

The Missing Component in Ibibio Linguistic Time

Willie U. Willie and Mfon E. Udoinyang
University of Georgia and Eastern Michigan University

1. Introduction

The concept of temporality is a complex one and this complexity is reflected in how individual languages manipulate the formal and functional resources available in their linguistic inventory in order to encode temporality and all its components. The component elements that languages utilize to mark temporality together form what Ayoun and Salaberry (2008); Bardovi-Harlig (1998, 2000); Upor (2009); Shirai (2007); Salaberry (2000a, 2000b) following Comrie (1976); Smith (1997) etc. refer to as “linguistic time” which consists of tense or temporal reference, grammatical/viewpoint aspect and lexical aspect. A complete understanding of how a language relates extra-linguistic concepts of time and event to linguistic concepts of tense and aspect requires analysis of all the components of the linguistic time in the language. Two of these components namely tense and viewpoint aspect have been analyzed in Ibibio. Ibibio is a Lower Cross language spoken by about 4 million people in Akwa Ibom State of Nigeria according Essien (1990) and Urua (2000). Lower Cross is a member of the New Benue-Congo branch of the Niger Congo family of languages which is the largest family of languages spoken in Africa (Williamson 1989 cited in Urua 2000). However, the third component namely lexical aspect has never been analyzed. This paper presents a reanalysis of Ibibio tense and viewpoint aspectual systems based on new evidence and also a fresh analysis of the lexical aspectual system designed to identify the lexical aspectual categories in the language. Also, a prototypical account of interaction of elements in Ibibio linguistic time and implication of such interaction in the context of language acquisition will be discussed. In the following section we define tense, viewpoint aspect and lexical aspect.

2. Tense and aspect

Tense may be defined as a deictic category that locates an event on a time line, usually with reference to the time of speaking or moment of speech (Bardovi-Harlig 2000; Shirai 2007; Wagner 2009; Wulf et al. 2009; Haznedar 2007; following Comrie 1976; Dalh 1985; Moshi 1994 etc). In contrast, grammatical/viewpoint aspect does not locate an event or situation on a time line, nor does it relate the time of one situation in relation to another. Rather, it is concerned with the internal temporal constituency of one situation; one could state the difference as one between situation-internal time (grammatical aspect) and situation-external time (tense) (Comrie 1976; Bardovi-Harlig 2000). Lexical aspect, on its part, is the inherent temporal semantic constituents of the verb or the predicate. We discuss tense, grammatical/viewpoint aspect and lexical aspect in more details in the following subsections.

2.1. Tense

The concept of tense in a sentence locates the situation discussed in the sentence in time. For example, the sentence in (1) adopted from Smith (1997:97) informs us that the event in the proposition “Algernon ran in the park” occurred one day prior to the time of speech, for an interval of an hour.

1. Algernon ran in the park for an hour yesterday.

Time is a single unbounded stretch of physical phenomenon and can be conceptually comparable to space (But see contrary view in Botne and Kershner (2008) which presents a multi-dimensional conceptualization of tense and cognitive space in Bantu languages). Just as an orientation point is

needed to locate positions in space, so an orientation point is needed to locate situations in time. In language, the basic orientation point is the time of speech, which is always the present (now) Smith (1997). In simple sentences the canonical location for the speaker and situation is the present or speech time (SpT). This is the basic point of reference for temporal location. Tense often locates a situation on time relative to this basic orientation point. In simple sentences about the past, present, and the future, a situation is located according to its relation to speech time as in these examples.

2a. John is at home-----present: simultaneous with SpT¹

.....SitT, SpT=RT.....

b. I worked late last night-----past: precedes SpT

.....SitT=RT.....SpT

c. Bulldogs will win the game-----future: follows SpT

.....SpT.....SitT=RT.

Consider the temporal information contents of the examples in (2a-c). In (2a) the temporal schema shows that the situation time (SitT) and the speech time (SpT) are simultaneous. But there is a third component which is the reference time (RT) and in all simple present sentences, it coincides with the speech time. In (2b) the temporal schema shows that the situation time is prior to the speech time but the reference time is coincident with the situation time and in (2c) the temporal schema shows that the situation time is subsequent to the speech time but the reference time is coincident with the situation time too. A cursory look at the information component analysis in these simple sentences may lead one to conclude that the third component on the temporal schema namely the reference time is redundant as it keeps coinciding with either the speech time or the situation time in all three cases. However, in analysis of complex sentences that require syntactic embeddings and other dependencies, the need for the reference time or “a secondary anchor point” (Bardovi-Harlig 2000; Smith 1997) for temporal location becomes inevitable. Consider the example in 3 below.

3. Last Sunday Max had already arrived

.....SitT.....RT.....SpT

In this example, the three required temporal components are made very independent as none of them coincide with one another. The reference time is specified by the time adverbial “last Sunday”: it is the secondary anchor point for this sentence from where the situation time or event time is measured. The situation time is prior or anterior to reference time in this sentence and both are anterior to the speech time.

2.2. Grammatical/viewpoint aspect

Viewpoint aspect grammaticalizes the internal temporal constituency of a situation. That is, it makes visible the various phases of the situation talked about. Aspectual viewpoint functions like the lens of a camera, making objects visible to the receiver. Situations are the objects on which viewpoint lenses are focused. And just as the camera lens is necessary to make the object available for picture, so viewpoints are necessary to make visible a situation talked about in a sentence (Smith 1983, 1997; Comrie 1976; Leech 1971; Dahl 1985; Bardovi-Harlig 1998, 2000, Ayoun & Salaberry 2008, Upor 2009). The main types of aspectual viewpoints are perfective and imperfective. The lenses of aspectual viewpoints focus all or part of a situation; what is in focus has a special status, which can be referred to as “Visibility” according to (Smith 1997:62). The part of the situation that is visible is asserted. Visible information about an event is available to the hearer of a sentence for truth-conditional issues and entailments. The visible information in a sentence is conventional and cannot be cancelled or changed. Receivers may make additional inferences, these are conversational meanings (pragmatic meanings),

¹ SitT = Situation time otherwise called Event time; SpT = Speech time; RT = Reference time.

which can be cancelled (Smith 1997). The main semantic difference among aspectual viewpoints is in how much of a situation they make visible. Perfective viewpoint focus a situation in its entirety, including endpoints. Imperfective viewpoints focus an interval that excludes endpoints.

