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The Interplay of Syntax & Phonology: A Case Study of the Tense/Aspect System of the Ibibio Language



Margaret M. Okon*

Abstract

Considering language as an organized system of vocal signs by means of which individuals communicate with one another, and knowing that these signs combine with one another using well ordered rules, it is obvious that phonology and syntax are interwoven. Both have effects on each other in various ways. The interactions between phonology and syntax have been observed in many tone languages. In Ibibio, tone performs many syntactic operations. For instance, tense and aspect could be marked by a change in the tonal pattern of the verb. In this study, the relationship between phonology and syntax in the Ibibio Tense/Aspect system is examined, within the general framework of auto-segmental phonology as formulated in Goldsmith (1976). The argument is that specific tones – the downstepped high, high and low tones are the operational morphemes in the Ibibio tense/aspect system.

1. Introduction

According to Crystal (1985:230), Phonology is the study of the “sound systems of languages”, that is, those sounds, which can be used distinctively in a language. As for syntax, it is the system of rules and categories that allows words to be combined to form sentences (O’Grady et al., 1989:126). When syntactic rules come into play, changes sometimes take place at the phonological level, as illustrated by the following sentence in French,

1) Toi, tu te moques de moi → You make/are making fun of me. Where toi, tu and te refer to the same person – the second person singular, but differ in phonological form (/twa/, /ty/ and /ta/) as a result of their syntactic functions in the sentence. Toi is an emphatic pronoun, tu, a subject pronoun and te, a reflexive pronoun. In African languages, syntactic operations have also been found to bring about changes at the phonological level. In Ibibio for example, in deriving a noun from the sentence:

* Margaret M. Okon (PhD), Department Of Modern Languages & Translation Studies, University Of Calabar, Calabar, Nigeria

2) á n!ám útóm → He is working.

The syntactic rule in force triggers off some phonological changes (at the tonal level) to give:

3) ànámútóm → worker

In nominal compounding, the phonological changes occur at both the segmental and suprasegmental levels thus:

- | | | | | | |
|-----|-------|---|------|---|--------------|
| 4a. | èkpàt | + | úbɔk | → | [èkpàr!úbɔk] |
| | bag | | hand | | handbag |
| b. | úfɔk | + | ɲwèd | → | [úfɔg !ɲwèd] |
| | house | | book | | school |

As can be observed from the above examples in French and Ibibio, phonology interacts with syntax to perform grammatical functions. Other functions of tone in Ibibio are the marking of grammatical categories such as tense and aspect. Our concern in this paper is to examine the interaction between phonology and syntax in the tense/aspect system of the Ibibio language with a view to establishing the nature of the relationship and the identity of the phonological entities, in particular tones, in the system.

Tone is defined as the distinctive pitch level of a syllable (Crystal, 1985:309). Ibibio, a Lower Cross language (Faraclas, 1989) in the Niger-Congo family of languages, spoken in eighteen (18) out of the thirty-one (31) Local Government Areas of Akwa Ibom State, has two level lexical tones: high (H) and low (L), which could combine to give rise to two contour tones: rising (LH) and falling (HL). There is also a downstepped tone where the pitch on the second syllable of the word is slightly lower than the pitch on the first syllable. The variety of Ibibio used for this study is that spoken in Uyo Local Government Area.

2) Tense and Aspect in General Linguistics

Tense and aspect are two of the many grammatical categories connected with the verb in its predicative role. According to Essien (1990:78) tense is "... a grammatical category that grammaticalizes time reference by making use of indicators or operators (other than adverbs of time) which mark the relationship between the time of a situation and the time an utterance is made concerning that situation".

The concepts of time and tense in linguistics take their cue from the moment of speaking. The time cotemporaneous with the moment of speaking is the present tense, the time anterior to the moment of speaking the past tense, and the time posterior to the moment of speaking the future tense. It should, however, be noted that linguistic time (grammaticalization of time reference) is not quite the same as logical or philosophical time, as studies of the grammar/verbal systems of many languages have shown.

