The present issue, 2.2, is the last regular issue of SAL for this year. The remainder of the journal's output for the rest of the year will consist of the proceedings of the Second Conference on African Linguistics, held last March at the University of California, Los Angeles. The proceedings will appear in two volumes, one in October, the other in December. Four of the papers appearing in this issue, those of Mr. Hutchison, Mr. Eulenberg, Mr. Dwyer and Mr. van Spaandonck, were originally prepared for the Conference and are printed here with the kind permission of the authors.
STUDIES IN AFRICAN LINGUISTICS

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1. Introduction

The Songhai language is spoken mainly in Mali and Niger, and is classified by Greenberg as belonging to the Nilo-Saharan family. The purpose of this paper is to discuss the syntactic criteria explaining the variant forms of coreferent pronominalization in Songhai, and to point to the semantic implications of the analysis. This paper was written with the invaluable assistance of Mamadou Konaré who is from Diré, Mali. I am also indebted to Charles Bird and Tim Shopen for their help.

2. Main Clauses

In Diré Songhai, the third person singular pronoun is manifested in two distinctive forms, as shown in the sets I and II below:

\[
\begin{array}{ll}
\text{Set I} & \text{Set II} \\
\text{(nga)} & \text{ngu} \\
\end{array}
\]

The pronoun form of Set II above does not occur in main clauses except in possessive constructions where the coreferent antecedent occurs in the same clause, and in focus constructions which will be discussed in section 4. Identity of reference is indicated by the use of subscripts in the following examples, and throughout the paper. (D = determiner)

\[
\begin{align*}
(2) & \text{Ali} \text{ dumbu ngu} \text{ kamba di.} \\
& \text{Ali cut he arm D} \\
& \text{'Ali cut his arm.'} \\
(3) & \text{Ali neere ngu bari di.} \\
& \text{Ali sell he horse D} \\
& \text{'Ali sold his horse.'}
\end{align*}
\]

The identical subscripts of examples (2) and (3) indicate unambiguous identity of reference.
The pronoun forms of set I above may occur in main clauses either independently or in possessive constructions when the coreferent antecedent does not occur in the same clause. Their occurrence in focus constructions will be mentioned later. The subscript \( x \) will be used to indicate obligatory reference to a noun phrase lying outside of the main clause but understood in the linguistic context.

(4) \( A_i\) no \( a_x \) se gooro di.

Ali give he to kola D
'Ali gave him the kola nut.'

(5) \( A_i\) dambu nga\( x \) kamba di.

Ali cut he arm D
'Ali cut his arm.'

As indicated by the subscripts, in (2) Ali has cut his own arm, while in (5) he has cut someone else's arm. In (4), coreference is obviated by the use of the set I form \( a \).

The following examples demonstrate the limits on the use of the set II form in simplex sentences.

(6a) Moussa\( i\) no \( A_i\) se ngu\( i\) kitaabu di.

Moussa give Ali to he book D
'Moussa gave Ali his book.' (Moussa's book)

(6b) *Moussa\( i\) no \( A_i\) se ngu\( 2\) kitaabu di.

(6c) Moussa\( i\) no \( A_i\) se nga\( 2/x \) kitaabu di.


(7a) Moussa\( i\) koy ngu\( i\) bugu di kuna

Moussa go he hut D into
'Moussa went into his hut.' (Moussa's hut)

(7b) Moussa\( i\) koy nga\( x \) bugu di kuna.

'Moussa went into his hut.' (someone else's hut)

It appears then that the set II form is used for coreference with the subject noun phrase of a main clause and the set I form, either for
coreference with an antecedent object noun phrase, or for nonanaphoric reference. Example (6b) shows quite clearly that the set II form cannot be coreferent with an object noun phrase. In (7b), nga is again used to indicate noncoreference with a noun phrase in the same clause.

A brief glance at the passive forms of simplex sentences of Songhai allows us to further refine our observations. As Shopen and Konaré [1970] have demonstrated, passive sentences of Songhai are agentless, at least at the surface structure level.

(8a) boro fo₁ guna Ali₂ nga₂/x bugu di kuna.
    someone see Ali he hut D in
    'Someone saw Ali in his hut.'
(8b) *boro fo₁ guna Ali₂ ngu₂ bugu di kuna.
(8c) boro fo₁ guna Ali₂ ngu₁ bugu di kuna.
    'Someone saw Ali at his hut.'

(9a) Ali₁ gunandi ngu₁ bugu di kuna.
    Ali be seen he hut D in
    'Ali was seen in his hut.' (Ali's hut)
(9b) Ali₁ gunandi ngaₙ bugu di kuna.
    'Ali was seen in his hut.' (someone else's hut)

Thus, unambiguous coreference through the use of the set II form ngu in simplex sentences of Songhai, can only be established with the surface structure subject of the sentence.¹

On the basis of data observed to this point in the analysis, it is possible to make a tentative approximation of a schema for pronominalization, which could be easily adapted to either a syntactic or an interpretive approach to the problem.

¹The transformational derivation of passives would therefore require that pronominalization rules be post-cyclic. Later evidence in section 4 will indicate that focus rules would then have to follow pronominalization rules of Songhai, post-cyclically.
(10a) Context: \[ \text{NP}_1 X \text{ ngu} Y \]
\[S\]

\text{NP}_1 \text{ is [+coreferential] with } \text{ ngu}.

(10b) Optional Subpart

Context: \[ X \text{ NP}_1 Y \text{ nga} \]
\[S\]

\text{NP}_1 \text{ may be [+coreferential] with } \text{ nga} \text{ and } X \neq \emptyset.

(X, Y, and Z represent variables.)

The use of the pronoun form \text{ ngu} of set II, is obligatorily anaphoric. It must be coreferent with a surface structure subject noun phrase at a stage of derivation prior to the application of a focussing rule.

Part (b) of the above schema is optional since the set I form \text{ a} must be nonanaphoric in simplex sentences, and the set I form \text{ nga} may be nonanaphoric or may corefer with any antecedent noun phrase that is not the surface structure subject of the simplex.

Reflexive constructions of Songhai are not clearly distinguished from other forms of pronominalization. The notion of reflexivization is expressed by the use of the set II pronoun \text{ ngu}, plus the noun \text{ bomo meaning 'head'}. The set I forms cannot be used in reflexivization for obvious reasons.

(11a) \text{Ali} \text{ hinsa ngu \text{ bomo}.}

Ali prepare he head

'Ali prepared himself.'

(11b) *\text{Ali} \text{ hinsa nga \text{ bomo}.}

(11c) \text{Ali} \text{ hinsa nga}_X \text{ bomo}.

'?Ali prepared his head.' (someone else's head)

The pronouns of set I may as well occur in sentence-initial position functioning nonanaphorically, as subject noun phrases. As previously observed, the set II form establishes coreference with any subject noun phrase. (C = copula)
(12a) a koy ngu bugu di kuna.  
he go he hut D into  
'He went into his hut.'

(12b) *a koy nga bugu di kuna.  

(12c) a koy nga x bugu di kuna.  
'He went into his hut.' (someone else's hut)

(13a) nga bugu di go ngu batuma di ra.  
he hut D C he courtyard D in  
'His hut is in his courtyard.'

(13b) *nga bugu di go nga batuma di ra.  

(13c) nga bugu di go nga x batuma di ra.  
'His hut is in his courtyard.' (someone else's courtyard)

The following examples demonstrate that the set II form ngu cannot be substituted for the set I forms in subject position since there is no antecedent subject noun phrase with which coreference can be established. In examples (12) and (13) we observe the set II form corefering with an antecedent nonanaphoric set I form. In examples (14) and (15), the set II form is obviated from nonanaphoric use.

(14a) *ngu koy ngu bugu di kuna.  
he go he hut D into

(14b) *ngu koy nga x bugu di kuna.  

(15a) *ngu bugu di go ngu batuma di ra.  
he hut D C he courtyard D in

(15b) *ngu bugu di go nga x batuma di ra.

In order to exhaust the paradigmatic possibilities in main clauses or simplexes, here are examples with noun phrases, other than pronouns, in object position.

(16a) a koy Ali bugu di kuna.  
he go Ali hut D into  
'He went into Ali's hut.'
On the basis of the data thus far observed, it is apparent that for either the set I or the set II type of coreferent pronominalization to occur, the noun phrase that is to be pronominalized must be preceded by its coreferent noun phrase. Backwards pronominalization is obviously not permitted. It turns out that precedence is the only one of Langacker's primacy relations that holds across the board for coreferent pronominalization in Songhai. Unlike English, the primacy relation 
 precedes is both necessary and sufficient in Songhai at a semi-surface derivational level, regardless of the command relationships. This is demonstrated by the following examples.  

(17a) Ali nimsi sa di ka a l/ x hirow kaso.  
Ali be repentant time D S he enter prison  
'Ali was repentant when he entered prison.'  
(17b) a l nimsi sa di ka Ali2 hirow kaso. (*ngu)  
'He was repentant when Ali entered prison.' (he # Ali)  
(17c) *a l nimsi sa di ka Ali hirow kaso.  

(18a) sa di ka Ali hirow kaso, a l/ x nimsi.  
'When Ali entered prison, he was repentant.'  
(18b) sa di ka a l hirow kaso, Ali2 nimsi.  
'When he entered prison, Ali was repentant.' (he # Ali)  
(18c) *sa di ka a l hirow kaso, Ali nimsi.  

Example (18c) shows clearly that although Ali does not command a, coreference without precedence does not occur. This evidence also

2An apparent exception to the position taken here will be considered in section 3.  
3The impossibility of the occurrence of ngu in constructions like (17) and (18) will be treated in sections 3 and 6.
further substantiates the hypothesis that pronominalization is a very late, semi-surface structure phenomenon. Whether by a transformation or by an interpretive rule, it occurs quite late. The only exceptions to this would of course be the nonanaphoric occurrences of the set I forms a and nga.

It is now clear that the set I forms a and nga may occur freely in main clauses of Songhai, when establishing identity of reference with a noun phrase outside of the linguistic context, or when corefering with a non-subject noun phrase near the surface structure level. The set II form ngu, occurs only in main clause predicates, and establishes unambiguous coreference with the subject noun phrase in that main clause. The set II form is thereby not allowed to occur in (or as) the subject noun phrase of the main clause. Neither the forms of set I nor the form of set II can be used to establish coreference with a following noun phrase.

3. Complement Constructions

It is now important to turn to complement constructions of Songhai in order to substantiate and elaborate the observations made in section 2. Examples (19) and (20) are representative of the two basic types of complement constructions with which this discussion will be concerned. (A = auxiliary)

(19a) Ali | har ka ngu | go ta koy tira.
    Ali say S he A A go school
    'Ali said that he (Ali) would go to school.'
(19b) *Ali | har ka ngu \x go ta koy tira.
(19c) *Ali | har ka a | go ta koy tira.
(19d) Ali | har ka a \x go ta koy tira.
    'Ali said that he (not Ali) would go to school.'

(20a) a kan Ali | se ka nga | harme di go koy tira.
    it please Ali to S he brother D A go school
    'It pleased Ali that his brother is going to school.'
(20b) *a kan Ali | se ka ngu | harme di go koy tira.
In (19), the set II form *a kan Ali I se ka ngu harme di go koy tira.

In (19), the set II form ngu, and only that form, can indicate coreference with Ali, the subject of the matrix verb. If the set I form is used, as in (19c) and (19d), coreference with Ali is impossible. In (19a), coreference with Ali is unambiguous. In (20), the set I form nga, and only that form, can be used for establishing coreference with Ali, which occurs in object position in the expletive-it matrix clause. As indicated by the subscripts, (20a) is ambiguous since nga may be coreferent with Ali, or nonanaphoric. Examples (20b) and (20c) indicate that ngu cannot occur in that environment under any conditions.