Sentences with perfective viewpoint present a situation as a whole. The span of the perfective includes the initial and final endpoints of the situation: it is closed informationally. This is the basic property of perfective and the general schema is given below.

Figure 1. General schema for perfective sentences

I////////F

Sentences in English that have this schema and in various situation types are presented in (4) for example.

- 4a. John believed the story (State)
- b. The boy played in the pond (Activity)
- c. John built the house (Accomplishment)
- d. John reached the top of the lighthouse (Achievement)

Imperfective viewpoints present parts of a situation with no information about its endpoints and are said to be open informationally. The imperfective span an interval that is internal to the situation. This conforms to the general principle that the span of a viewpoint coincides with all or part of the temporal schema of a situation and in this case the span coincides with only the middle part of the situation. The general schema for imperfective sentences may be presented as in figure (2) below as adopted from Smith (1997:73).

Figure 2. General schema for imperfective sentences

I...////////...F

The two most common imperfective aspects are general imperfective and the progressive. The former focuses intervals of all situation types while the latter applies only to non-statives. The French imparfait (in contrast with passé composé), the Spanish imperfect (in contrast with preterite) and the Italian imperfetto (in contrast with passato prossimo) are examples of general imperfective viewpoint; it is a past tense with imperfective aspectual value and it appears in sentences of all situation types with internal stages. The following examples in French illustrate.

- 5a. La mer était calme
The sea was^{impf} calm (Stative)
- b. L'enfant pleurait
The child was crying^{impf} (Activity)
- c. Ils batissaient une cabine
They were building^{impf} a cabin (Accomplishment)

Progressive aspect focuses on the internal stages of non-stative events and according to Dahl (1985), progressive tends to appear in all tenses in a language that has tense whereas general imperfectives tend to be limited to past tense. Consider the English examples in (6) below:

- 6a. The boy was playing (Activity)

- b. John was building a house (Accomplishment)
 c. *Bill was knowing the answer (Stative)

The example in (6c) is starred because progressives are prototypically not marked on verbs that are non-dynamic such as *know*. Nuances of activity, dynamism, and vividness are often associated with progressive viewpoint and the connotation can be linked to the requirement that only non-stative events can be marked for progressive viewpoint.

2.3. Lexical/inherent aspect

Grammatical aspect is conveyed morphologically whereas lexical aspect is part of the inherent semantic properties of a linguistic expression used to refer to a situation. Situations have long been classified according to their internal temporal features. Scholars starting from Aristotle have distinguished between static and dynamic verb constellations. This gives us the binary classification of situation types into states and events. Others have added the features of telicity and duration which expands the classification of situation types to a four-way distinction used in recent works (Vendler 1967; Bardovi-Harlig, 1998, 2000; Shirai 2007, Salaberry 2000, Ayoun and Salaberry 2008 etc.). The features are based on human perceptual and cognitive abilities and situation types are semantic categories of language, classes of idealized situations with distinctive temporal features. A given situation type is said to be attested in a language if the verb constellations that express it have a consistent and unique set of linguistic properties and this is usually conferred in a sentence by the verb and its argument.

Three temporal features of *dynamism*, *telicity* and *duration* distinguish the basic situation types in language. These temporal features form three contrasting pairs of semantic features that can be used to classify situation types in language. The three pairs are static/dynamic, telic/atelic, durative/punctual and we discuss them one after another. First, static/dynamic; this pair of semantic features bifurcates situation types into the classes of states and events. States are static, events are dynamic. States consist of a single, undifferentiated period. In some languages like English an event occurs, takes place, happens while a state holds or obtains. The natural class of events includes all non-stative situations and events are continually subject to new input of energy. Second, telic/atelic; events may be telic or atelic. Telic events have a change of state which constitutes the outcome or goal of the event. When the goal is reached, a change of state occurs and the event is complete (Bardovi-Harlig 2000). Telic events have inherent or natural endpoints. Atelic events are simply processes. They can stop at any time; they are said to terminate and have arbitrary endpoints. Languages differ in relation to telic/atelic aspectual distinction. English, French, Russian, and Chinese distinguish telic and atelic events. Third, durative/punctual; situations can be durative or punctual. The notion of punctuality or instantaneity is idealization as events such as *win the race* may take several milliseconds without marring its categorization as punctual. In fact, some scholars consider duration as essential features of all situations (Dowty 1986).

The aforementioned three pairs of semantic features have been most commonly used to classify verbal predicates into four lexical aspectual classes of statives, activities, accomplishments and achievements (Salaberry 2000; Upor 2009; Shirai 2007; Ayoun and Salaberry 2008; Bardovi-Harlig 1998, 2000 etc). States persist over time without change and are said to be uninterruptible. If one state ceases to obtain, then a new state begins (Bardovi-Harlig 2000). Examples of states include *seem*, *know*, *need*, *want*, and *be*. Activities have inherent duration in that they involve a span of time, like *sleep and snore*. They have no specific endpoint, as in *I studied all week*. Examples of activities include *rain*, *play*, *walk and talk*. Achievements capture the beginning or the end of an action as in *The race began* or *The game ended*, and can be thought of as reduced to a point (Andersen 1991). Examples of achievements include *arrive*, *leave*, *notice recognize* and *fall asleep*. Accomplishments have both endpoints (like achievements) and inherent duration (like activities). Examples of accomplishments include *build a house*, *paint a painting*, *walk to school* etc. The classes of achievements and accomplishments can be grouped together as telic predicates known also as events. The classes of states and activities can be grouped together as atelic predicates. The three pairs of temporal semantic features of static/dynamic, telic/atelic and durative/punctual can be collapsed into three sets of simplified temporal semantic features with binary feature specification as follows;

[± punctual], [± telic], [± dynamic] and this is used in a simplified feature specification table for lexical aspectual classes as presented in table (1) adopted from (Andersen 1991, Bardivi-Harlig 2000, Ayoun and Salaberry 2008).