The concept of aspect appears to have generated a lot of problems in General Linguistics, following the misunderstanding of morphological forms in Slavonic languages and semantico-syntactic structures of other languages. The traditional grammar notion of aspect is based on the imperfective/perfective dichotomy, referring to incompleteness and completion of action respectively, found in Slavonic languages which have two morphological forms of each verb – the imperfect and the perfect, already embedded in the lexicon. Studies (cf. Forsyth 1970, Comrie 1976, Essien 1990) have shown that the imperfective/perfective dichotomy has other values as well apart from that of incompleteness or completion of action. It is not our intention in this paper to take this argument far, so for our purpose here, we adopt the definition of aspect given by Forsyth (1970:3) as follows:

The category of aspect indicates that the action expressed by the verb is presented; (a) in its course, in process of its performance, consequently in its duration or repetition... (imperfective); (b) as some limit of its performance, be it the moment of origin or beginning of the action or the moment of its completion or results... (perfective).

However, it is often difficult to draw a clear line of distinction between tense and aspect as both appear to be interwoven in most cases.

3) **The Interaction of Phonology and Syntax in Ibibio**

The interaction of phonology and morphology, and phonology and syntax, has been attested in many languages. In tone languages, tone performs lexical as well as grammatical/syntactic functions. The lexical and grammatical functions of tone in Ibibio have been examined by a number of scholars including Simmons (1957) Kaufman, (1968), Essien (1983(a), 1990), Essien M. (1989, 1992), Urua (2000). Works on Efik, a language very closely related to Ibibio, have also shown the importance of tone in the language (cf. Ward 1933; Welmers 1973). In this section, we shall examine the role of tone in Ibibio tense/aspect system.

3.1 **Aspect in Ibibio**

As had earlier been noted, aspect is the way and manner in which the actualization of the situation is viewed, i.e. the various stages of development of the situation. As Comrie (1976:3) puts it, aspect concerns the "...internal temporal constituency of a situation". In the course of this study we shall identify the various aspectual values in Ibibio and how they are expressed.

The verb root in Ibibio is monosyllabic, disyllabic or trisyllabic, the latter being usually derived from disyllabic verbs by partial reduplication. Some disyllabic verbs are also derived from the monosyllabic ones by total or partial reduplication or by suffixation. The verb roots in themselves are just notions/concepts. They cannot play any predicative/grammatical role without

the tone. That is to say that for the verb to be used meaningfully in a sentence or a phrase, tone must be present. Those tones in Ibibio are High /H/, Low /L/, Rising (LH), spread on the segments according to the number of syllables (following the obligatory contour principle). In a sentence, the "inherent tone" could be modified giving rise to a different meaning. That is to say, that the meaning of the sentence depends on the kind of tonal variation in the verb. For illustration, we select three monosyllabic verbs to represent the three types of tonal patterns (High, Low and Low-High) attested in Ibibio verbs. Going by the suprasegmental theory which predicts that /LL/ and /L/, /HH/ and /H/ and /LHH/ and /LH/ should behave in the same manner (Goldsmith 1976), the monosyllabic verbs which we have selected should theoretically be representative of the disyllabic and trisyllabic verbs of the same tonal patterns. The following tonal variations are observed in the Ibibio verbs with regard to aspect:

A) Verb with high tone / ' /

- I. **Present perfect /completive**
 /ń!kɛ/ [ń b!kɛ] → I have prepared soup
 /à!kɛ/ [à kɛ] → You (sg) prepared soup
 /á!kɛ/ [á b!kɛ] → She/he has prepared soup
 /ì!kɛ/ [ì b!kɛ] → We have prepared soup
 /è!kɛ/ [è b!kɛ] → You (pl) have prepared soup
 /é!kɛ/ [é b!kɛ] → They have prepared soup
- II. **Simple Present/Present Continuous**
 /ńkɛ/ [ń kɛ] → I am preparing soup
 /àkɛ/ [à kɛ] → You (sg) are preparing soup
 /ákɛ/ [á kɛ] → He/she is preparing soup
 /ìkɛ/ [ì kɛ] → We are preparing soup
 /ékɛ/ [é kɛ] → You (pl) are preparing soup
 /ékɛ/ [é kɛ] → They are preparing soup
- III. **Present continuous/progressive (with focus on the subject)**
 /ńkɛ/ [ń b!kɛ] → I am the one preparing soup (not someone else)
 /àkɛ/ [à kɛ] → You (sg) are one preparing soup (" ")
 /ákɛ/ [á b!kɛ] → He/she is the one preparing soup (" ")
 /ìkɛ/ [ì kɛ] → We are the ones preparing soup (" ")
 /èkɛ/ [è kɛ] → You (pl) are the ones preparing soup (" ")
 /ékɛ/ [é b!kɛ] → They are the ones preparing soup (" ")
- IV. **Present Habitual**
 /ńkɛ/ [ń kɛ] → I prepare soup (for a living/as an occupation)

