can be described as the result of the spreading of a relational high tone between the prefix and the verb and which spreads to the right and encroaches upon the domain of the next tone, which happens to be the initial tone of the verb. If the latter is itself high, the relational high tone is absorbed into it. On the other hand, if it is low, it is replaced by the relational high tone. The low tone so replaced moves on to the next syllable, and replaces its inherent tone. In the case of monosyllabic verbs, the spreading of the relational high tone results in a contour tone on their single syllable.

The tonal process is illustrated as in (17).

(17)	a.		H								
		L	H		L	H		L	H	Ⓛ	L
		a	ndi		sa	ńa	→	an	di	sa	ńa
											'walker, traveller'
	b.		H					H			
		L	H		L			L	H		L
		a	ndi		wet	→	a	ndi	wet		'writer'

3. THE FORMATION OF VERBS

The Ibibio language is capable of forming complex (complex in the sense that they are morphologically decomposable) verbal notions from simple ones by 1) suffixation, 2) vowel lengthening, and 3) reduplication (total and partial).

3.1 THE FORMATION OF VERBS BY SUFFIXATION

Intransitive verbs are formed by suffixing a vowel /-v/ to their transitive counterparts. The suffix /-v/ is usually in harmony with the vowel of the transitive verb as in the examples in (18).

- | | | | | | |
|------|----|-------------|-----------------|--------------|-------------------------|
| (18) | a. | bìàt | 'spoil!' | bìàrá | 'be spoilt!' |
| | b. | bóp | 'tie!' | bóbó | 'tie oneself!' |
| | c. | màn | 'give birth to' | màná | 'be born!' |
| | d. | díp | 'hide!' | díbé | 'hide oneself!' |
| | e. | dùòk | 'pour (out)!' | dùòkó | 'pour (out) by itself!' |

Note that the voiceless plosives become voiced in inter-vocalic positions.

Another group of verbs that can be derived by suffixation are reversive verbs, that is, those verbs whose semantic values are the opposite of those of the verbs from which they are derived. Examples of such verbs are in (19).

- | | | | | | |
|------|----|-------------|------------------------------------|--------------|---|
| (19) | a. | tèm | 'place a pot
on the fire' | tèmmé | 'remove a pot
from the fire!' |
| | b. | kóòñ | 'hang' | kóññó | 'unhang!' |
| | c. | díán | 'join, attach!' | díáná | 'detach!' |
| | d. | dòt | 'place an object
on a surface!' | dòòró | 'remove an object from
the surface it was placed!' |

As can be observed, these verbs are derived by suffixing /-cv/ to the initial verbs.

It is worth pointing out that suffixation requires a high tone as part of the derivational process. The examples in (18) and (19) show evidence of this assertion. All the derived verbs, including those whose roots have a low tone, require a suffix bearing a high tone. In the light of the foregoing, we posit a non-segmental H morpheme between the verb and the suffix (which has no underlying tone). As in the cases already examined, the non-segmental H spreads rightwards on to the suffix.

3.2 THE FORMATION OF VERBS BY VOWEL LENGTHENING

Some Ibibio verbs derive their plural forms by lengthening their vowels, as the examples in (20) show.

- | | | | | | |
|------|----|-------------|-----------------|--------------|-------------------------------|
| (20) | a. | bén | 'take, carry!' | béén | 'take, carry, (many things)!' |
| | b. | síné | 'wear, put on!' | síiné | 'wear (many things)!' |
| | c. | nyàm | 'sell' | nyààm | 'sell (many objects)' |
| | d. | bóp | 'tie' | bóbóp | 'tie (many things)' |
| | e. | dóm | 'bite' | dóóm | 'bite (many things)' |

In this derivational process, the lengthened part of the vowel also bears a tone, the nature of which depends on that of the vowel lengthened. But, most of the nouns which undergo this process bear a high tone.

3.3 THE FORMATION OF VERBS BY REDUPLICATION

With the exception of the verb *tè* 'say', practically all the verbs can be reduplicated (for the sake of emphasis) totally or partially, depending on their syllabic structure. Theoretically, monosyllabic verbs with a /cv/ structure undergo total reduplication. Other verbs undergo partial reduplication, and sometimes with some vowel modifications. The reduplication is done leftwards. Here are some examples of reduplicated verbs.

- | | | | | |
|------|----|------------|------------------|---------------|
| (21) | a. | dá | 'stand!' | dádá |
| | b. | dù | 'live!' | dòódù |
| | c. | mé | 'be patient!' | mémé |
| | d. | nìm | 'keep, believe!' | nèénìm |
| | e. | màn | 'give birth to!' | màámàn |

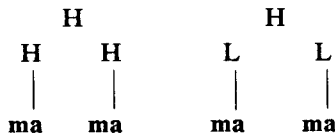
f.	fák	'cover!'	fófák
g.	sían	'show off!'	sásían
h.	fèRé	'run!'	fééfèRè
i.	kpòkò	'hit!'	kpòòkpòkò
j.	sèèmé	'lament!'	sèèèsèèmé
k.	támmá	'jump!'	tátámmá

From the above examples, it can be observed that the nature of the reduplication differs, depending on the tone of the verb. Verbs with low tones, or whose tones comprise a low tone, have the vowel of the reduplicated part lengthened, no matter the nature of their syllabic structure. The first of the two vowels usually bears a low tone, while the second one bears a high tone. Furthermore, the tone of the verb is transformed into a contour tone if the verb is monosyllabic and bears a low tone. The minimal pair in (22) clearly illustrates these points.

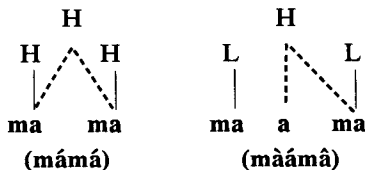
(22)	má	'love!'	mámá
	mà	'finish!'	màámâ

Based on these data, one can suppose that, in addition to the segmental process of reduplication, a relational high tone comes into play. The relational high tone is posited between the verb root and the reduplicated part and spreads to both directions (left and right). If the verb root has a high tone, the relational high tone is absorbed into it on account of their similarity. On the other hand, if the verb root bears a low tone, the relational high tone combines with it (the low tone) to form a contour tone. The contour tone is also formed on the reduplicated part of the verb, which happens to be the first syllable of the entire reduplicated verb. But the Ibibio language does not seem to accept such a configuration on the first syllable of a polysyllabic word. The impossibility of a modulated tone on the first syllable calls for the lengthening of the vowel of the first syllable in order to give segmental support to the relational high tone. The derivational process can be formulated as in (23) and (24).

(23) REDUPLICATION



(24) LINKING OF THE RELATIONAL HIGH TONE



4. CONCLUSION

This paper has tried to show the vital role which tone plays in the grammar of the Ibibio language, by discussing tones in the Ibibio nominal and verbal systems. It has

been shown that a single operator, the relational high tone (which, in the underlying representation, is not associated to any segmental phoneme), takes on a cohesive role in both the nominal and verbal systems of the language. This great coherence goes to strengthen the view that language is a system. The relational high tone can be said to be one of the many phenomena that portray this systematicity in Ibibio.

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