Table 1. Semantic features of aspectual categories

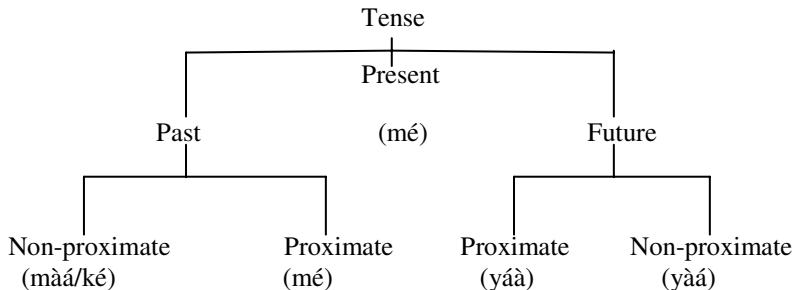
	States	Activities	Accomplishments	Achievements
Punctual	-	-	-	+
Telic	-	-	+	+
Dynamic	-	+	+	+

(Table 1 adapted from Ayoun and Salaberry 2008:559 and Bardovi-Harlig 2000:216).

3. Tense system in Ibibio

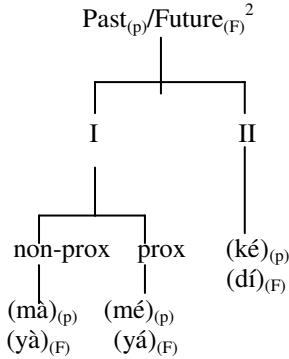
Some scholars have studied Ibibio tense system and have arrived at the basic conclusion that Ibibio is a language that grammaticalizes time reference. Situations in Ibibio are located in time in relation to the moment of speech and these temporal locations are morphologically indicated with explicit morphemes; prefixes in all cases, in sentences of the language. Essien (1986, 1990) analyzed Ibibio tense system as “corresponding to the classical tripartite system of past, present, and future...and there are affixes corresponding to each of these tenses” (Essien 1990:78). Furthermore Essien (1990:79) analyzed the tense system as comprising two allomorphs for each of the three tenses and these allomorphs are “syntactically determined by certain grammatical (and sometimes semantic) categories in the sentence, since the occurrence of one or the other of the allomorphs is determined by such categories”. A tree diagram of Ibibio tense system according to Essien (1990:78) is as in figure (3).

Figure 3. Tense system in Ibibio according to Essien (1990)



As is evident in the above tree, the past has the proximate and the non-proximate past. The non-proximate past has two allomorphs (*màá/ké*) whose usage is determined by the syntactic and discursive factors implicated in the sentence; (*màá*) is used in simple declarative sentences while (*ké*) is used in focus constructions or in what Jorge and Oliveira (2009) call syntax/discourse interface and in negative sentences about the past. The present is marked by (*mé*) and, according to this analysis, it is restricted to only stative situation type. In non-stative situation types (processes and events), Essien (1990) proposes a zero morpheme that would serve as allomorph of (*mé*) the overt marker. The future also has a proximate (*yáà*) and a non-proximate (*yàá*) allomorphs in addition to a syntactically and discursively conditioned allomorph of the non-proximate past (*dí*) which is used in negative sentences and sentences with focused elements and future time reference.

Another important work on Ibibio tense system is Oliveira (2004, 2005), Jorge and Oliveira (2009). According to Jorge and Oliveira (2009:3) “tense category in Ibibio is divided into allomorphs types (I/II), related, or not, to discourse categories”. A tree diagram of the tense system in Ibibio according to Jorge & Oliveira is as in figure (4).

Figure 4. Tense system in Ibibio according to Jorge and Oliveira (2009)

The authors analyze Ibibio tense system as having bipartite temporal location of past and the future. The past and future tenses type (I) corresponds to Essien's proximate and non-proximate past and future while type (II) includes Essien's syntactically and discursively conditioned allomorphs (*dí* and *ké*) that mark what Jorge and Oliveira call syntax-discursive interface. Like is evident from the tree, Jorge and Oliveira's analysis does not include the present tense. This analysis seems to be correct, at least on conceptual ground because what Essien (1990) analyzes as present tense morpheme (*mé*) tends to be restricted to only stative situation type which, in our analysis, do not refer to typical durative situations. The canonical interpretation of sentences in Ibibio that combine the morpheme (*mé*) with a stative verb is that the situation occurred sometime in the past but the effect continues into the present and it is the current relevance of the situation that is in focus. Consider the sentences in example (7) below.

7a. *m-* *mé-* *kpón*³
 1sS⁴ Perf big/fat
I have become big or fat

b. *m-* *mé* *yàíyá*
 1sS Perf pretty/beautiful
I have become pretty/beautiful

Sentence (7a) may mean that the situation of becoming fat is not instantaneous; it occurred in the past (Situation Time) and is still relevant at the moment of speech (Speech Time which is also the Reference Time). This is typical of perfect constructions (present perfect in this case). Smith (1997) lists attributes of perfect constructions two of which are: (1) the situation time precedes reference time; (2) the construction has a resultant stative value. The situation of becoming fat started when the participant was not fat and resulted in a state of fatness which is still relevant at speech time. Following Smith's (1997) three-time temporal specification for all sentences, we present the time line for Ibibio present tense sentences with stative verbs and the affix (*mé*) which we have argued to have a rather present perfect interpretation as primary interpretation as follows in figure (5).