/à ʔkə/ [à ʔkə]	→	You (sg) prepare soup	(" ")
/á ʔkə/ [á ʔkə]	→	He/she prepare soup	(" ")
/i ʔkə/ [i ʔkə]	→	We prepare soup	(" ")
/è ʔkə/ [è ʔkə]	→	You (pl) prepare soup	(" ")
/é ʔkə/ [é ʔkə]	→	They prepare soup	(" ")

B) Verb with low tone / ː /

ʔàm - sell

I. Present perfect

/n ʔàm/ [n ʔàm]	→	I have sold
/à ʔàm/ [à ʔàm]	→	You (sg) have sold
/á ʔàm/ [á ʔàm]	→	He/she has sold
/i ʔàm/ [i ʔàm]	→	We have sold
/è ʔàm/ [è ʔàm]	→	You (pl) have sold
/é ʔàm/ [é ʔàm]	→	They have sold

II. Simple Present/Present Continuous

/n ʔàm/ [n ʔàm]	→	I am selling
/à ʔàm/ [à ʔàm]	→	You (sg) are selling
/á ʔàm/ [á ʔàm]	→	He/she is selling
/i ʔàm/ [i ʔàm]	→	We are selling
/è ʔàm/ [è ʔàm]	→	You (pl) are selling
/é ʔàm/ [é ʔàm]	→	They are selling

III. Simple Present (with focus on the subject)

/n ʔàm/ [n ʔàm]	→	I am the one selling
/à ʔàm/ [à ʔàm]	→	You (sg) are the one selling
/á ʔàm/ [á ʔàm]	→	He/she is the one selling
/i ʔàm/ [i ʔàm]	→	We are the ones selling
/è ʔàm/ [è ʔàm]	→	You (pl) are the ones selling
/é ʔàm/ [é ʔàm]	→	They are the one selling

IV. Present Habitual

/n ʔàm/ [n ʔàm]	→	I sell
/à ʔàm/ [à ʔàm]	→	You (sg) sell
/á ʔàm/ [á ʔàm]	→	He/she sell
/i ʔàm/ [i ʔàm]	→	We sell
/è ʔàm/ [è ʔàm]	→	You (pl) sell
/é ʔàm/ [é ʔàm]	→	They sell

C) Verb with rising tone / ˨˨˩ /

kă - go

I. Present perfect/completive

/n !kă/ [n kă]	→	I have gone
/à !kă/ [à kă]	→	You (sg) have gone
/à !kă/ [à kă]	→	He/she has gone

/ì !kǎ/ [ì kǎ]	→	We have gone
/è !kǎ/ [è kǎ]	→	You (pl) have gone
/é !kǎ/ [é kǎ]	→	They have gone

II. Present Continuous/progressive

/ń !ká/ [ń kâ]	→	I am going
/à !ká/ [à kâ]	→	You (sg) are going
/á !ká/ [á kâ]	→	He/she is going
/ì !ká/ [ì kâ]	→	We are going
/è !ká/ [è kâ]	→	You (pl) are going
/é !ká/ [é kâ]	→	They are going

III. Present continuous/progressive (with focus on the subject)

/ń !ká/ [ń kâ]	→	I am the one going
/à !ká/ [à kâ]	→	You (sg) are the one going
/á !ká/ [á kâ]	→	He/she is the one going
/ì !ká/ [ì kâ]	→	We are the ones going
/è !ká/ [è kâ]	→	You (pl) are the ones going
/é !ká/ [é kâ]	→	They are the going

IV. Present Habitual

/ń kà/ [ń kâ]	→	I go
/à kà/ [à kâ]	→	You (sg) go
/á kà/ [á kâ]	→	He/she goes
/ì kà/ [ì kâ]	→	We go
/è kà/ [è kâ]	→	You (pl) go
/é kà/ [é kâ]	→	They go

From the paradigms above, it is clear that tone marks the present, and distinguishes the present perfect/completive from the present continuous/progressive and present habitual.