In complement constructions like (19), as was observed in section 2, ngu is obligatorily coreferent with a main clause initial subject noun phrase, near the surface structure level. Further evidence is provided by the following examples. (SJ = subjunctive)

(21a) Ali go tammaha ngu ma ka Président.

Ali A expect he SJ become president

'Ali expects to become President.'

(21b) *Ali go tammaha ngu x ma ka Président.

(21c) *Ali go tammaha a x ma ka Président.

(21d) Ali go tammaha a x ma ka Président.

'Ali expects him to become President.'

(22a) Ali go ba alkati diyo ma guna ngu bari di.

Ali A want police D SJ see he horse D

'Ali wants the police to find his horse.'

(22b) *Ali go ba alkati diyo ma guna ngu x bari di.

(22c) *Ali go ba alkati diyo ma guna nga x bari di.

(22d) Ali go ba alkati diyo ma guna nga x bari di.

'Ali wants the police to find his (not Ali's) horse.'

Regardless of the degree of embeddedness of ngu, the unambiguous coreference with the matrix subject is possible. The matrix verbs in
examples (19), (21) and (22), are har 'say', tammaha 'expect, hope', and ba 'want', respectively. These verbs are representative of the class of verbs whose subject noun phrases may corefer with ngu in any embedded position. In addition to the syntactic constraints already observed on the occurrence of ngu, it is also important to look at the semantic constraints, as reflected in this class of verbs. All the verbs of the class in some way reflect the feelings, desires, beliefs, opinions, or words of their subject noun phrases. It appears that the speaker is letting it be known that the subject noun phrase of a matrix verb of this class is the one responsible for the information being communicated by the utterance. In complement constructions, this responsibility assignment and the related use of ngu for coreference, occurs only with the verbs of the class represented by the above-mentioned verbs: verbs of main clause subject responsibility.

The point being made is that syntactic constraints on coreferent pronominalization in Songhai seem to be indicative of corresponding regularities and differences of semantic interpretation. We have already looked at set II coreferent pronominalization in main clause subject responsibility constructions.

Set I coreferent pronominalization occurs in complement constructions headed by what will be referred to as speaker responsibility verbs. This class includes those main clause verbs which do not allow the set II form ngu to occur in embedded complement sentences. Syntactically, a number of the verbs of this class allow only an expletive-it to occur in matrix initial subject noun phrase position. On the basis of our observations, the absence of ngu in the expletive-it constructions would therefore be explained. This is demonstrated in the following example:

(23a) a tar Ali \( I \) se ka nga \( J \) bari di jeyndi.
     it displease Ali to S he horse D be stolen
     'It displeased Ali that his horse was stolen.'
(23b) *a tar All \( I \) se ka ngu \( J \) bari di jeyndi.
(23c) *Ali \( I \) tarndi ka ngu \( J \) bari di jeyndi.
     Ali be displeased he horse D be stolen
Semantically, in constructions like (23), the speaker is in effect assuming responsibility for the information communicated. In (23a), responsibility is not being assigned to Ali, but rather the speaker is stating factive information on the basis of his own knowledge or experience. In other words, the speaker presupposes the truth of his statement.

Basing an argument for explaining the different forms of coreferent pronominalization in Songhai complementation on the syntactic requirement of an expletive-it matrix sentence is not however justifiable. Such a hypothesis does not hold throughout the data as evidenced by example (24) below, which is similar to example (18) of section 2.

(24a) Ali | nimsi ka a₁/ₓ hirow kaso.
   Ali be repentant S he enter prison
   'Ali was repentant over entering prison.'

(24b) *Ali | nimsi ka ngu₁/ₓ hirow kaso.

It appears then that the semantic constraints on the different forms of coreferent pronominalization are more powerful than any constraints on the syntactic environments in which they can occur. The matrix verb nimsi 'be repentant' in the perfective in example (24), is definitely a speaker responsibility verb. Notice what happens to the coreferents when example (24) is embedded under a main clause subject responsibility

---

4This verb nimsi, in Songhai and in English, is a one argument verb à la Shopen, personal communication. It may be the case then that any additional arguments, such as the embedded sentence in (24), cannot fall within the scope of a one argument verb. This might explain why coreferent pronominalization in Songhai sentences like (24) must be with the set I form, i.e. since the subordinate clause is outside the scope of the verb, it is sentential. With a matrix verb of two or more arguments like in (25), complement sentences do fall within the scope of the verb and therefore do allow set II coreferent pronominalization. Drawing a parallel with factivity then, the subordinate clause in (24) is in a sense independent, presupposed to be true, and not governed by a responsible main clause subject. In (25), the complement sentences are not presupposed to be true and are in a sense more dependent upon and governed by a responsible main clause subject; thus set II coreferent pronominalization occurs there.
Example (24) could be put into any tense and still be a speaker responsibility construction. If (25) is put into any tense, Ali, the matrix clause subject, remains responsible for the information communicated.

The parallels between my analysis of Songhai pronominalization and the analysis of English complementation presented in the Kiparskys' paper Fact [1970], should not be overlooked. Example (24) appears to be a factive complement construction in the Kiparskian sense. Whether the subordinator between the clauses is sa di ka 'when', ka se 'because', ka 'that', or something like the English 'due to the fact that', the construction is factive (cf. note 4). Speaker responsibility constructions are much like Kiparskian factive constructions, and main clause subject responsibility constructions are very much like Kiparskian nonfactive constructions. Notice that example (24) is amenable to translation into English as a gerundive complement construction. The Kiparskys state that "gerunds can be objects of factive predicates, but not freely of nonfactive predicates". [1970:146]. There is no way that (24) can be translated as a for-to complement construction. The Kiparskys also state that "only nonfactive predicates allow the accusative and infinitive constructions". [1970:146]

The expletive-it constructions of my speaker responsibility class can as well be translated as gerundives or as object clauses beginning with the fact that, if an optional movement rule is applied. The rule would correspond to Emonds' "Subject Replacement" rule and, as will become apparent, would have to be ordered after our schema for pronominalization.

(26) a tar Ali se ka nqa bari di jeyndi.

'it displeased Ali that his horse was stolen.'
Examples (26) and (27) are both factive and speaker responsibility. Songhai also provides supporting evidence for placing embedded sentences in expletive-it constructions in extraposed position in the deep structure. If this is agreed upon, then pronominalization will have to be ordered before a subject replacement movement rule. This seems quite natural since intuitively, such an arbitrary movement would best occur quite late in a competence model of grammar. If a Rosenbaum-type of deep structure is chosen, then an extraposition rule will have to precede Songhai pronominalization. This alternative might involve some form of backward pronominalization. No matter which alternative is chosen, I think that coreferent pronominalization should remain based on precedence rather than command, due to the already observed facts of the language. If coreferent pronominalization were allowed, in (26) and (27), to apply backward and on the basis of command alone, it would be the only such case thus far observed in the language. A Rosenbaum-type of deep structure would therefore be questionable.

Examples (21) and (22) above both have main clause subject responsibility matrix verbs and can only be translated as infinitive (for-to) complements in English. This correlates closely with the Kiparskys' generalization about nonfactives cited above.

The following two examples illustrate the importance of the observations made in this section.

(28)  a  kan a l/x se ka nga l/2/y harme 3 di dey attey
      it please he to S he brother D buy tea
      nga l/2/3/z bitiki di ra.
      he store D in
'It pleased him that his brother bought tea in his shop.'

(29) Ali1 har ka a kan ngu1 har me2 di dey attey ngu1/2 bitiki
di ra.

'Ali said that it pleased him that his brother bought tea in
his shop.'

The subscripts x, y, and z, all refer to nonanaphoric antecedents, i.e. outside of the linguistic context. The final ngu in (29) is ambiguous in that it may refer either to Ali or to Ali's brother. This set II form of coreferential ambiguity will be as many fold as there are antecedent subject noun phrases which are either unpronominalized or from set I.

The set II form ngu occurs in complement constructions either independently or in possessive constructions. In simplexes it only occurred in possessive constructions. In both cases, ngu is coreferential with either a complement or a matrix sentence antecedent subject noun phrase. When ngu occurs in an embedded sentence, like its main clause counterpart, it is either derived or interpreted by a rule which looks backward in the semi-surface structure phrase marker for an antecedent noun phrase in subject position, and it agrees in the features animacy, person, and number. In complement constructions, this occurs only with matrix verbs belonging to the class of main clause subject responsibility verbs.

4. Focus

In Songhai, an operation may be applied which puts special emphasis or focus on a given element of a sentence. The best way that we have found to translate sentences containing such focussed elements into English, is by the use of the English cleft sentence. There is a great deal of freedom with regard to which elements can be brought into focus position. Two morphemes, na and nga, are used in various ways for focus. The morpheme nga is used to focus surface structure subjects of sentences. It must be remembered that although homonymous, this new nga is not the same morpheme as the set I pronoun. The following examples introduce the use of the focus markers. (SF = subject focus;
In certain complement constructions, an entire embedded sentence may be brought into focus position. Transformationally, this would involve Emonds' subject replacement rule as discussed in section 3, followed by a focus rule comparable to clefting in English.

Provided that postcyclic rules may be ordered, it is clear that the movement of elements into focus position by either of these processes does not in any way alter our observations regarding coreference.
It is now apparent that *ngu* can occur on the surface to the left of the noun phrase antecedent with which it corefers, when moved to sentence-initial position under focus. The focussing rule will therefore have to be ordered after the rules of pronominalization. This is as well substantiated by additional examples of complement constructions.

(34a) Ali I hungu ngu I baba ma ka Président.
     Ali think he father SJ become president
     'Ali thought his father would become president.'
(34b) Ali I nga hungu ngu I baba ma ka Président.
     SF
     'It's Ali that thought his father would become president.'
(34c) Président na Ali I hungu ngu I baba ma ka.
     PF
     'It's president that Ali thought his father would become.'
(34d) ngu I baba na Ali I hungu ma ka Président.
     PF
     'It's his father that Ali thought would become president.'
(35a) a kan Ali I se ka a I/x ka Président.
     it please Ali to S he become president
     'It pleased Ali that he became president.'
(35b) ka a I/x ka Président nga kan Ali I se.
     SF
     'It's that he became president that pleased Ali.'
(35c) Ali I se na a kan ka a I/x Président.
     PF
     'It's Ali that it pleased that he became president.'

Given rule ordering, examples (34) and (35) show that neither the set I nor the set II form of coreferent pronominalization is affected by the focus movements.
When the set I pronoun a is separated from its verb form as a result of focus movement, it is replaced by nga as is demonstrated in (36b):

(36a) a tar Ali se ka a\[\_1\]/\[\_x\] ci jey di.

'It displeased Ali to S he C thief D'  
(36b) a tar Ali se ka nga\[\_1\]/\[\_x\] nga ci jey di.

'SIt displeased Ali that he is the thief.'

No comparable change occurs when the set II form ngu is separated from its verb due to focus movement:

(37a) a l go har ka ngu ci jey di.

'He says that he is the thief.'
(37b) a l go har ka ngu nga ci jey di.

'SHe says that it's he that is the thief.'

5. The Gao Dialect

In 1956, R. P. A. Prost wrote a Songhai grammar entitled La Langue Sonay et Ses Dialectes. His grammar focussed primarily on the dialect spoken in Gao, Mali. For the purposes of this paper it is interesting to look at the way in which the Gao dialect handles coreferent pronominalization in data comparable to that which we have examined from the Diré dialect. On the basis of Prost's grammar, the following paradigm can be established for the third person pronouns.

(38) Dialect          Set I            Set II

Gao                a               nga (ngi pl.)

Diré              a (nga)            ngu

The form ngu is absent from the Gao dialect. It will become clear that the sets I and II posited for the Gao dialect, fulfill the same function as do their counterparts in the Dire dialect.  