Figure 5. Temporal relations in Ibibio present perfect sentences

.....SitT.....RT=SpT⁵

² In this tree the (p) = past and (F) = future

³ The Ibibio data in this work is in accordance with the orthography proposed for this language in Essien 1983. Ibibio is a tonal language and in this work tone will be consistently marked especially in cases where it is needed to show a necessary contrast such as the one between the proximate and the non-proximate future tense markers (*yá* and *yà*) respectively. In such cases, high tone will be marked by the symbol / ' /, low tone by / ` /, downstepped high tone by / ! /: these are the three level tones attested in Ibibio according to Urua (2000:55). The contour tones will be marked by the symbol / ^ / for the high-low contour and / ~ / for the low-high contour tone according to Urua (2002:124-5).

⁴ 1sS = first person singular subject; Perf = perfect aspectual marker.

⁵ SitT = situation time or event time; RT = reference time; SpT = speech time or moment of speech.

Another point of difference between our analysis of Ibibio tense and previous analysis has to do with what Essien 1990 and Oliveira 2009 call proximate past tense marked by (*mé*). Though this morpheme may have some temporal inference, we argue that the primary conceptual interpretation of this morpheme is aspectual. It marks current relevance of the situation though the inference is that the situation took place in the near past. It is the same morpheme as the one described above and is used in present perfect sentences. So in sentences with a temporal adverbial that gives a specific situation time in the past, if (*mé*) is used, there is usually a mark of current relevance of the situation talked about to the moment of speech as shown in example (8).

- 8a. *m-* *mé-* *kít* *okon* *ùbákùsèn* *ámì*
 1sS Perf see okon morning this = CR⁶
I have seen okon this morning
- b. *m-* *màá-* *kít* *okon* *ùbákùsèn*
 1sS Past see okon morning
I saw okon in the morning

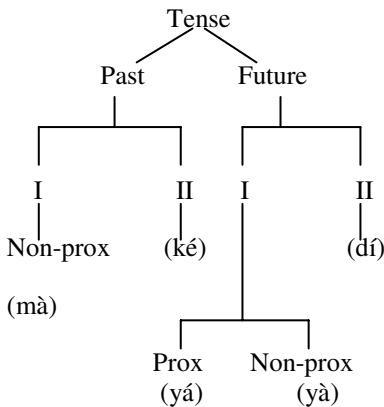
The two sentences in (8) share the basic feature of all past forms which is anteriority but they differ subtly in that (8a) has an element in it that signals current relevance of the situation (“*ámì*” meaning “this”; which is represented by “CR” in the gloss). This difference can further be explicated with the use of the intuitive differences in reference time (Reichenbach 1947, Smith 1997, Bardovi-Harlig 2000). In the indefinite past sentence (8b) the reference time (RT) is prior to speech time (SpT) and is simultaneous with situation time (SitT) whereas in the perfect sentence (8a) the RT is simultaneous with SpT but SitT is prior. The temporal relations in the two sentences can be presented in a time line as in figure (6a and b) respectively.

Figure 6. Temporal relation in Ibibio so-called proximate past vs non-proximate past

- a.SitT.....RT = SpT
- b.SitT = RT.....SpT

We therefore analyze the Ibibio tense system as a bipartite system of temporal reference that consists of the past and the future tenses as presented in the tree diagram in figure (7).

Figure 7. A reanalysis of Ibibio tense system



As can be seen, what was previously analyzed as present tense and proximate past tense by Essien (1986, 1990) and as proximate past tense by Oliveira (2005), Jorge & Oliveira (2009) is missing in this

⁶ CR = current relevance of the situation

analysis. This will be analyzed as present perfect and discussed under viewpoint aspect. The non-proximate past tense in Ibibio marks ‘anteriority’ where the basic conceptualization is that the situation talked about happened in the remote or indefinite past. If the situation is conceived of as occurring in the proximate past, the current relevance is brought to focus by the use of the present perfect morpheme (*mé*). The examples in (8a, b) above repeated here as (9a, b) illustrate this contrast.

9a. *m* -*mé* -*kít* *okon* *ùbákùsèn* *ámí*
 1sS Perf see *okon* morning this
I have seen okon this morning

b. *m*- *mà-* *á-* *kít* *okon* *ùbákùsèn*
 1sS Past 1sS see *okon* morning
I saw okon in the morning (does not specify which morning)

The non-proximate future tense in Ibibio marks a future time reference as well as ‘anticipation’ (a modal element) where the situation talked about in the sentence is expected to occur in a non-foreseeable future time. This is in contrast with the proximate future tense which marks future time reference and ‘anticipation’ too but the situation talked about in the sentence is expected to occur in the near or foreseeable future time as these examples illustrate.

10a. *é-* *yà-* *é-* *dí*
 2pLS⁷ Fut 2pLS come
They will come (but we don’t know when)

b. *é-* *yá-* *è-* *dí*
 2pLS Fut 2pLS come
They will come (shortly)

The contrast between the two sentences in (10) can be captured schematically with the use of temporal relation plotted on a time line as in figure (8).

Figure 8. Temporal relation in Ibibio non-proximate and proximate future

a.SpT = RT.....SitT

b.SpT = RT...SitT

In figure (8a) corresponding to (10a) the SitT is subsequent to SpT which is simultaneous with RT. The longer stretch of dots on the time line means that the situation is located in a remote future time. In figure (8b) corresponding to (10b) the SitT is also subsequent to the SpT which is simultaneous with the RT. The shorter stretch of dots indicates that the situation is located in the near future time not very far away from moment of speech. The past tense and future tense type II are marked by allomorphs *dí* and *ké* respectively. These allomorphs are used exclusively in focus constructions, interrogative structures and structures that combine the progressive aspectual element *sák* with tense morphemes. A discussion of both descriptive details and theoretical assumptions of these allomorphs in focus constructions in Ibibio can be seen in Jorge and Oliveira (2009).