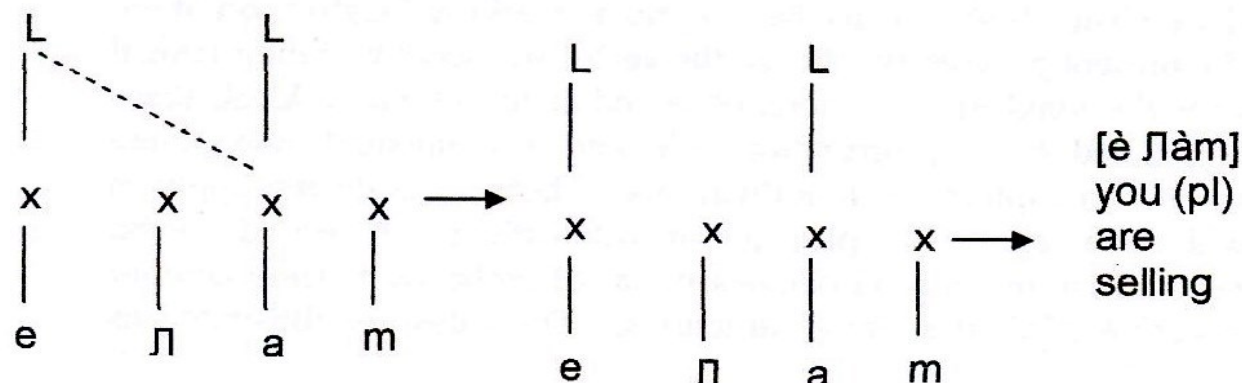
The forms in I correspond to the present perfect/completive aspect implying completion of the situation and indicating that the completion of the situation is recent and relevant to the present time. We posit a downstepped high tone as the present perfect/completive aspect marker. It is observed that this downstepped high tone has varying effects on the various tone patterns. While it lowers the key of the high tone, it raises that of the low tone and the rising tones. It also raises the key of the concord markers with a low tone. Our finding here is in consonance with Urua (2000:186-187) who identifies a downstepped high tone morpheme as the completive marker.

The forms in II seem to be more homogenous than those in I in the sense that the tonal modifications appear to be uniform for the three classes of verbs. We therefore posit a low tone as the morpheme marking present continuous/progressive aspect, denoting a situation that is in progress, hence uncompleted. The phonetic realization of the low tone morpheme observed in the paradigm could be explained by a propagation rule by which the tones

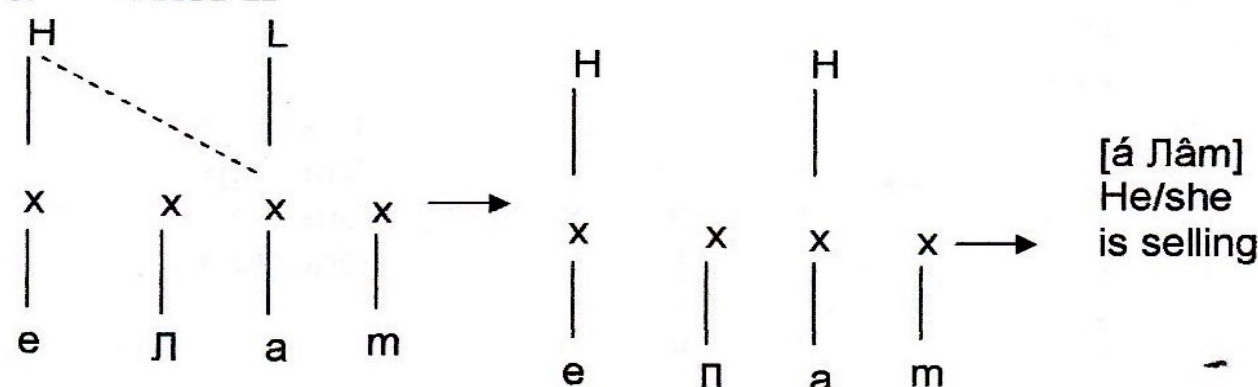
of the concord marker propagate on the verb root. When the concord marker has a high tone, this high tone gives rise to a falling contour tone on the verb root. When the tone of the concord marker is low, the low tone assimilates into the tone of the verb root.