5It is difficult to gain any insight into the responsibility and factivity aspects of this analysis, as reflected in the Gao dialect, on the basis of Prost's grammar alone.
Prost presents the Gao nga and ngi in the following manner:

"Mais nga, ngi, reprennent le sujet de la principale,
en se rapportant comme complément au sujet de la principale, qu'il s'agisse d'un complément du verbe ou d'un complément déterminatif." [1956:69]

Thus, according to Prost, these set II pronoun forms refer to the subject of the principal clause and act like a complement to that subject. The following examples from Prost, in light of our analysis of the Diré dialect, lend support to the coreferential pronominalization hypothesis implied by the paradigm in (38). The Gao verb ne 'say' corresponds to the Diré verb har. The subscripts and the English translation are my own.

(39) a₁ koy nga₁ do.
    he go he home
    'He went home.'

(40) nyongo₁ ne a₁ x/2 si koy ha₁₅ a₁ y/2 ma nga₁ tyirkosa te.
    mother say she neg. go until she SJ she prepare food
    'The mother says that she (her daughter) will not go until she has prepared the food for her (the mother).'

While the dialects differ in certain morphemes and in the syntactic order of objects, it is apparent that the two different set forms are being used to make coreference distinctions. Later, after giving additional examples, Prost refers to nga and ngi as "determinative complements that represent the subject of the sentence". This is exactly what we have observed with regard to the set II form in our Diré Songhai data. This captures what is happening with the main clause subject responsibility verbs in complement constructions of Diré Songhai. The important thing to note in Prost's analysis is that regardless of where the Gao nga and ngi occur (which seems to be almost anywhere except matrix or main clause subject position), they are coreferent with the subject of the main clause or matrix sentence.

6. Conclusions

Returning specifically to the Diré dialect, the following example
contains a larger representative sample of the main clause subject responsibility verbs.

\[(41a)\]

\[
\begin{align*}
\text{Ali (} + \text{PERF} & \{ \text{har 'say'} \} \\
& \{ \text{hungu 'think'} \} \\
& \{ \text{ba 'want'} \} \\
& \{ \text{tammaha 'expect'} \} \\
& \{ \text{mom 'hear'} \} \\
& \{ \text{guna 'see'} \} \\
& \{ \text{naney 'be sure'} \} \\
& \{ \text{bay 'know'} \} \\
& \{ \text{faham 'understand'} \} \\
& \{ \text{hambur 'fear'} \}
\end{align*}
\]

'Ali _____ that his horse was stolen.'

\[(41b)\]

\[
\text{ka ngu l bari di jeyndi Ali _____}.
\]

'*That his horse was stolen, Ali _____.'

All of the above verbs allow the occurrence of ngu in complement sentences. In the above context, all of the above verbs permit only the set II pronoun form ngu to establish coreference with a main clause subject noun phrase. The only way that any part of the sentences of \[(41)\] can be permuted is through the use of one of the focus markers; no other movements may apply as is demonstrated in \[(41b)\]. However, some of the above verbs can perform a double function in the sense that they can also be used in contexts that allow coreferent pronominalization only through the use of the set I forms nga and a. In only these set I contexts, movement rules other than focus are applicable, and of course focus may as well be applied. For example, the verb hambur 'to fear':

\[(42a)\]

\[
\text{aa}_1/x \text{hambur ni ka ni go ci a}_1/y \text{ se sa kul}.
\]

he fear you S you A speak he to time all.

lit: 'He fears you that you always reprimand him.'

or: 'He fears your always reprimanding him.'
In their paper "Fact", the Kiparskys state the following:

"The speaker presupposes that the embedded clause expresses a true proposition, and makes some assertion about that proposition. All predicates which behave syntactically as factives have this semantic property and almost none of those which behave syntactically as nonfactives have it. This we propose is the basic difference between the two types of predicates. It is important that the following things should be clearly distinguished:

1) Propositions the speaker asserts, directly or indirectly, to be true.
2) Propositions the speaker presupposes to be true.

Factivity depends on presupposition and not on assertion." [1970:147]

Thus I contend that the embedded sentence of (42), perhaps because of the adverb sa kul 'always' contained therein, is presupposed to be true by the speaker. Like a Kiparskian factive construction, (42) is amenable to a gerundive translation in English. Whereas the morpheme ka is all that is necessary at the surface structure level for subordination of this type in Songhai, comparable English constructions will most often have such factive subordination headed by because, when, due to the fact that, due to [+gerundive], or some such marker of subordination which in a sense contributes to the factivity or the presupposed truth of the embedded sentences. Notice that both example (24) and example (42) are somewhat awkward in English with only a that-S translation and that one of the above-listed subordinators makes
them much more acceptable in English (cf. section 3).

Other Songhai verbs of the class represented in (41) that would serve the double function are verbs like faham 'understand', and bay 'know'. On the Kiparskys' factive list we find both comprehend and be aware (of) which would roughly correspond to these Songhai verbs. In a footnote to the above citation from "Fact", the Kiparskys state the following:

"There are some exceptions to this second half of our generalization. Verbs like know, realize, though semantically factive are syntactically nonfactive so that we cannot say *I know the fact that John is here, *I know John's being here. Whereas the propositional constructions are acceptable: I know him to be here. ..." [1970:147]

Thus it is understandable that certain of the Songhai verbs can be used to head either Kiparskian factive constructions or Kiparskian nonfactive constructions. When a double function verb is involved, the presuppositions of the speaker as to the truth value of the embedded sentences are what determine whether a construction is factive or nonfactive in the Kiparskian sense. It is this semantic property of the deep structure of a given derivation that will be reflected in the permissible variety of coreferent pronominalization in Songhai. A verb like nimi 'to be repentant', occurs as the matrix verb of factive constructions only. As observed in footnote 5, the verb is quite important in functioning as a referee in and among arguments. An explanation of all that has been observed, will have to be concerned with a matching of the subcategorizations of verbs with the presuppositions on complements. The implications of factivity and presupposition in Songhai will be thoroughly discussed in a forthcoming paper.

To avoid the considerable overlap which would result from an attempt to divide the Songhai verbs on the basis of factivity, I propose that complement constructions of Songhai and the possible verbs that can be used in them, be classified on the basis of responsibility assignment. It is my contention that the semantic distinction
is more properly drawn on this basis. When the speaker presupposes and
is in effect accepting responsibility for the information, certain syn-
tactic structures and certain verbs will be matched to create the en-
vironment for our set I coreferent pronominalization. When the speaker
of Songhai is asserting something which may or may not be true, and is
in effect assigning responsibility to a matrix subject, again certain
syntactic structures and certain verbs will be matched to create the
environment for our set II form of coreferent pronominalization.

This analysis has provided evidence in support of the hypothesis
that the deep structure of expletive-\textit{it} constructions should show com-
plements in extraposed position. In addition it appears that the rules
of Songhai pronomialization cannot be cyclic. The same holds for the
focus rules since they must be ordered after the rules of pronominali-
ization. We have also observed that the primacy relation \texttt{command} is not
required for a description of coreferent pronominalization in Songhai.
And finally, it is important to point out that the syntactic constraints
on coreferent pronominalization in Songhai are indicitive of and closely
related to the rules of semantic interpretation.

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A NEW LOOK AT THE PREDICATING PARTICLES IN HAUSA

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1. The predicating particles

In this paper I wish to consider the status of three words in Hausa which have been called 'predicating particles' by Kraft.1 These words

1 Vide A Study of Hausa Syntax, vol. I, pp. 136ff.; vol. II, pp. 51ff.; "The Morpheme nा in Relation to a Broader Classification of Hausa Verbals," p. 238. Kraft also includes the words dá 'there is...' and gaa 'there is; behold; voilà' among the predicating particles. I will not be dealing here with these two words, other than to note that dá seems to be some type of clause case marking or complementizer occurring optionally in ákwai clauses, and which can condition the optional deletion of ákwai: e.g. dá ákwai dooyåa = dá dooyåa 'there is a yam'. I am at a loss to link this particle with dá 'and, with', although there is no morphological difference. The use of dá to introduce time adverbials such as dá raanaa 'during the daytime' and dá kárfee biyu 'at two o'clock' seems to me in some ways similar to its use in the existential predication, but I have not found sufficient evidence to link both uses to a common syntactic basis. In A Study of Hausa Syntax, Kraft identifies the existential negative baa 'there is no...' with the baa which marks the negative continuative, as found in baa shi dá dooyåa 'He doesn't have any yams'. There is no evidence in favor of equating these two forms, other than the trivial facts that they both are negatives of some sort and that they look alike. In the 1964 article cited above in this note, Kraft revised his position, and has treated the baa's as separate entities. For Gregersen's comments in criticism of Kraft's analysis, see "Some Competing Analyses in Hausa," p. 44, note 3. He states that "we shall probably have to reject Kraft's attempt to set up an anomalous sentence type without any kind of subject at all." I agree with Gregersen only insofar as Kraft's treatment is taken to represent the ultimate (= deep structure) level of analysis, rather than a surface structure typology. Gregersen's objection that the predicating particles "do not constitute a substitution group in the usual sense (dá may be followed by a disjunctive pronoun but gaa never is, ákwai and baabu can occur as independent utterances, e.g. as answers to questions, but dá and gaa cannot)" and that therefore Kraft's analysis "seems untenable on other grounds as well", is misleading in that the criteria Gregersen poses are irrelevant to the question of underlying syntactic equivalence. I do agree that gaa should not be lumped together with the existential predications at the deep structure level. The significance of the fact that both gaa and the existentials take following NP complements rather than "normally" preceding NP subjects, the main point of Kraft's analysis, lies in its universal ramifications, which I touch on in section 5 of this paper.
have a verbal character, but nevertheless differ from ordinary verbs in
that they do not occur with a preceding subject NP and person-aspect
prefix, but rather take an immediately following NP complement. These
words are:

àkwai 'there is ...'

baabù 'there is no ...'

baà 'there is no ...'

Semantically, these predicating particles share the feature that
they make an assertion about the existence of the referent of the com­
plement NP. Examples of their use with a noun complement are shown in
(1) - (4) below.

(1) àkwai dooyàa 'there is a yam'

[dooyàa (n. feme) 'yam(s)']

(2) àkwai dooyàa? 'is there a yam?

(3) baabù dooyàa 'there is no yam'

(4) baà dooyàa 'there is no yam'

When the complement is a pronoun, it is taken from the set of direct
object pronouns in the case of àkwai, but from the set of independent
pronouns in that of baabù and baà. This is illustrated in examples
(5) through (7) below, where tà is the third person feminine direct
object pronoun, and ita is the corresponding independent pronoun.

(5) àkwai tà 'there is one; it is to be had'

(6) baabù ita 'there is none'

(7) baà ita 'there is none'

If the identity of the NP complement is clear from context, it can
be and is preferably left "understood" (a phenomenon called 'zero ana­
phora' by Russell Schuh), and both àkwai and baabù can then stand
alone as complete sentences. Baà, however, cannot by itself constitute
a sentence. These facts about zero anaphora are illustrated in examples
(8) through (10).

(8) (ii,) àkwai '(yes,) there is [i.e., in answer to

(2) above]'

(9) baabù ita 'there is none'

(10) baà ita 'there is none'
(9) (aa'aa) baabù 'no, there is not'

However:

(10) *(aa'aa) bàà [For the meaning of (9)]

2. Bàà from baabù, not vice versa

As might be expected, some Hausanists have seen a connection between the words bàà and baabù, which, though differing slightly in distribution, mean exactly the same thing. Some grammars and dictionaries merely list the two as variants of one another, but a considerable number give baabù as derived from the combination of bàà plus àbù 'thing', giving bàà àbù 'there is no thing', which presumably has contracted to the form baabù. The earliest reference I could find to this etymology was in Charles Henry Robinson's Dictionary of the Hausa Language.²

I should like to challenge here this analysis of baabù as bàà àbù, and suggest instead somewhat the reverse situation: that bàà is the contracted form of baabù. I am positing a synchronic, relatively

²Third edition, revised and enlarged, 1913, p. 23. Robinson also gives the etymology in his Hausa Grammar, fifth edition, revised, 16th impression, 1959. The first editions of the Grammar and the Dictionary were published in 1897 and 1899, respectively, but I have not seen these earlier works. Adam Mischlich, who was harshly critical of Robinson's 1899 Dictionary, also carried the etymology in his Wörterbuch der Hausasprache, 1906. Until examination of Robinson's first edition proves otherwise, I shall assume that it was he, and not Mischlich, who introduced the analysis in question. I could not find mention of this treatment of baabù in Schön's 1862 Hausa grammar nor in his 1876 dictionary, the last lexicographic work on Hausa published before Robinson's.