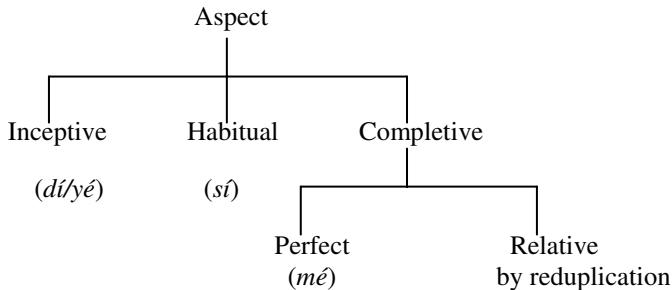
4. Aspectual system in Ibibio

The lenses of viewpoint aspect in Ibibio are very complex and tend to capture the various internal temporal constituencies of situations in the language either in whole or in parts. We shall use the concept of “visibility” following Smith (1997) to analyze situations in relation to what is focused on by the lenses of the various viewpoint aspects grammaticalized in Ibibio. But first, we review previous

⁷ 2pLS = second person plural marker; Fut = future tense marker.

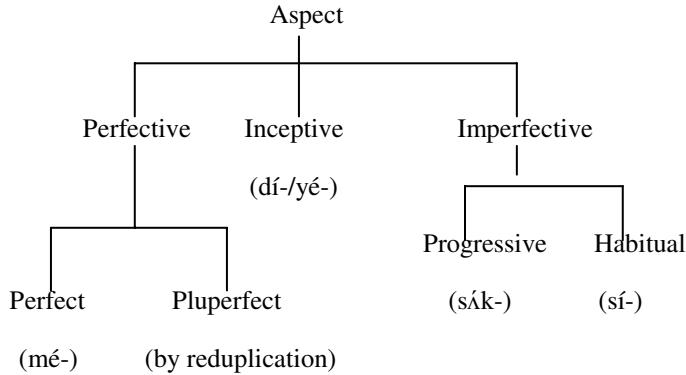
work on aspectual distinction in Ibibio. Essien (1985b, 1990) analyzed Ibibio aspectual category as grammaticalizing Inceptive, completive and habitual aspectual distinctions with the completive aspect consisting perfect and relative aspect. The inceptive aspect in that analysis is marked morphologically by (*dí/yé*) depending on dialectal variations. According to Essien (1990:84) inceptive aspect “indicates the beginning of a situation which has not held before the moment of speaking about it. Although the situation may continue indefinitely, *dí/yé* does not primarily refer to the continuation of a situation. This secondary meaning may be implied, however, even to the point of habituation once the situation has started”. Habitual, perfect and relative viewpoints in Essien’s analysis are marked by (*sí*), (*mé*) and reduplication respectively and the aspectual system of Ibibio according this analysis is as presented in figure (9) below.

Figure 9. Aspectual system in Ibibio according to Essien (1990)



In this study we take a closer look at the aspectual system of Ibibio based on the pioneering work of Essien (1985, 1990) presented above. In our analysis, Ibibio aspectual system is divided into three families of aspectual distinctions namely perfective, inceptive and imperfective. The perfective is further divided into the present perfect and the pluperfect. The present perfect corresponds to Essien’s perfect and the pluperfect corresponds to his relative. The inceptive viewpoint also corresponds to Essien’s inceptive. However, our imperfective viewpoint is subdivided into progressive and habitual viewpoint aspectual distinctions. There is an empirical reason for this rearrangement. Situations are said to have two endpoints; an initial endpoint (the beginning of the situation) and a final endpoint (the end of the situation). In addition to these endpoints, situations may or may not have a middle point. Durative situations have middle points that can be focused on by viewpoint aspects whereas punctual situations lack middle points and are usually viewed as a whole by the lenses of viewpoint aspects. Like we pointed out in section 2.2, perfective viewpoints are said to be closed informationally in the sense that they present situations as complete with both endpoints whereas imperfective viewpoints are open informationally. It follows from this difference in information structure that situations that present perfective viewpoints would be compatible when combined with other element/s in the sentence that assert completion while situations that present imperfective viewpoint will not. Conversely, situations that present imperfective viewpoint will be compatible with structures in the sentence that assert continuation or progression whereas situation with perfective viewpoint will not. With this in mind, we design a set of empirical tests that will semantically test the aspectual viewpoint classes in Ibibio and place them in their prototypical aspectual categories for further analysis.

The first test is what we refer to as serial-verb-construction test (SVC) using a “super lexical” item *mà*: ‘finish’. In this test, the word *mà* will be inserted at the end of a sentence to test whether the viewpoint aspect expressed in the sentence is perfective or imperfective. The word asserts the completion of the situation expressed in the sentence and is predicted to be compatible and produce reasonable sentences when inserted into sentences with perfective viewpoints but the reverse is predicted for sentences with imperfective viewpoints. The second test is the question test (QT) using the progressive marker *sak-* in a question to inquire about continuation or progression of the situation talked about in the sentence. The question is posed after the sentence and is predicted to be felicitous when posed after sentences that express the imperfective viewpoint but infelicitous with sentences expressing the perfective viewpoint. But before we apply the tests we present a tree diagram of Ibibio aspectual system according to our analysis in figure (10) below.

Figure 10. A reanalysis of Ibibio aspectual system

Sentences with perfect viewpoint (marked with *mé*) are reasonable or felicitous with SVC test and so are sentences with the Pluperfect viewpoint (marked by reduplication) as the following examples show.

11a. *m- mé- día úkòm m- mà*
 1sS Perf eat plantain 1sS- finish
I have finished eating plantain

b. *Emem á- mà- á- dá- día úkòm á- mà*
 Emem 3sS past 3sS Rel eat plantain 3sS finish
Emem had already finished eating plantain

In the examples above the ‘super lexical’ item *mà*: “*finish*” is reasonable and felicitous with the sentence with perfect viewpoint (11a) and the sentence with pluperfect viewpoint (11b) in a serial-verb-construction that may be paraphrased as ‘eat plantain finish’ asserting the completion of the situation talked about. On the contrary, this same item would not be reasonable or felicitous with sentences with Inceptive viewpoint, progressive viewpoint and habitual viewpoint as the examples show below.