This rule could be illustrated as follows:

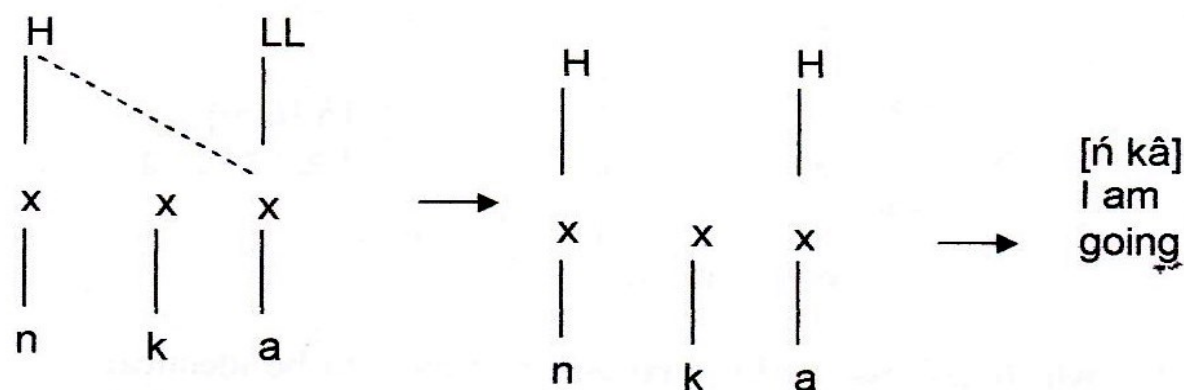
a. PROP L



b. PROP H



c. PROP H

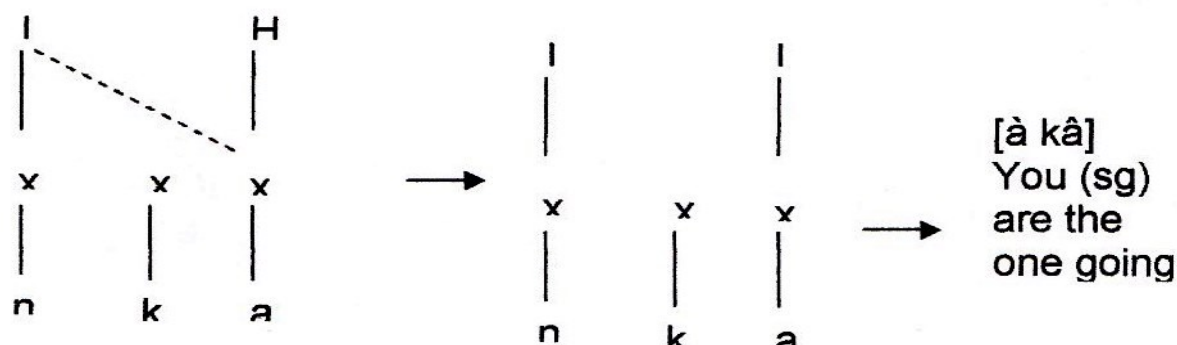


It is interesting to note that the low tone posited as the present continuous/progressive marker is in fact the Etinan dialect of Ibibio while the phonetic realizations portray the Uyo dialect under study. Urua (2000:187) identifies the progressive aspect marker as a high-low contour tone which replaces the inherent tone on the verbs, whether monosyllabic, or disyllabic.