Other authors who have given essentially the same analysis were F. W. Taylor, in A Practical Hausa Grammar, second edition, 1959; the first edition, published in 1923, was unavailable to me. D. A. Olderogge, editor, Kamus na Hausa=Rashanci, first edition, 1963. The other grammars and dictionaries which I have consulted have been mute on the question of the relative primacy of bàà or baabù. Those that do claim that baabù is from bàà àbù do not note whether this is to be understood synchronically, diachronically, or from both viewpoints. In this paper I use the terms "analysis" and "etymology" interchangeably and without implication of a diachronic claim. My own proposals are to be viewed from a synchronic standpoint.
late optional phonological rule which deletes the last syllable of baabù before an NP complement. We can write such a rule in the form given in (11), below.

(11) Optional truncation of baabù before complement NP

\[
\text{opt} \quad \text{baabù} \quad \rightarrow \quad \text{baà} \quad / \quad \text{NP}
\]

I base my case for rejection of the baà àsù derivation on the following four points:

a. The full hypothesized underlying form, baà àsù, is itself a fully complemented predication, and following it with another NP is ill-formed in Hausa. Thus we can have (12), but not (13):

(12) baabù dooyàa 'there is no yam'

but

(13) *baà àsù dooyàa [for the meaning of (12)]

b. The combination àsù + NP (with no genitival linker) is found nowhere in the language, and it would be difficult to conceive of what such a combination would mean.

c. From what is now known of how tone works in Hausa, we would expect that the contraction of baà àsù into one word would come out as [baàbù], not [baabù], since low tones (here, specifically, the low mora of baà) are always retained in contractions. (Cf. ka₇s₇à [not *k₇s₇à] 'his head' [< kal 'head' + -ns₇₇à 'of his'].) Conversely, the expected tone on the monosyllabic resulting from contraction from an underlying high-low disyllabic word such as baabù would be precisely

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3Presented in this form, the rule does not really capture the fact that the last syllable of baabù is deleted, with subsequent tone contraction. I have written the rule this way in order to avoid the question of whether it is -bù or -ba which gets deleted when the truncation rule applies. The latter case might be appropriate in case the suggestion presented in section 4 is accepted. If the second syllable were not deleted, it would obligatorily change to bu.
the falling tone we do observe in baà. (Cf. the two variants of the negative continuative prefix: baà-yàa and its contracted form baì.)

d. Finally, the original hypothesis seems to have been based on a false analogy drawn from the corresponding words in the Kanuri language. In his dictionary, Robinson [p. 23] invites the comparison of the "similar use in Kanuri of ago something, and bago nothing." The available information concerning existential predications in Kanuri does not preclude the possibility that the lexical items àkwai 'there is...' and 'negative morpheme' in Hausa are of Kanuri provenance. After looking more deeply into what seems to be going on in Kanuri, however, we find that the assumption of borrowing lends no support to the claim that baabù comes from baà ìbù. In Johannes Lukas' description of Kanuri [1937:68], ba is a shortened form of bágò 'be not', where the gò in bágò is the verb 'to be'. The relation of ago 'thing' to bágò seems illusory.

In addition to these reasons for rejecting the old derivation, I offer the following two arguments in support of the proposed truncation rule given in (11):

e. This approach neatly accounts for the non-occurrence of baà in cases of zero anaphora [examples (9) and (10)], since it is precisely in those cases that the conditioning environment of a following NP complement is missing. Without this explanation, we would have an anomalous constraint on baà, making our description of the facts more complex than necessary.

f. For verbs and certain particles in Hausa, the shortening of a final syllable before a non-incorporated NP complement is a widespread phenomenon, and the existence of such a shortening rule for baabù would be in accord with these other cases. Once we have accepted the analysis of baà as the shortened form

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4This deletion of the verb 'to be' in the negative has its counterpart in Hausa, as we shall see in the next section.
of baabù, our next task is to specify what relation, if any, exists between it and àkwai, the word which baabù negates.

3. The phrase structure difference between àkwai and baabù

First, let us note the significance of the observation, presented in examples (5) through (7), that àkwai takes direct object pronouns, while baabù and baà take independent pronouns. In this respect, àkwai acts like a transitive verb, while baabù and baà do not. The reason for this divergent behavior lies, I believe, in the fact that àkwai is a verb whereas baabù is not.

Let us consider the Hausa object pronoun incorporation rule which readjusts the hierarchical structure of the phrase marker to render an object pronoun part of the preceding verb in the surface structure. This rule may be used as a basis for distinguishing between the direct object pronouns and the independent pronouns: the former are pronouns which have been so incorporated, while the latter are ones which have not. In the case of àkwai, then, I am postulating a level such as that illustrated in (14) [below], which, upon application of object pronoun incorporation, is transformed into the phrase structure of (15), with subsequent phonological reduction of ita to ta and tonal polarization to the (high) last syllable of àkwai.

The object pronoun incorporation rule accounts for the difference in form between the direct object pronouns in pairs of sentences such as (a) and (b):

(a) Audu yaa kaawoo ṭà
    ‘Audu brought her.’

(b) Audu yaa kaawoo wa Gambo ita
    ‘Audu brought her to Gambo.’

In sentence (a), the direct object pronoun ṭà is phonologically part of the verb, since its tone is completely determined by that of the verb. In sentence (b), no object pronoun incorporation can take place, since the indirect object phrase wa Gambo comes between the verb and the direct object pronoun. In this case, the non-incorporated pronoun ṭà acts phonologically independent of the verb and retains its high tone regardless of the preceding tones.
The next question to be considered is what there is about baabù that makes it behave unlike a verb. I submit that the answer is that baabù is essentially a form of the negative morpheme -- which in other contexts appears as the discontinuous ba(a) ... ba -- and that the existential verb itàwai is present in the deep structure of every sentence containing baabù, but is deleted before the level of surface structure. We can represent this at a first approximation with a rule like that in (16):

(16) Deletion of itàwai after NEG

\[ \text{itàwai} \quad \rightarrow \quad \emptyset \quad / \quad \text{NEG} \]

Now, a rule such as (16) might seem a bit strange were it not for other similar rules which can be written not only for Hausa, but for quite a few other languages as well, where either existential copulas or aspect morphemes are deleted in the negative. Specifically, in Hausa we find aspect-morpheme-deletion in the completive and continuative aspects under negation. On the basis of the similarity of the aspect-morpheme-deletion phenomenon to the deletion process described by the rule in (16), I would suggest that the deletion of itàwai is best regarded as a specific instance of that more general rule, so that the rule in (16) is more generally written as in (17), below:

(17) Aspect morpheme deletion under negation

\[ [+V, +Aspect, ...] \quad \rightarrow \quad \emptyset \quad / \quad \text{NEG} \]
The dots in the feature specification of the aspectual verb represent the feature or features needed to uniquely delimit the class which includes the completive, continuative, and existential (àkwai) aspects while excluding all other aspects, since the latter do not participate in this deletion process under negation.

Note that a rule like this deletion rule makes sense only if we conceive of àkwai as a verb of the same class as that of the aspect verbs. It is interesting to observe in this regard that we have an additional reason for classing àkwai together with the other aspect verbs: namely, the fact that a well-formed, non-elliptical sentence in Hausa must have some aspect marker on its main verb, unless it is a copular sentence such as with àkwai. This fact suggests that àkwai and the other aspect verbs share the selectional feature that they may be the highest predication in a well-formed sentence. A treatment of Hausa aspect which did not acknowledge that the aspects were best represented in deep structure as verbs would still have to recognize this structural similarity between the various aspects and the existential predicate, àkwai.

4. Baabù from baa-ba?

The fact that baabù seems to be a reduplicate form of a simple ba(a) morpheme may either be a superficial idiosyncracy of no special significance, or else it may be related to the regular discontinuous negative morpheme, bà(a) ... ba. That is, it may be the case that the two syllables in baabù are actually the first and second negative morphemes in a construction such as that in (18):

(18) Hypothetical source for baabù:

```
VP
 /   \
|    |
NEG V NEG
 |    |
ba àkwai ba
```

When àkwai is deleted in the presence of the negative, we are left with the form shown in (19):
After âkwai is deleted from (18):

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(19) After âkwai is deleted from (18):

The form in (19) would then change to baabù by a minor phonological rule which would account for vowel length, tone, and the -u of the second syllable. I must admit that the evidence for the existence in Hausa of the phonological processes needed in such an analysis is not readily forthcoming, although on the other hand I cannot show that this is not indeed what actually happens. Thus the question of whether the apparent reduplication in baabù is traceable to that found in the regular discontinuous negatives must await further research, and I am merely mentioning the possibility here.
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5. **Subject inversion**

Before concluding this paper, I wish to deal with the matter of word order. In most kinds of sentences, the subject NP comes first, before the verb. In the case of both âkwai and baabù, I would suggest a simple rule of subject postposing, which would carry a subject NP from its underlying position on the left of the sentence to a position on the right of the verb phrase. This rule is illustrated in (20) and (21), which respectively show the phrase structure before and after application:

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(20) Before subject postposing

(21) After subject postposing
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A dividend of our analysis of baabù as being derived from the negative plus âkwai is that this subject postposing rule need be stated only once -- for âkwai -- and will take care of both the affirmative âkwai and the negative baabù. Thus this distinctive syntactic property -- the fact that they are predicating particles in surface structure, rather than run-of-the-mill verbs -- is due to an underlying syntactic equivalence.

One might speculate as to why the language would have such a subject postposing rule in the first place. We note that it is the unmarked situation in languages -- English included -- to place the existential/locative copula before the true subject. English inserts a dummy there in subject position, while the true subject is postposed to the right of the main verb, yielding (23) from (22):

(22) A blonde is (in my soup).
(23) There is a blonde (in my soup).

The reason for such rules probably lies in the increased efficiency they provide by reducing left branching and the concommitant load on short-term memory.

6. Summary

In summary, then, we have taken a look at three particles of existential predication in Hausa. We have considered and rejected a time-honored but deficient analysis of two of them, and proposed a new analysis of all three particles which integrates the various otherwise anomalous facts about these words into the independently motivated system of rules of the language as a whole.
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1. Introduction

Downstep is a tonal phenomenon found in many West African languages, including Mende. Those languages exhibiting this phenomenon are known as 'downstep' or 'terrace' tone languages. Stevick [1969] has demonstrated that most Bantu languages also fit into the step tone language classification.

Downsteps generally occur in languages exhibiting a binary tonal opposition: high: [+tone] and low: [-tone]. Downstep occurs when a high tone following a low tone is not as high in absolute pitch as a high tone preceding the low tone. In a series of high-low-high-low etc. each high tone will be lower than the preceding high tone.

\[ \text{high} \quad \text{low} \quad \text{high} \quad \text{low} \quad \text{high} \quad \text{low} \quad \text{etc.} \]

Except for the presence of certain conflicting tonal alterations, Mende appears to be a classic example of such a step tone system. When these exceptions are viewed more closely, however, they provide much of the evidence for the conclusion that Mende does have a typical underlying two tone system.