12a. **?Emem á- dí- sàñà òtè ọbọ́n á- mà* (Inceptive aspect)
 Emem 3sS- Incp⁸ walk like king 3sS- finish
Emem has started to walk like a king finish

b. **?Emem á- sák á- díá úkòm á- mà* (Progressive)
 Emem 3sS- Prog 3sS- eat plantain 3sS finish
Emem was eating plantain finish

c. **?ì- mà- í- sí- fèghé ènyé í- mà* (Habitual)
 1pS- Past- 1pS Hab dread him 3pS finish
We used to dread him finish

The sentences in (12a-c) are both ungrammatical and semantically infelicitous. We will use the star sign to indicate ungrammaticality of a sentence and the question sign to indicate semantic oddity of a sentence. This test provides a proof that the sentences in (11a: perfect) and (11b: pluperfect) project a characteristic of prototypical perfective viewpoint (completion) and therefore belong in that category and the temporal schema for perfect and pluperfect viewpoints in Ibibio is as follows in figure (11).

⁸ Incp = inceptive aspect marker; Hab = habitual aspect marker; 1pS = first person plural subject marker; 3pS = third person plural subject marker.

Figure 11. Temporal schema for Ibibio perfective viewpoint

I//////////F

In figure (11) the (I) means the initial endpoint of the situation, the (F) means the final endpoint of the situation while the slashes that span through the entire situation show that the situation is viewed as a whole and complete.

Next, we conduct the question test which will provide a proof that sentences in Ibibio with inceptive, progressive and habitual viewpoints exhibit a characteristic of prototypical imperfective (continuation) and therefore belong in that category. Consider the sentences in example (13) below.

- 13a. Emem á- dí- sàñà òtè óbóón (Inceptive)
 Emem 3pS- Incp- walk like king
Emem has started to walk like a king
- a`. Á sák á- sáńá? (Question inquiring about continuation)
 3pS Prog 3pS walk
Is he still walking like a king?
- b. Emem á- ké- sák á- díá úkóm (Progressive)
 Emem 3pS Past Prog 3pS eat plantain
Emem was eating plantain
- b`. Á- ké- sák á- díá? (Question inquiring about continuation)
 3pS Past Prog 3pS eat
Was he still eating?
- c. Emem á- sí- díá úkóm (Habitual)
 Emem 3pS Hab eat plantain
Emem eats plantain (as a habit)
- c`. Á- sák á- sí- díá? (Question inquiring about continuation of the habit)
 3pS Prog 3pS Hab eat
Is he still eating plantain?

The sentences (13a-c) are compatible, reasonable and felicitous with the questions in (a`, b` and c`) which are inquiring about the continuation of the situation talked about. This shows that the information lines for these sentences are open; a typical quality of imperfective viewpoint. On the flip side, sentences in the examples below are not felicitous with the questions inquiring about continuation of the situation talked about and therefore do not belong in the category of Imperfective viewpoint aspect.

- 14a. Emem á- má- dá- díá úkóm á- mà (Pluperfect)
 Emem 3sS Past Plf eat plantain 3pS finish
Emem had finished eating plantain
- a`. ? á- ké- sák á- díá? (Question inquiring about continuation)
 3sS Past Prog 3pS eat
Was he still eating it?
- b. Ñnyìn í- mí- díá úkóm í- mà (Perfect)
 we 1pS Perf eat plantain 1pS finish
We have finished eating plantain
- b`. ? ì- sák í- díá? (Question inquiring about continuation)
 1pS Prog 1pS eat
Are we still eating it?

Examples (14a-b) assert the completion of the situations talked about and therefore are perfective and have closed information line. This tends to be the reason why they are infelicitous with the examples in (14a`-b`) which inquire about the continuation of the situation talked about in the sentences. It is necessary at this point to add that Ibibio imperfective viewpoint aspects are not in a one-to-one correspondence with what Smith (1997, Bardovi-Harlig 2000) etc. refer to as “general imperfective” which is attested in most Romance languages like French, Spanish, Italian etc, and several other languages like Russian and Mandarin Chinese. The general imperfective in these languages tends to be restricted to marking of durative situations only in the past whereas Ibibio inceptive, progressive and habitual aspects can be used in all tenses. Also, inceptive aspect in Ibibio is classified as imperfective in our analysis but at the same time given a separate branch on the aspectual tree diagram. This is because inceptive viewpoint is not a prototypical imperfective viewpoint in that it has an initial endpoint which others do not have. This conceptual difference can be captured neatly with the use of temporal schemata. The temporal schema for inceptive aspectual viewpoint in Ibibio is as presented in figure (12) while the schema for both progressive and habitual aspectual viewpoints in Ibibio is as in figure (13) below.

Figure 12. Temporal schema for Ibibio inceptive aspect

I/////.....F

Figure 13. Temporal schema for Ibibio progressive and habitual aspects

I.....////////.....F

In figure (12), the (I) means the initial endpoint of the situation, the slashes mean that the initial point or beginning of the situation is in focus while the stretch of dots means that the final endpoint (F) is not in focus by this viewpoint aspect. In figure (13), the slashes mean that the internal or middle portion of the situation is in focus, the stretch of dots after (I) and before (F) means that neither the initial portion nor the final portion of the situation is in focus. Studies in the literature have shown that the portions of situations focused by different aspectual viewpoints types have implication on how the aspectual viewpoints interact with tense and lexical aspect in these situations and Ibibio lexical aspect is discussed in the following subsection.

5. Lexical aspect in Ibibio

Situation types in Ibibio can be analyzed using the set of semantic features identified in the literature. These include dynamism, durativity and telicity with telicity playing an anchor role in the classification of situation type in this language (Vendler 1967; Smith 1997, Bardovi-Harlig 1998, 2000; Andersen 1991; Andersen & Shirai 1996, Salaberry 2000a, 2000b; Upor 2009; Shirai 2007, etc). The distinction between static and dynamic situations is attested in Ibibio language as verb constellations in the language may be classified into stative and event verb constellations with consistent and unique set of linguistic properties. There are stative verb constellations in the language which may be described linguistically as obtaining or holding in a single, undifferentiated span of time but do not take time (a prototypical feature of states). Examples of statives in Ibibio include the following.