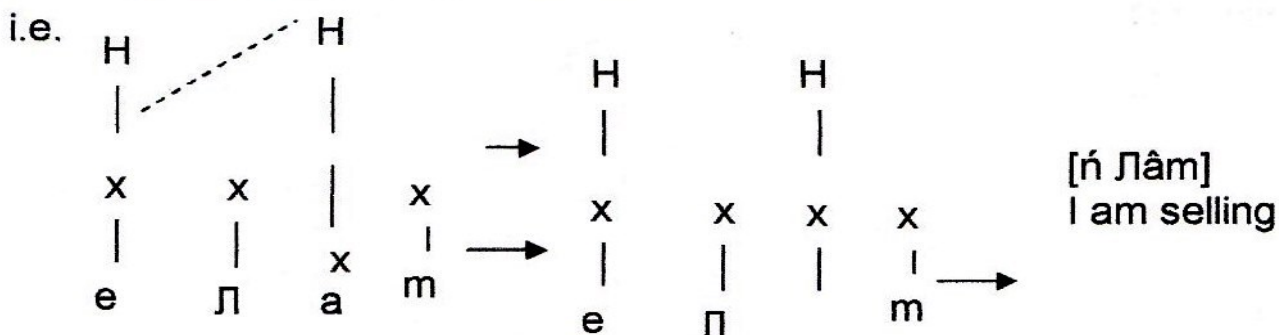
Urua's high-low contour tone is observed on the first and third persons singular and third person plural forms of the phonetic realizations, but it is not known whether Urua's study analysed the second person singular and second and third persons plural forms as well.

The forms in III also mark the progressive aspect, but the difference between these forms and the ones in II is that the ones in III focalize the subject of the sentence while the ones in II focalize the predicate. For the forms in III we posit a high tone as the morpheme marking focalization of the subject in the present progressive, for all the verbs irrespective of their lexical tones. As for the tonal modifications observed at the phonetic level, these could be explained by a propagation rule and a contextual rule where propagation fails to capture the modifications. These rules do not apply to the verb with high tone. The propagation rule affects the second person singular and the first and second persons plural of verbs with rising contour tones, irrespective of their syllabic structures. The rules are illustrated as follows:

a. PROP L



b. Contextual rule: H HL/ - H



The forms in IV, which express the habitual aspect, appear to be identical with the forms in II which mark the progressive aspect. So, we could say that the habitual aspect is marked by a low tone. It is pertinent at this point to add that the habitual aspect could be marked by the affix "sí", as the examples below show:

a. á sí ɓkɓ [ɓkɓ éféfé] - He/she cooks soup (habitually)

- b. á sí Jlà̀m [Jlám ùrùà] - He/she trades (habitually)
 á sí kà [ká ìṅwán] - He/she goes to the farm (habitually)

Note that the tonal modifications are the same, with or without “sí-. So, with the tone performing that function, there is economy of words or rather, segmental morphemes. In all the forms above, and with regard to all the aspectual values identified, one interesting phonology-syntax interplay must not be overlooked: tone as the only distinguishing feature between the second and third person’s singular and plural concord markers.

In summary, the tones identified as aspectual markers are as follows:

Aspect	Marker
i. Present perfect/completive	downstepped high tone//
ii. Present continuous/progressive (With focus on predicate)	Low tone / ` /
iii. Present continuous/progressive (With focus on subject)	High tone / ' /
iv. Present Habitual	Low tone / ` /

3.2 Tense in Ibibio

Generally, tense is marked in Ibibio by inflectional morphemes. While the past and future tenses have two inflectional morphemes each (màá/ké and yàá/dí respectively), the present tense has just one - (mé). It is important to point out here that màá/ké and yàá/dí are used exclusively in various contexts in the past and future respectively. While màá and yàá are often used for regular past and future forms respectively, ké and dí are used in special contexts such as focus, negation, wh-questions, relative constructions and so on. For the present tense, it is tone that performs the functions performed by ké in the past tense and by dí in the future tense. We illustrate our point using the sentences below:

5. a. Àniè á – ké dí? → Who came?
 *b. Àniè á – màá dí
6. a. Àniè á dí dí? → Who will come?
 *b. Àniè á yàá dí?
7. a. Àniè a – Ø dí? → Who is coming (now, at the time I’m taking/who has come?)
 *b. Àniè a – me dí
8. a. Ṃ – màá dí → I came
 *b. Ṃ – ké dí...?
 c. Ṃ – ké dí mkpɔŋ → I came yesterday (answering the question “when did you come?)
9. a. Ṃ – yàá dí → I will come
 *b. Ṃ – dí dí...?