2. Downstep rules

The generally accepted principle for converting a binary phonetic tone system to an n-ary phonetic output is to lower a low following a high by three tonal points, [-3 tone], and to raise a high following a low tone by two tonal points, [+2 tone]. Thus a series of high-low-high-high-low etc. would have the n-ary phonetic transcription of [n], [n-3], [n+2], where [n] represents the tonal value of the preceding tone.

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1 I wish to thank Dr. Meyer Wolf for both his editorial assistance and valuable advice and inspiration. The mistakes are, of course, my own.

2 Yala, a language with a three way tone contrast (high, mid and low) also exhibits downstep according to Armstrong [1968].
For example, if the initial tone \([n]\) of this sequence has a value of \([5]\), then the second tone \([n-3]\) would have the value \([5-3]\) or \([2]\). The third tone \([n+2]\) would have the value \([2+2]\) (the value of the preceding tone plus two) or \([4]\). Thus the sequence \([n]\), \([n-3]\), \([n+2]\) translates into the numerical sequence of \([5]\), \([2]\), \([4]\).

The rules necessary for the description of this tonal behavior are as follows. \(^3\)

1. Rule 1  
\[ \text{atone} \rightarrow [n \text{ tone}] / \text{atone} (c)[\text{____}]. \]

2. Rule 2  
\[ b\text{èlè 'trousers'} \rightarrow b\text{èlè}\text{n} \]

3. Rule 3  
\[ p\text{èlè 'house'} \rightarrow p\text{èlè}\text{n} \]

A high tone following a high, or a low tone following a low has the same absolute pitch as the preceding tone. Without this rule, a series of contiguous high tones would rise in pitch and a series of lows would fall.

4. Rule 2  
\[ [-\text{tone}] \rightarrow [n\text{-3 tone}] \]

5. Rule 2  
\[ b\text{èlè+ngà 'some trousers'} \rightarrow b\text{èlè}\text{n+ngà}\text{n} \rightarrow b\text{è}\text{n-3lè}\text{n+ngà}\text{n} \]

6. Rule 2  
\[ p\text{èlè+ngà 'some houses'} \rightarrow p\text{èlè}\text{n+ngà} \rightarrow p\text{èlè}\text{n+ngà}\text{n-3} \]

Any remaining low tone is three points lower in absolute pitch than the preceding tone.

7. Rule 3  
\[ [+\text{tone}] \rightarrow [n\text{+2 tone}] \]

8. Rule 3  
\[ p\text{èlè 'house'} \rightarrow p\text{èlè}\text{n} \rightarrow p\text{è}\text{n+2lè}\text{n} \]

Any remaining high tone is two points higher in absolute pitch than the preceding tone.

These rules convert a two tone system into a 'three tone' system.

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\(^3\)Bird [1966] and Schachter [1969] among others have also provided rules for the description of the downstep process. We object to Schachter's rules for the reason that they permit the retention of the binary features of tone after they have been converted to their \(n\)-ary values. It is not clear that this is a desirable innovation in generative phonology. Our objection to Bird's rules is based primarily on his permitting two different tonal values to occur in the same vocalic segment.
The three tone system can then be converted into integral values.

Rule 4 \([n \text{ tone}] \rightarrow [5 \text{ tone}]\) Sentence Boundary

The first \(n\) is assigned a value. Then proceeding from left to right, the \(n\) tone is converted to a numerical pitch value which is the same as the preceding tone. An \([n+2]\) tone will have a value two points higher than the preceding tone and an \([n-3]\) will have a value three points lower.

3. Mende tone

These rules form the core of the step tone system. In addition, many step tone languages display other tonal behavior which requires further description. Mende is no exception, in fact, it appears that Mende cannot possibly be treated in the same way as other step tone languages. For example, a sequence high-step \((cv^n cv^{n-1})\) which occurs in the surface representation in Mende (cf. example (16)) cannot be generated by applying rules 1-4 to an underlying representation having a single binary tone contrast. Other patternings also appear to make it necessary to establish additional underlying tones, rendering a description based on a single tonal contrast impossible.

These tones correspond roughly to the phonetic transcription of Welmers [1959]. His drop tone is equivalent to our \(n+2\) tone. His low tone includes all \(n-3\) tones as well as those \(n\) tones which contiguously follow an \(n-3\) tone. Those \(n\) tones contiguously follow an \(n-2\) tone are equivalent to Welmers' same tone.

The choice of an integral value for \(n\) is arbitrary, though it presumably should correspond to the fundamental frequency of the speaker. An increase in the integral value of \(n\) indicates an increase in pitch and a decrease in the integral value of \(n\) indicates a decrease in pitch. If the first tone of a sentence was originally high, then it would become \(n+2\) by rule 3. After rule 4, the tone would become \(5+2\) or 7. In the same way, an initial low tone would become \(n-3\) by rule 2 and 5-3 or 2 after rule 4.
These problems are illustrated in the definite and indefinite forms of the Mende noun. Normally, the definite is formed by suffixing a high tone morpheme to the noun. In some cases the result is as anticipated.

Following lows and some highs, the suffix has a high tone.

(12) gbê,hê  
     gbê,hê+1  
     'a stool'  
     'the stool'

(13) bè,lê  
     bè,lê+1  
     'a trouser'  
     'the trouser'

(14) pê,lê  
     pê,lê+1  
     'a house'  
     'the house'

However, in addition to these anticipated results, there are some unexpected results. Following some highs, the high of the noun is changed to a low.

(15) fàndé  
     fàndé+1  
     'a thread'  
     'the thread'

Following a falling tone, the falling tone of the noun is changed to high and the high tone of the suffix is downstepped.

(16) hînf  
     hînf+1  
     'a man'  
     'the man'

Linguists have been aware of these problems for some time. Crosby [1944] described this situation by assigning morphemes of like tonal patterning to different grammatical classes. Spears [1967] posited four separate and nonfeatured morphophonemic tones to account for these alternations. While both of these approaches are descriptively adequate, there are some further generalizations which the above descriptions cannot explicitly make.

I would like to propose an analysis which in addition to showing that the problem can be dealt with in terms of binary features, provides an explanation of why these tonal alternations are alogical and natural consequence of our assumptions about phonology. Such an analysis requires that a more abstract representation of morphemes of the
type fàndé (cf. example (15)) be given as:

(17) fândé 'thread'

and those of the type hìnf (cf. example (16)) be given as:

(18) hìnf 'man'

When this is done, the description of the above tonal variations as well as many other alternations (cf. section 4) can be explained by two rules: Vowel elision and High tone dissimilation.

a. **Vowel elision**

Since this rule follows the rules which assign the step tones (rules 1 through 4) the tonal values are expressed in n-ary terms.  

\[
\begin{align*}
\text{Rule 5 Vowel elision} & \quad [x \text{ tone}] \rightarrow [\emptyset] / \{[y \text{ tone}] \rightarrow [+\text{segment}]\} \\
& \quad \text{where } x < y
\end{align*}
\]

In a complex morpheme final syllable, cvv-, the vowel containing the lowest tone value is deleted when followed by another segment. When the values of the two tones are the same, one of these vowels will be deleted.  

\[\text{If the binary values of the tones had been retained in addition to the n-ary values (which are clearly necessary to account for the phonetic sequence high-step) as Schachter suggests, rule 5 would be much easier to state:} \]

\[
\begin{align*}
\text{Rule 5 Vowel elision} & \quad [-\text{tone}] \rightarrow [\emptyset] / \{\overline{\neg v} + [\text{segment}]\}
\end{align*}
\]

Thus we either have to accept the convention of the retention of binary tone values in the n-ary conversion process or accept the more awkward statement of the generalization.

\[\text{The generalization on which this rule is based is much simpler than its formalization indicates.} \]
More abstract representation

After rule 4 After rule 5

fândêê fânde 2 4
hi 2 ni 4 i
hi 2 ni 4 i 3

Rule 5 demonstrates how it is possible to have the sequence high-step. It also explains how the indefinite tonal form of nouns like fândêê are derived. However, another rule is necessary in order to account for the tonal pattern of the definite form of these nouns.

b. High tone dissimilation

When a string of contiguous lows is followed by a string of contiguous highs, and a syllable of the type cv̂v is at the point of change from low to high, the result is that the change from low to high is 'delayed' one syllable.

(21) \ldots cvv̂v+ĉv \ldots \to \ldots cvv̂v+ĉv \ldots 

Rule 6 High tone dissimilation

\begin{align*}
\{\text{[+tone]} \to \text{[-tone]} \} & \quad + (c)v_o (c)v \\
\end{align*}

In a morpheme final complex syllable of the type cv̂v, preceded by either a low tone syllable or a morpheme boundary and followed by a high tone, the high tone of the complex syllable becomes low.

(22) fândêê+i \to fândêê+i

Rule 6, must precede rules 1, 2, 3, 4 and 5. Thus fândêê+i will undergo rules 1 through 4 to produce:

(23) fânde 2 de 2 i 4

It will then undergo rule 5, which will delete one of the low tones of the complex final syllable:

(24) fânde 2 4

\textsuperscript{8}Because the final low tone of hi ̂ ̂ is not followed by a segment, i will not be deleted by rule 5.
c. **Exceptions**

There are a very small number of morphemes in Mende ending in a double vowel for which rule 6 (high tone dissimilation) does not apply. In some cases, these double vowels can be shown to be the result of a deleted medial consonant.

(25) cvcv cvv

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sawá</td>
<td>såá</td>
</tr>
<tr>
<td>pölą</td>
<td>pöą</td>
</tr>
<tr>
<td>nlkfl</td>
<td>n1kfl</td>
</tr>
</tbody>
</table>

'sawá' 'sáá' 'three'

'pölą' 'pöą' 'mud'

'nlkfl' 'n1kfl' 'groundnut'

These apparent exceptions can be eliminated if the rule deleting these medial consonants is placed after the tonal alternation rules so that the double vowels produced through consonant deletion appear after the vowel elision rule.

In other cases, until the reason for not undergoing tonal alternation becomes clear, the morphemes must be marked as exceptions. For example:

(26) këlèè  'except'  tàà  'and'

(27) ngëwɔɔ  'God'  k3ɔ  'in order that'

4. **Additional supporting arguments**

a. **Range of application**

It is important to point out that the tonal alternation mentioned in section 3 occurs in verbs and other parts of speech in addition to nouns, and that this analysis permits this description with no further additions to the rules.

b. **Tone mutation**

Tone mutation in Mende takes place in a number of grammatical constructions which belong to the general category of nominal compounds.¹⁰

---

³The rule which deletes these consonants is an optional and a relatively late rule. Both sawá and såá etc. are permissible surface forms apparently in free variation.

¹⁰Although all the examples given here involve a head and a single modifier, it is possible to have several modifiers, all of which undergo tone mutation.
It involves two rules:

(28) Rule 7 Tone neutralization

\[
(+\text{tone}) \rightarrow [-\text{tone}] \quad \cdots \quad [+\text{vowel}] \quad \cdots \quad \text{MUT}
\]

MUT is an abbreviation for those environments requiring tone mutation. This rule when properly defined will lower all tones in the second and succeeding elements of these nominal compounds to low.\(^{11}\)

(29) Rule 8 Low tone assimilation

\[
[-\text{tone}] \rightarrow [\text{atone}] \quad [\text{atone}] + [+\text{vowel}] \quad \cdots \quad \text{MUT}
\]

The first vowel of the second element of these constructions has the same tone as the last tone of the preceding element. Thus, following a final high vowel in the first element, the initial vowel of the second element will be high. Following a final low vowel in the first element, the first vowel of the second element will have a low tone.\(^{12}\)

In order to produce the correct surface forms, rules 7 and 8 must precede rules 6, 1, 2, 3, 4 and 5.

Below are some examples demonstrating tone mutation. They all contain nyámù 'ugly' as the second (mutating) element.