15a. Okon á- bà ké Ùyó
 Okon 2sS be prep Uyo
Okon is in Uyo

b. Okon 5- diõñõ íkõ-mbàkára
 Okon 2sS know English
Okon knows English

- c. Okon á- ñim ìb̀l̀k ódó ké ákpáníkó
 Okon 2sS believe story the particle truth
Okon believes the story

The prototypical interpretation of a stative sentence in Ibibio such as the one in (15a) is that the situation obtains in an undifferentiated period of time that lacks internal structure and dynamism. For example, if *okon* stayed in *Uyo* for two days, there is no interval within the two days that *okon* was not in *Uyo*. The initial and final endpoints of a state are not part of the state: they are distinct situations, consisting changes of states. The temporal schema for such sentences can be presented as in figure (14) below.

Figure 14. Temporal schema for states in Ibibio

(I)____(F)

In this schema (I) indicates initial endpoint while (F) indicates the final endpoint. The endpoints are given in parentheses to show that they are not part of the state. The straight line in the temporal schema indicates the entailment pattern of statives which shows that when a state holds for an interval it holds for every sub-part of that interval.

However, the conceptual underpinnings of telicity are utilized in Ibibio in a very unique manner. With regards to telicity assignment, verbal predicates in this language cannot be neatly divided into telic verb constellations and atelic verb constellations as in, for instance, English language where states and activities can be said to be atelic verbs while accomplishments and achievements can be said to be telic verbs. In this language verbal predicates may be given a tripartite classification based on telicity. Some verb constellations may be classified as inherently atelic because their telicity orientation is fixed in the perceptual, conceptual and cognitive orientation of the speakers of the language. Verb constellations of this type include state verbs discussed above. This class of verbs will be given the linguistic feature [-Telic] in Ibibio language. They are durative and non-punctual. Other verb constellations may be classified as inherently telic because their telicity orientation is also fixed in the perceptual, conceptual and cognitive orientation of the speakers of the language. Verb constellations of this type include punctual events which have the linguistic feature [+ Telic] in Ibibio language. They are punctual, non-durative verbs and involve change of state which constitutes the outcome or goal of the event. When the goal is reached, a change of state occurs and the event is complete. This class of verb constellations in Ibibio can be comparable to achievement verb constellations in the English language in Vendler's (1967) terms. Examples of inherently telic and punctual verb constellations in Ibibio are presented in example (16) below and the temporal schema for punctual events in Ibibio is as presented in figure (15).

- 16a. Emem ó- b̀m èsìò
 Emem 2sS break pot
Emem has broken the pot
- b. Okon ó- k̀ñ ìk̀ñ
 Okon 2sS cough(v) cough(n)
Okon has coughed
- c. Edem ó- kp̀kk̀ ókp̀k̀ró
 Edem 2sS bang table
Edem has banged on the table

Figure 15. Temporal schema for punctual events in Ibibio

.....E.....

This schema shows the single-stage-event nature of punctual events with the (E) indicating the event itself and the dots before (E) indicating the preliminary stages of the event while the dots after

(E) indicate the resultant stages of the event. The last class of verb constellations cannot be classified either as inherently telic or atelic because their telicity orientation is not fixed in the perceptual, conceptual and cognitive orientation of the speakers of the language. Verb constellations of this type include durative events that have the linguistics feature [+/-Telic] in Ibibio language. They are durative, non-punctual, but dynamic events. They are specified as [+/-Telic] because they are ambiguous as to whether they have arbitrary or natural endpoints. Examples of this class of verb constellations include the following.

- 17a. *diá sókóró*
eat orange
eat an orange/oranges
- b. *tèm ndídiá*
cook meal
cook a meal/meals
- c. *bók ndídiá*
cook meal
cook a meal/meals
- d. *sàńá kǎ úfók-ńwèd*
walk go house-book
walk to school
- e. *sàńá ké úfók-ńwèd*
walk in house-book
walk in school

In example (17a) the structure can either be interpreted as “*eat oranges*” (which is atelic in the English language) or “*eat an orange*” (which is telic in the English language). The same goes for the structures in (17b-c) which can be interpreted either as “*cook a meal*” which is telic in English language or “*cook meals*” which is atelic in English language. The examples in (17d-e) are different. In order for the verb *sàńá*: “*walk*” to be pinned down in terms of telicity, it needs the help, so to speak, of another verb in a serial-verb-construction which can be translated approximately as “*walk-go*” as in (17d) which may be conceptualized as slurring toward telic; a kind of derived telicity. This is comparable to the structure “*walk to school*” in English though they are not complete equivalents. The structure in (17e) may be conceptualized as slurring toward atelic and may be comparable to the structure “*walk in school*” though they are also not complete equivalents.

The idea in our analysis finds analogy in similar analysis in Gavrusseva (2002, 2003 and 2004) in her Underspecification of Aspect Hypothesis. Gavrusseva uses telicity as a syntactic feature to classify verbs in English into three aspectual classes namely statives (state verbs) with the feature V[-Telic], punctual verbs (achievements) with the feature V[+ Telic] and the non-punctual verbs (activities and accomplishments) with the feature V[+/-Telic]. But an important conceptual difference between the verbs in Gavrusseva’s non-punctual class of verbs and the verbs in similar verb constellation (durative events) in our analysis is that in the English language, the telicity of structures like “*walk to school*” (telic) and “*walk in school*” (atelic) or “*build a house*” (telic) and “*build houses*” (atelic) is very clear. In contrast, the telicity of structures like *sàńá kǎ úfók-ńwèd* (slurring toward telic) and *sàńá ké úfók-ńwèd* (slurring toward atelic) is not clear. The same can be said of the other examples in (17a-c). This semantic peculiarity in telicity assignment in Ibibio seems to be a response to a linguistic peculiarity in relation to unavailability of definite and indefinite articles and prepositional choices in the language. Thus structures like *diá sókóró* may be interpreted as either *eat an orange* (telic), *eat the orange* (telic) or *eat oranges* (atelic) showing that the unavailability of definite and indefinite articles results in semantic peculiarity in telicity assignment in the language. The unavailability of prepositional choices reinforces this peculiarity as the examples in (17d-e) show. In English the choice between the prepositions *to* and *in* in the verb constellations *walk to school* and *walk in school* specifies the telicity of the two verb constellations whereas in Ibibio such choices are not available and the use of the only