- c. \acute{N} – dí-dí mkpɔŋ \longrightarrow I will come tomorrow (in answer to the question “when will you come?”)
10. a. \acute{N} – mé – dí \longrightarrow I have come
 *b. \acute{N} – Ø – dí...?
 c. \acute{N} – Ø – dí idaháémì \longrightarrow I have just come
11. a. \acute{N} – màá – dí \longrightarrow I came
 b. \acute{N} ké – dí – é – hé \longrightarrow I did not come
 *c. \acute{N} màá – dí – é – hé
12. a. \acute{N} – yàá – dí \longrightarrow I will come
 b. \acute{N} dí – dí – é – hé \longrightarrow I will not come
 *c. \acute{N} yàá – dí – é – hé
13. a. \acute{N} – mé dí \longrightarrow I have come
 b. \acute{N} – Ø dí – é – hé \longrightarrow I have not come
 *c. \acute{N} – mé dí – é – hé

A close examination of the sentences in the present would reveal that the forms with *mé* coincide with the present perfect/completive aspect while the forms with Ø (zero allomorph segmentally) coincide with the progressive/present continuous (cf example 3a and 6a). The situations described in these sentences are simultaneous with the time of utterance, or where they may have taken place before the time of utterance, are relevant at the time of utterance.

Examples such as 3a and 6a often make it difficult to draw a clear line of distinction between tense and aspect because both appear to be interwoven. But be that as it may, it would not be out of place to conclude that tone plays a role in the tense system, that it marks the present tense, and since the type of present it marks coincides with the present continuous/progressive aspect, with focus on the subject, we can identify the high tone as the present tense marker.

Oliveira (2004:896-897) maintains that Ibibio does not grammaticalize “present tense”, otherwise it should have a specific marker for the present form [+ focus] in the language, as there are for past tense (*ké*) and for future tense (*dí*). Our position is that if, according to Essien (1990:78) tense is “... a grammatical category that grammaticalizes time reference by making use of indicators or operators (emphasis is ours) which mark the relationship between the time of a situation and the time an utterance is made concerning the situation, then the Ibibio tense system has made use of tonal operators or tonal indicators to grammaticalize time reference, in particular, the present tense [+ focus]. If tones could carry out grammatical functions in the entire language system, then it could do same in the tense system. Our analysis of some narrative texts indicates that tones mark the present narrative, as in the sentences below:

- 14a. Ób!óóñ, òmmó éwòód mmè brǒfèt ényΛñ
ébiáát mmè itié úkpònò mfò (Romans 11:3)¹
 Lord, they have killed Your prophets and torn down Your altars. (The Gideons International Version).
- b. Àbàsi ób!óp àfid ówó ésín ké ntìd – ùtóñ na
 oto do Enye enie mbòm ọnọ afid ọmmọ (Roman 11:32)
 For God has committed them all to disobedience that He might have mercy on all. (The Gideons International Version).

If sentence 14a were to focus on the subject, the sentence, would have read thus:

14a (i) Ób!óóñ, òmmó éwóód mmè brǒfèt ényΛñ
ébiáát mmè itié úkpònò mfò.

Note that the inherent tones of éwóód and ébiáát is low (L). The tonal changes are as a result of the predicative function of the verbs.

Conclusion

This study set out to examine the syntax-phonology interplay in the tense/aspect system of Ibibio, and to identify the phonological elements that play syntactic roles. It has been shown that there is great co-operation between syntax and phonology in the tense/aspect system of Ibibio as tonal operations have been found to mark aspect and tense, thus making for economy of segmental morphemes. A high downstepped tone was identified as the present perfect/completive marker, a high tone as the present continuous marker (with focus on the subject) and a low tone as the present continuous/progressive aspect marker and the present tense marker.

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¹ The Bible is being translated into Ibibio courtesy of the International Bible Society

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ébíáát mmè itìè úkpònò mfò.

Note that the inherent tones of éwóód and ébíáát is low (L). The tonal changes are as a result of the predicative function of the verbs.

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This study set out to examine the syntax-phonology interplay in the tense/aspect system of Ibibio, and to identify the phonological elements that play syntactic roles. It has been shown that there is great co-operation between syntax and phonology in the tense/aspect system of Ibibio as tonal operations have been found to mark aspect and tense, thus making for economy of segmental morphemes. A high downstepped tone was identified as the present perfect/completive marker, a high tone as the present continuous marker (with focus on the subject) and a low tone as the present continuous/progressive aspect marker and the present tense marker.

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