\(^{11}\)Both rule 7 and a variant of rule 8 occur in Kpelle, another Southwestern Mande language [Welmers 1970]. Because of the highly restricted form of rule 8 in Kpelle, the existence and form of rule 7 can be more easily seen.

\(^{12}\)Variants of this rule are found in the Northern Mande languages: Maninka [Spears 1966], Bambara [Bird 1966] and apparently Soso [Houis 1956] as well as in the Southwestern Mande languages.
The existence of complex syllables makes it possible to provide a simple explanation for this rather complex tonal behavior. It explains why the final syllable of 'thread' sometimes acts like a high, as in rule 8, and sometimes acts like a low, as a result of rule 6. It explains why the final syllable in 'man' sometimes acts like a low, as in rule 8, and sometimes acts like a high as a result of rule 6.

c. High-step

The series high-step can be derived from a more abstract representation by rule 5. However, there exist two morphemes in Mende which are stepped in situations where the underlying representation of the preceding syllable can not be $V^+V$. 

<table>
<thead>
<tr>
<th>(30) More abstract representation</th>
<th>gbèhè#nya[mù</th>
<th>bèlè#nya[mù</th>
</tr>
</thead>
<tbody>
<tr>
<td>after rule 7</td>
<td>gbèhè#nya[mù</td>
<td>bèlè#nya[mù</td>
</tr>
<tr>
<td>after rule 8</td>
<td>gbèhè#nya[mù</td>
<td>bèlè#nya[mù</td>
</tr>
<tr>
<td>after rule 1</td>
<td>gbèhè#nya[mù</td>
<td>bèlè#nya[mù</td>
</tr>
<tr>
<td>after rule 2</td>
<td>gbèn⁺³#nya[mù</td>
<td>bèn⁺³#nya[mù</td>
</tr>
<tr>
<td>after rule 3</td>
<td>gbèn⁺³#nya[mù</td>
<td>bèn⁺³#nya[mù</td>
</tr>
<tr>
<td>after rule 4</td>
<td>gbèhè#nya[mù</td>
<td>bèhè#nya[mù</td>
</tr>
<tr>
<td>after rule 5</td>
<td>gbèhè#nya[mù</td>
<td>bèhè#nya[mù</td>
</tr>
<tr>
<td>gloss</td>
<td>ugly stool</td>
<td>ugly thread</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>More abstract representation</th>
<th>hìnìfì#nya[mù</th>
<th>fàndeèé#nya[mù</th>
</tr>
</thead>
<tbody>
<tr>
<td>after rule 7</td>
<td>hìnìfì#nya[mù</td>
<td>fàndeèé#nya[mù</td>
</tr>
<tr>
<td>after rule 8</td>
<td>hìnìfì#nya[mù</td>
<td>fàndeèé#nya[mù</td>
</tr>
<tr>
<td>after rule 1</td>
<td>hìnìfì#nya[mù</td>
<td>fàndeèé#nya[mù</td>
</tr>
<tr>
<td>after rule 2</td>
<td>hìn⁺³#nìfì#n⁺³#nya[mù</td>
<td>fàn⁻³#nìdèè#nya[mù</td>
</tr>
<tr>
<td>after rule 3</td>
<td>hìn⁺³#nìfì#n⁺³#nya[mù</td>
<td>fàn⁻³#nìdèè#nya[mù</td>
</tr>
<tr>
<td>after rule 4</td>
<td>hìn⁻³#nìfì#n⁺³#nya[mù</td>
<td>fàn⁻³#nìdèè#nya[mù</td>
</tr>
<tr>
<td>after rule 5</td>
<td>hìn⁻³#nìfì#n⁺³#nya[mù</td>
<td>fàn⁻³#nìdèè#nya[mù</td>
</tr>
<tr>
<td>gloss</td>
<td>ugly man</td>
<td>ugly thread</td>
</tr>
</tbody>
</table>
It is clear that *nya 'my' cannot have *nyaa as its more abstract representation because when combined with kényâ 'uncle', it would incorrectly produce the nonoccurring *nya +ke nya instead of the correct nya +ke nya 'my uncle'. Because the surface form nya +nje does not have *nyaa+nje as its more abstract source, it appears to be a crucial counterexample to our assumption that all step tones are the consequence of an underlying low tone and that the series high-step can only be derived by the deletion of a low tone (rule 5). However if the more abstract representation of 'mother' is given as nje and 'father' is given as ke, the correct surface forms will be produced.

The reason why ke and njè were not previously proposed as more abstract forms is perhaps because both belong to a special class of kinship terms which do not take the definite suffix. When njè enters into compounds of type requiring tone mutation, it clearly acts as a complex syllable of the type cvv.

5. The underlying representations of vv and vV

So far, vv and vV have not been proposed as underlying representations, but only as more abstract than their corresponding surface forms. While it is possible to end the analysis at this point, our intuition tells us that a simpler underlying representation of these forms is possible. Our main argument is the fact that with the exception of complex syllables, which occur only morpheme finally, the normal canonical pattern of the syllable is cv. This suggests that perhaps cVV and cVv can be traced back to underlying representations of the cv

13 For an explanation of the integral values in these examples, see footnote 5.
One not too promising possibility is that these complex syllables were developed through the loss of an intervocalic consonant.

(36) $\text{cvcv} \rightarrow \text{cvv}$

While the loss of an intervocalic consonant is common in Mende (cf. 3.c.), there are two very strong arguments against using this as the explanation of the source of cvv. First, as far as can be determined, when $\text{tv}$ and $\text{tv}$ are produced in this manner, they do not appear to undergo the tonal alternations expected of complex syllables. This is why we earlier suggested that the rule for deleting these consonants must follow the tone alternation rules. Secondly, one would expect a Mende morpheme of the type cvcvv which does undergo tonal alternation to have cognates of the type cvcvcv in other Mande languages. This does not appear to be the case:

(37) | Mende   | Soso | Kono | Mandingo | Gloss  |
     | ~m~h~a~ | ~m~n~g~e | ~m~n~s~a | ~m~n~s~a | chief |
     | ~k~w~a~l~a~ | ~k~u~l~e | ~k~o~l~a | ~s~u~l~a | monkey |
     | ~n~l~k~a~ | ~n~i~n~g~e | ~n~i~n~g~i | ~n~i~s~i | cow    |

A much more promising source of $\text{tv}$ and $\text{tv}$ can be deduced from a frequency count of tonal types. A tabulation of 200 items produced the following distribution:

(38) | cvcv    | 37%  |
     | cvcv    | 10%  |
     | cvcv    | 5%   |
     | cvcv    | 4%   |
     | cvcvv   | 25%  |
     | cvcvv   | 18%  |
     | cvcvv   | 1%   |
     | cvcvv   | 0%   |

One would expect that cvcv and cvcv would have a much higher frequency of occurrence than cvcvv and cvcvv due to their lesser complexity. This could be explained if cvcvv and cvcvv were represented in their underlying forms as cvcv and cvcv, followed by the rule:
(39) Rule 9 Tone contouring

\[ \emptyset \rightarrow \left[ \begin{array}{c} -\text{atone} \\
+ \text{vocalic} \end{array} \right] \bigg/ (cv)_o c \left[ \begin{array}{c} \text{atone} \\
+ \text{vocalic} \end{array} \right] \]

A morpheme final tone will be changed to a sequence of that tone followed by its complement, if when preceded by syllables in the same morpheme, those syllables have a low tone.

(40) 

\[
\begin{array}{cccc}
\text{cvcv} & \rightarrow & \text{cvcvv} \\
\text{cvct} & \rightarrow & \text{cvctv} \\
\text{ctcv} & \rightarrow & \text{ctcv} \quad \text{(no change)} \\
\text{ctct} & \rightarrow & \text{ctct} \quad \text{(no change)} \\
\end{array}
\]

In the few cases where this rule does not apply, the morphemes must be marked as exceptions presumably indicating that these words are recent borrowings. Many of these exceptions are obvious borrowings. 14

(41) 

\[
\begin{array}{ccc}
\text{klic} & \quad \text{'kitchen'} \\
\text{kok6} & \quad \text{'koko yam'} \\
\text{kaf} & \quad \text{'coffee'}
\end{array}
\]

Rule 9 does not seem so peculiar when one takes into consideration that many other Mande languages have variants of this rule. In Kpelle [Welmers 1970], Bambara [Bird 1966] and perhaps Loko [Innes 1964] there is a rule which changes a low to a high at a morpheme boundary when before a following low in much the same way as rule 9. In addition to having a low to high rule, Spears [1968] claims that Maninka has a high to low rule.

6. Summary

The final order of the rules is as follows:

(42) Rule 9, Tone contouring

Rule 7, Tone neutralization

Rule 8, Low tone assimilation

Rule 6, High tone dissimilation

---

14 Many of the arguments given by Welmers [1961] for the identification of recently borrowed morphemes in Kpelle, such as their failure to undergo consonant mutation can be applied successfully to Mende as well.
This investigation has focused primarily on Mende nominal constructions (compounds, definite and indefinite noun forms). Much of what was found also applies to other parts of the grammar (object + verb, noun + postposition, etc.), although it is clear that much more investigation will be necessary before these areas of the grammar are fully understood.

The analysis proposed in this paper has several advantages over previous descriptions of Mende tone. First, it has assumed that the underlying tones of Mende lexical representations are natural and therefore should be expected to behave like other tone systems. As other languages in the area have a basic two tone system, it should not be considered unusual that Mende has a two tone system. Secondly, the rather awkward surface tonal alternations can be described most appropriately through the use of a binary feature of tone (rule 8 for example, can be most generally stated only when a binary feature of tone is assumed). Thirdly, once Mende rules are cast in this form, their similarity to other Mande languages becomes apparent. Fourthly, the intermediate forms of cHV and cVV explain why morphemes in which they are found appear to have both high and low tones in their final syllables. Finally, the previously un-explained tonal behavior of 'mother' and 'father' becomes clear when their intermediate forms are given as njèè and kèè.
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ON THE SO-CALLED REVERSING TONAL SYSTEM OF CILUBA:
A CASE FOR RESTRUCTURING

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1. Introduction

In 1939 Burssens published a description of the tonal system of Ciluba, a Bantu language of Zone L. Earlier, Hulstaert had written two detailed studies on tonal phenomena in MONGO [1934; 1935] and a grammar of the same language [1938]. The almost simultaneous publication of both grammars in the same Kongo-Overzee Series stimulated the comparison of their respective tonal systems [Hulstaert 1941]. Ciluba, as well as MONGO, seemed to have a fixed system of two basic tonemes, high (H) and low (L). But, curiously enough, Ciluba showed H tonemes where MONGO had L tonemes, and vice versa. This appeared to be consistent for nouns with disyllabic stems, nominal prefixes (L in MONGO and H in Ciluba), and for the connective particle (H in MONGO except for classes 1 and 9, and L in Ciluba except for classes 1 and 9).

Since then, the tonal system of MONGO has been considered as the normal 'etymological' type. That is, a type with almost no differences between the surface tone and its deep representation, with the latter being labeled 'original Bantu'. The Ciluba system, in contrast to MONGO, was then described as a 'reversible' type. Most linguists continue to accept the fact that this is a very exceptional kind of tonal system. Nothing so far in print seems to suggest an explanation for the apparent reversal of the tonemes in Ciluba. It has been vaguely suggested that the cause for the Ciluba 'reversal' may be found in the fact that the Balauba like to reverse tones in their mourning songs [Meeussen and Van Caeneghem 1953].

In the present paper I wish to argue that the so-called reversible

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1This paper deals only with the theoretical aspects of the problem. Only a few examples are cited, and a monograph with a detailed tonal analysis of a body of sentences demonstrating the theory proposed here is now in preparation.
tonal system of Cilúba is the result of an ordered sequence of rules which are very common in Bantu languages. Further, I would like to demonstrate that the formulation of near-surface rules does not help discovering underlying tonemes in Cilúba, but serves only to describe the mechanism of stabilizing a once mobile tonal system.