available preposition *ké* in the verb constellation *sáńá ké ùrùá*: “walk in the market” and a serial-verb-construction as in *sáńá kǎ ùrùá*: “walk go market” does not specify the telicity of the verb constellations in a clear fashion. This is partly because in a verb constellation like *sáńá kǎ ùrùá*, it is difficult to tease out individual contribution of the two verbs *sáńá*: “walk” and *kǎ*: “go” to telicity assignment. The temporal schema of durative events in Ibibio can be presented as follows.

Figure 16. Temporal schema of durative events in Ibibio

$$I \dots \dots \dots F_{[+/-Nat]}$$

In figure 16, the dots indicate the process (durative) nature of the event and the subscript _[+/-Nat] shows that the final endpoints of durative events in Ibibio can either be natural or arbitrary.

6. Interaction of form and function in Ibibio linguistic time

Interaction of elements in Ibibio temporal-aspectual categories can be explained with attention to the tenets of prototype theory of categorization (Rosch 1973, 1978; Andersen 1991; 1997; Bardovi-Harlig 2000; Shirai 2007; Wagner 2009; Wulff et al. 2009; Robinson & Ellis 2008; Cohen & Lefebvre 2005; Tomasello 2003 etc). In prototype theory, many human concepts have central meaning, or prototype, which consists of a set of properties or features shared by all members of that conceptual category. Prototypical members or central members of these categories have many of the characteristic properties while less central or peripheral members have fewer of them. So all human cognitive categories have central group of exemplars to which all other members of the categories bear a family resemblance. Lexical aspectual types, viewpoint aspectual types and tense are categories of grammar in the language and they lend themselves to the prototypical groupings as well. Elements in one category of grammar tend to correlate or interact with elements in other categories of grammar in unique ways based on how semantically congruent their prototypical properties are. This interaction can be illustrated in the table below.

Table 2. Prototypical temporal-aspectual groupings in Ibibio and their semantic features

Categories of grammar	Group 1		Group 2	
	Class	Features	Class	Features
Lexical aspect	Telic (punctual events)	endpoint punctuality change of state	Atelic (states & durative events)	no endpoint, durativity non-resultative
Viewpoint aspect	Perfective	completion	Imperfective	continuation, progression
Tense	Past	action completed	Present	action in progress current relevance

In this table, group 1, for example, has telic as a lexical aspectual class consisting of verbal constellations of punctual events with the semantic features of having natural endpoints, punctuality and change of state. It also has perfective viewpoint aspect with the semantic features of completion and past tense with the semantic feature of action completion. The semantic features internal to this group tend to be mutually congruent with one another as actions completed in the past is more likely to be expressed with a sense of completeness, and punctuality/change of state is achievable through the use of perfective aspectual markings on telic verbs.

Generally, in the context of language acquisition, learners at the early stages in both first and second language acquisition have been reported to follow these prototypical groupings of temporal-aspectual features in their interlanguage production data. Early learners of English, for example, prefer

to say telic, perfective, past combination (e.g. *broke*) and atelic, imperfective, present combinations (e.g. *riding*). This results in what Wagner (2009) refers to as systematic underextension by the learners making them fail to produce legitimate cross-group options such as telic-imperfective-present (e.g. Wendy is breaking the toy) or atelic-perfective-past sentences (e.g. Peter flew). The effect of these prototype groups has been well documented in language acquisition production in a variety of languages including English (Bardovi-Harlig 2000; Shirai & Andersen 1995), French, (Ayoun & Salaberry 2008), Italian (Antinucci & Miller 1976), Japanese (Shirai 1998, 2007) leading to the proposition of Aspect Hypothesis (AH); a second language acquisition theory. We believe that this may constitute a viable research area for both first and second language acquisition studies in Ibibio and other African languages.

7. Conclusion

A reanalysis of Ibibio tense system presented in this paper argues for a bipartite temporal specification of past and future in agreement with Jorge and Oliveira 2009 but in contrast with Essien 1990 who presents a tripartite system of past, present and future. Following Smith's (1997) three-time temporal specification for all sentences, we argued that the temporal components of what was previously analyzed as present tense marked by (*mé*) and proximate past tense marked by (*mé*) show that they are identical in terms of situation time (SitT), reference time (RT) and speech time (SpT) and therefore could be unified as perfect aspectual marker because it meets Smith (1997) requirement for present perfect structures namely that situation time be prior to the reference time which is simultaneous with speech time. Next we reanalyzed Ibibio viewpoint aspectual system using a set of empirical tests; serial-verb-construction (SVC) test and question (QT) test. In serial-verb-construction test we used the "super lexical" item (*mà = finish*) to assert completion; a typical feature of perfective sentences. All perfective structures in the language passed this test. The question test uses the word (*sàk = still*) to assert continuation; a typical feature of imperfective sentences. All imperfective structures passed this test. These tests revealed three major aspectual distinctions attested in the language namely, perfective, inceptive and imperfective aspects. In addition, this paper gives Ibibio a tripartite lexical aspectual classification based on the peculiar nature of telicity assignment in the language. This includes states which are inherently atelic and are specified by the linguistic feature [- Telic], punctual events which are inherently telic and are specified by linguistic feature [+ Telic] and durative events which are not specified for telicity and have the linguistic feature [+/- Telic].

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