To this effect I will also use data from some other Bantu languages of Zone L, such as Pende (L.11), Budya (L.20), Binji (L.22), Songe (L.23) and Kanyoka (L.32) as well as supplementary data from languages of other Zones: Tetela (C.71), Horohoro (D.28), Bangobango (LD.27), Shambaa (G.23) and Tonga (M.64). (All Zone numbers refer to Guthrie's [1948] classification.)

I will begin this paper by reexamining and discussing the data which have impelled G. Hulstaert, A. Burssens, A. E. Meeussen, A. Coupez and many others to accept the Cilúba tonal system as reversed in function of the Móngo system.

2. Comparison of the Móngo and Cilúba data

a. Monosyllabic stems. Since I regard sufficient syllabic length as a major condition for an adequate analysis of tonal patterns [Van Spaandonck 1967], nouns with monosyllabic stems cannot be considered as useful material.

(1) Mo. mbwá
    Lu. mbwá
    'dog'

b. Disyllabic stems. Nouns with disyllabic stems usually seem to demonstrate reversal of tonemes in Cilúba. Móngo patterns LHL and LLL for NP-CVCV (NP here means 'noun prefix') structures correspond mostly with Cilúba HLH and HHH.

(2) Mo. lo(b)ásó
    Lu. dbókó
    'arm, hand'

(3) Mo. nyama
    Lu. nyámá
    'animal, meat'
There are, however, some exceptions to the LHL pattern. They have been noted in the nouns for 'cattle', 'guinea-fowl', 'spear', 'hair', 'eye-brow', 'buffalo', 'shame', etc.²

(4) **Mo.**  bôngl
    **Lu.**  ilúšúki
    'hair'

(5) **Mo.**  lokíki
    **Lu.**  dñkíki
    'eye-brow'

For the MONGO patterns LLH and LHH (both of rather low frequency) there is no consistent reversing in CÎLÚBA. The data are very confusing. MONGO LLH may correspond with CÎLÚBA HHL, which means reversal, but also with HLH, HLL and HHH.

(6) **Mo.**  fafá
    **Lu.**  táátu
    'father'

(7) **Mo.**  jokék
    **Lu.**  bûikí
    'honey'

(8) **Mo.**  bofalá
    **Lu.**  mupaala
    'antelope'

(9) **Mo.**  mpulú
    **Lu.**  nyúnyú
    'bird'

c. Verbal stems. As for verbal stems in the infinitive structures NP-CVCV and their extended forms (verbal and nominal) NP-CVCV(CV*), the comparison is made difficult by the tonal difference in the prefix:

²It really is too easy to explain these exceptions as errors in tone-marking or in printing, or even to attribute them to the influence of some surrounding dialects.
in M̱ŋo and ḵ- in Cíluba. If, therefore, one confines oneself to the comparison of the tonal patterns of the -CVCV stems, it becomes clear that the two possible patterns in M̱ŋo, LL and HL, correspond mostly with Cíluba HH and LH.

(10) Mo. -ḵenda
    Lu. -éndá
    'go'

(11) Mo. -ṯoma
    Lu. -tumá
    'send'

However, -VCV stems show some inconsistencies.

(12) Mo. -éṯa
    Lu. -ífá
    'call by name'

Other stems have a different meaning:

(13) Mo. -amba
    Lu. -ámbá
    'accept, receive'
    -ámba
    'curse'
    -̱mḇa
    'speak, say'

The derived (extended) verbal and nominal forms of these basic stems seem to fit into the reversive type:

(14) Mo. -ḵenḏela
    Lu. -éndéla
    'go' applicative

(15) Mo. -ṯómela
    Lu. -tumíná
    'send' applicative

(16) Mo. boḵendo
    Lu. lúéndó
    'journey'

d. Affixes. Tonemes on verbal prefixes in M̱ŋo differ according to
tenses, while in Cílúba they are L for the 3rd person (classes) and H for the 1st and 2nd person [Meeussen 1954a].

Object infixes are L in Múngó and in Cílúba L too, except for the 2nd pers. sing. and the 3rd pers. sing. classes 1 and 3 [Meeussen 1960].

e. Word groups. Comparison of identical word groups demonstrates clearly that tonal patterns in Cílúba must be governed by other rules than simple reversal of tones.

(17) Mo. wēla wā ngandó
     Lu. mùkila wa ṣándu
     'tail of a crocodile'

f. Exceptions. Hulstaert [1941] and Coupez [1954] noted a number of exceptions. Hulstaert suggested borrowing and Coupez mentioned influences from neighbouring languages as a possible explanation for these exceptions. But Hulstaert also drew attention to the fact that personal pronouns had exactly the same tonemes in both Múngó and Cílúba. There was no explanation offered for this important exception.

Reexamining the data makes it clear that tone reversal in Cílúba is far from 'complete'. A few vocabulary items have created the impression of a reversive system.

3. Phonological rules in tone systems of Bantu languages

Elsewhere I have described in great detail three important tonological rules common in Bantu languages:

a. Displacement. Progressive displacement, or surface tone delayed by one, two or more syllables: \( H \rightarrow 1, 2, \ldots H(H\ldots) \)

(18) So. kukúna butongo \( \rightarrow \) kukuna bútongo
     'to plant cotton'

b. Repetition. Progressive repetition or spreading of the surface tone (tone copy) on one or more syllables: \( H \rightarrow HH(H\ldots) \)

(19) Sh. mukalà mubabashĩ \( \rightarrow \) mukalà múbábáshĩ
     'a dumb hunter'

c. Anticipation. Regressive displacement or anticipation of the surface
tone on one or more of the preceding syllables: $H \rightarrow (\ldots H)H \ldots$  

(20) To. izína $\rightarrow$ izína  
'name'  

The rules (a) and (c) can be combined with (b).

4. **Tonology rules in Cílúba**

a. **Phonological reduction rule.** In his description of Cílúba, Burssens [1939] mentioned the use of a copular morpheme $n-$ with a morphophonemic variant $m-$ before labial stops.

(21) Lu. n'-nyoká  
'they are snakes'  

(22) Lu. m-bántú  
'they are people'  

Other Bantu languages have $nl$ (Swahili, Shambaa, etc.) so that Cílúba surface structure can be explained by a phonological reduction rule which seems to be essential for the analysis of the tone system:

$n\!l \rightarrow n-$  

b. **Tonological progressive displacement rule.** Burssens [1939] established a rule of tonal contrast: $n-$ has $L$ tone when the following syllable is $H$, and $H$ tone when the following syllable is $L$, cf. (21) and (22). However, we know that $nl$ has a structural high toneme (cf. Shambaa [Roehl 1911]) which is represented in Cílúba on the morpheme (or syllable) itself when $H$ tonemes in the deep level prevent the displacement. The surface representation of $H$ is then delayed or shifted to one of the following syllables which have no deep $H$ tonemes. Compare that with languages which have this characteristic phenomenon of tone-shift:

(23) Bb. nl-bandu $\rightarrow$ *n-bándu $\rightarrow$ mbandú  
'they are people'  

(24) So. nl-kadílu $\rightarrow$ *n-kádílu $\rightarrow$ nkadílu  
'it is a fire'  

It seems possible that mbúta 'it is a bow' in Cílúba may be the surface
structure of nf-butá because the displacement of the deep H toneme on nf may have caused the progressive displacement of the toneme on -tá (cf. Mo. botá).

c. **Tonological progressive repetition rule.** In Bantu languages with tonal repetition as a characteristic feature (Shambaa, Tetela, Shona, etc.) the representation of the H toneme of nf will take place accompanied by some echo-tonemes (spreading of tone) on one or more of the following syllables.

(25) Sh. nf muntu → [nf múntu]
    'it is a human being'

(26) nf muhuza → [nf múhúza]
    'it is a sin'

Applying the reduction, displacement and repetition rules one may obtain, for Cílúba:

(27) Lu. nf-bantu → *n-bántu → mbántú
    'they are people'

The rules changing the deep tone into surface tone depend entirely on the tonological, phonological, and morphological environment. Forms without any underlying H tonemes will easily allow spreading of H echo-tonemes. Forms with underlying H tonemes will prevent eventually the displacement of a toneme [Van Spaandonck 1967]:

(28) Lu. nf-nyoka → *nf-nyoká → ŋ-nyoká
    'it is a snake'

(29) Bb. nf-mbúzi → *nf-mbuzí → ŋîmbuzí
    'it is a goat'

d. **Phonological deletion rule.** Coupez [1955] has mentioned the deletion of the copular nf morpheme in some syntactical or even phonological environments in Horohoro.

(30) Hr. nf beetwé → *nf beetwé → boétwé
    'it is us'

It thus seems possible that múntú 'a human being' in Cílúba is the
surface structure of: nf muntu + n-múntu + *n-múntu + *m-múntú + [múntú].

The deletion of nf explains the H toneme on the nominal prefixes, one of the remarkable characteristics of Cílúba. Comparing then disyllabic noun stems in this language with the same nouns in other languages from Zone L, such as Bangobango and Songe, one finds the same surface patterns after applying the deletion rule:

(31) 'cheek'

Bb. dítáma → dítamá
So. etáma → etamá
Lu. nf dítáma → *n-dítamá → dítamá
Mo. lítáma → lítáma

e. Conclusion. Surface tonal patterns in Cílúba (the so-called revertive system) can be analysed and explained using a phonological reduction and deletion rule and a tonological displacement and repetition rule.

5. Tonological rules in languages geographically and linguistically related to Cílúba (L.31.a.)

Most languages surrounding the Lúba dialects are marked by tonal phenomena transforming deep level tonemes into surface tones through rules akin to those mentioned above. Songe (L.23) and Bangobango (L.D.27) have an ordered combination of displacement and repetition rules working on all levels [Van Spaandonck 1967]. Binji (L.22), described by Van Coillie [1948-49], has the same ordered combination of displacement and repetition rules but restricted to a limited number of structures. Pende (L.11), Budya (L.20) and Kanyoka (L.32) [Stappers 1953; 1955; 1952], show a repetition rule in a limited number of structures.

Some languages geographically in the neighborhood of Zone L, but linguistically belonging to other Zones, present also sufficient complementary evidence for these same rules: Horohoro (D.28) [Coupez 1955], with a combined displacement and repetition rule; Tetela (C.71) [Jacobs 1962-64], with a repetition rule only.

6. Stabilization

A language with characteristic displacement and/or repetition of
tonemes has a mobile system because the derivation of deep tone to surface tone depends entirely upon distribution possibilities.

(32a) Bb. maɪˈmaː gashoo → *meemá gashoo → *meemá gáshoo → meema gáshoo
‘little water’

(32b) maɪma gádiba → *meemá gádiba → meemá gadiba
‘much water’

A tonal phenomenon like repetition, if it occurs in all environments, may cause much confusion in surface patterns. In Tetela, clauses and sentences have become completely H, so that tonal contrast disappears and deep structure tonemes can no more be established through analysis of the surface patterns. Thus, a deep structure tonal context HLHL would be transformed in surface structure as HHHH. Most languages of this type have consequently developed restructuring devices in environments where tone repetition would obscure deep structure recognition. 3

(33a) Tet. ɪˌʊ nsɛŋɛ → ɪˌʊ nsɛŋɛ
‘in the millet’

(33b) ɪˌʊ nkambɔ → ɪˌʊ nkambɔ
‘working’

Bantu languages which did not develop some kind of restructuring device show such complicated surface tonal patterns that their deep level tone remains a secret. Some of these languages are no more considered as tone languages.

Cjúba has no restructuring devices, but seems to have stabilized the mobility of the surface tonal patterns, by employing several near-surface rules, see above.

The surrounding languages with a displacement rule operating near the surface level, have different tonal patterns for the same structure, predictable only by analysing the environment:

3 Many other restructuring devices have been noted in several Bantu languages: limitation of the number of echo-tonemes, neutral syllables, localisation, downstep, etc.
(34a) So. muine muána → *muine muána → *mwine múaná → mwine mwáná
'the same child'
(34b) ná muána uóso → *na múaná uóso → na mwána wósó
'and the child completely'
(34c) múngi muána → *múngi muána → *múngi muána → múngi mwáná
'the other child'

Cílúba, on the other hand, has stabilized tonal patterns at a certain level, so that the mobile system (created by the response of near-surface patterns to phonological and tonological environments) has been changed into a fixed system.

(35a) Lu. ní-muána mukúlu → *múaná mukulu → mwáná mukulu
'the first born'
(35b) ní-bulaalu buá muána → *búlaalu bua múaná → búlaalu bwa mwáná
'a bed for the child'

New rules for a fixed tonal system could thus be established. Compare the following:

(36a) 'send'
Mo. ótómá
Lu. ní-kutómá → kútumá
(36b) Derivational forms:
Mo. passive ótómama
Lu. causative ní-kutómakaja → kútumákájá
(37a) 'laugh'
Mo. óseká
Lu. ní-kuséká → kúséká
(37b) Derivational forms:
Mo. reciprocal ósekana
Lu. causative ní-kusékeshá → kúsékéshá

In both (36) and (37) deletion, displacement and repetition rules produce Cílúba surface patterns with a H tone on the final morpheme -a. It seemed then logical to formulate a rule stating that the final morpheme
in infinitives is always H and controls the neutral syllables belonging to the verbal extensions of the derivational stems (see [Meeussen 1961]).

7. Summary

The Cîlûba tonal system is not a complete reversive system. Many questions about its ultimate nature are still wide open.

Tonology rules which have been established for many other Bantu languages in different Zones may work also in Cîlûba, thus serving to erase the exceptionality of the system. Cîlûba is completely surrounded by languages where these rules need to be formulated in order to describe the relation of deep and surface tone and find the deep tonal patterns.

At a certain level, the mobile near-surface tonal level in Cîlûba has been stabilized; this explains in part why the rules are not immediately discoverable.

REFERENCES


List of Abbreviations:

* indicates intermediate steps in the tonal derivation
C consonant
H high
L low
NP nominal prefix
V vowel

Bb. Bangobango
Hr. Horohoro
Lu. Ciluba
Mo. Mungo
Sh. Shambaa
So. Songe
Tet. Tetela
To. Tonga
GEOGRAPHICAL DISTRIBUTION OF THE LANGUAGES DISCUSSED

Fixed type: Mongol

Repetition rule: Budya, Pende, Kanyoka; Tetela

So-called reversive type: Ciluba

Ordered combination of displacement and repetition: Songe, Binji, Bangobango; Horohoro
ON THE VERBAL ORIGIN OF THE BANTU VERB SUFFIXES

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1. Preamble

What follows below is a hypothesis. It is by no means fully proven. I will attempt to bring a certain amount of data to show that it has definite empirical contents, then argue from several more universal considerations. The more general view which underlies the hypothesis presented here may be found in Givón [1971a]. Briefly, it is there suggested that in order to understand the current morphology and morphotactics of a language, one must construct highly specific hypotheses concerning the syntax of that language at some earlier historical stage of its development. Conversely, it is also suggested there that synchronic morphologies and morphotactics are a most powerful tool for reconstructing earlier diachronic stages in the syntax of a language.

2. Bantu verb morphology

The normal syntactic order in the verb phrases of most Bantu languages nowadays (a few exceptions will be mentioned below) is verb:comp. The relevant morphotactics of the verbal word itself may be summarized as:

(1) A-M-OP-verb stem-VDS*-a

where A stands for subject agreement morpheme, M for tense-aspect-modal morpheme, OP for anaphoric object pronoun, VDS* for verb derivational suffix (with the asterisk indicating possible recursion), and -a for the 'neutral' verb suffix, which may be supplanted by either a negative, subjunctive or Modified Base suffix.  

I am much indebted to Edgar Polomé, Benji Wald, A. E. Meeussen and Larry Hyman for many valuable comments, suggestions and criticism of an earlier version of this material. The opinions expressed below remain strictly my own.

Like all modality and other inflectional morphemes, these suffixes receive their phonological shape in the second (post-transformational) lexicon. For further discussion of second-lexical morphemes, see Givón [1971b].
Further, it can be shown, although the full details have not yet been put forth as a coherent and definite hypothesis, that the overwhelming majority of underived (unextended) verb stems in Bantu have the deep canonical shape -CVC- or -CVVC-. The relatively few -V-, -C- or -CV- verb stems can be reconstructed, on either internal or comparative grounds, to fuller forms, though not always back to the prevalent -CVC- (for some discussion, see Givón [1970a]). Another seeming exception to the -CVC- cardinal shape, the one involving NC clusters, will be discussed below.

3. The Bantu modality morphemes

The verbal origin of the Bantu modality prefixes has been noted for a long time. For detailed discussion of some of the evidence supporting this view, see Givón [1969:3.4.2.1.]. Briefly, it may be claimed that:

(a) The Bantu modality morphemes arose from main verbs dominating sentential complements;

(b) They arose primarily from modal-aspectual verbs such as 'begin', 'end', 'succeed', 'fail', 'continue', 'repeat', 'want', 'intend', 'try', 'plan', 'be about to', 'do intensively' etc.;

(c) Most of them arose independently in each Bantu language, at a relatively late date and following the dispersal of the Proto-Bantu speech community.3

The details of the evidence will not be repeated here, but only summarized:

(a) **Semantics:** The semantic features underlying the Bantu modality morphemes are the very same modal-aspectual verb features mentioned in (b) above;

(b) **Etymology:** Many Bantu modality morphemes can still be tracked back to specific verbs;

(c) **Observable diachronic change:** In many Bantu languages one can currently observe the continuation of the process of converting more verb stems into modality morphemes;

3By Proto-Bantu I will refer here only to the reconstructions which exclude the 'semi-Bantu' languages of Western-Equatorial Africa. That is, to those reconstructions such as undertaken by Meinhof [1932] or Guthrie [1967].
(d) **Morphotactics:** The morphology of monosyllabic and vowel-commencing verb stems in Swahili and other languages furnishes more evidence to the modal-verb origin of the modality prefixes and to the earlier complement status of the current main verb stem;

(e) **Morphophonemics:** Most Bantu modality prefixes show the cannonic shape -CV(V)-, but in many instances there exists internal evidence to suggest the earlier presence of a **consonant** at the end of the prefix, thus leading to its reconstruction as -CV(V)C- -- which is the 'deeper' (or older) cannonic shape for verb stems. (For some discussion of the boundary phenomenon involved here, see Givón [1970a; 1969:2]).

Elsewhere I have argued that modality morphemes in Bantu and also in general receive their spelling (phonological shape) in the **second (post-transformational) lexicon.** (For details, see Givón [1969:2.4.1.; 1971b]). The seeming historical change is thus from erstwhile first-lexical verbs to the current second-lexical 'grammatical morphemes'. This change may have little semantic import, though I have shown elsewhere [Givón 1970b:4] that this change in **morphemic status** may often be accompanied by considerable **semantic re-analysis**, in terms of the hierarchy and markedness of the features involved. In many instances, however, one may still describe the syntactic-semantic relation between the modality prefix and the verb stem as a main verb:comp. verb relation. The diachronic change at the morphemic level may thus be interpreted as a **complementation operation**, with the characteristic **equi-NP deletion** T-rule:

$$
\begin{array}{c}
\text{S} \\
NP_i \quad \text{VP} \\
\qquad [\text{modal}] \\
\end{array} \\
\begin{array}{c}
\text{S} \\
\text{V} \\
\text{NP}_i \text{VP} \\
\quad [\text{modal}] \\
\end{array} \\
\begin{array}{c}
\text{S} \\
\text{V} \quad x \\
\end{array}
$$

Bantu languages show considerable variation with respect to the presence of agreement morphemes in the complex verbal word. Where the diachronic re-analysis verb>modal has been completed, only one subject
agreement prefix may appear per verbal word, but not two:

(3) $A-M$-verb stem

$A-M-A$-verb stem

In other instances, when the re-analysis verb>modal has not been fully accomplished, two agreement prefixes may still be found. For example, the present-continuous modality in Siluyana is formed by the use of the copula -\(\ddagger\) as an 'auxiliary':

(4) ba-nu ba-\(\ddagger\) ba-tenda

people A-be A-work

'The people are working'

Similar intermediate situations are observed in Luganda, Kirundi, Chiluba and others.

The change from the older pattern (4) to the re-analyzed pattern (3) may be also described as a change in the ordering of some specific T-rules in the grammar. Thus in (3) one may assume that equi-NP-deletion preceded the rule of agreement-copying and thus double agreement was prevented. In (4), on the other hand, one may argue that the cyclic rule of agreement-copying applied once before equi-NP-deletion and once after, thus counting two cycles, rather than the single copying cycle in (3). An alternative formulation will require special provisions for double-copying, with very little motivation from elsewhere in the grammar.

Another change associated with the diachronic re-analysis verb>modal involves the infinitival morpheme ku-. One finds this second-lexical morpheme in normal complementation of aspectual-modal verbs, as in the Swahili:

(5) ni-na-taka ku-cheza

'I want to play'

Swahili still shows the following intermediate form (for this I'm indebted to Benji Wald), with the variant meaning:
Finally, when the modal -ta- 'future' is used (historically a derivative of -taka 'want'), one finds the normal situation:

(7) ni-ta-cheza
I-fut.-play
'I will play'

but never:

(8) *ni-ta-ku-cheza
I-fut.-to-play
*I will to play'

To conclude this part of the discussion, notice that the current morphemic order in most Bantu languages, modal:verb, is consistent with the current syntactic order verb:comp. The significance of this will be discussed below.

4. The Bantu verb-deriving suffixes

There is some evidence to suggest that many if not all the Bantu verb-deriving suffixes have also arisen, historically, from verbs. The evidence will be briefly sketched below. It is by no means complete, but nevertheless it strongly suggests a direction which I find fruitful to pursue. For more detailed syntactic and semantic analysis of some of the derivational processes involved see Givón [1971c, in preparation].

a. Semantic arguments. The semantic material added to the verb by many of the derivational suffixes is very much within the same modal-

4The infinitival ku- still precedes monosyllabic and vowel-com-mencing verb stems in Swahili, as in ni-ta-ku-la 'I will eat', ni-ta-kw-enda 'I will go'.

5The most conspicuous exception here is the reciprocal derivation with the suffix -ana, which probably involves a variant of conjunction reduction within the pred-raising operation. For further details, see Givón [1971c, forthcoming].
aspectual verb features observed earlier for the modality prefixes: 'continue', 'complete', 'repeat', 'do intensively', 'do extensively', 'terminate' are some of the features which can be observed. Their relation to the verb is that of a higher verb to complement verb and may still be termed as complementation T-rule, including equi-NP-deletion. Thus, for the completive -aula suffix of ChiBemba:

(9)  

In the case of the causative suffix, it is clear that the underived verb behaves as a complement of the higher complementizer [cause], so that:

(10)  

With respect to both the passive and stative derivations, I argue elsewhere [Givón 1971c, in preparation] that a complementizer [be] must be involved as the higher verb in the derivation, plus a special case of equi-NP-deletion (and in the case of stative derivations also agent deletion). The passive derivation may thus be characterized as:

6Equi-NP-deletion is not involved in the causative derivation.
Finally, one may also argue that the reversive suffix may have arisen from an underlying negative verb or a neg. particle in the embedded sentence in the derivation, so that the operation of neg-raising is here involved -- just as it seems to be involved in the counterparts of the very same verbs in English, cf. lock/unlock, tie/untie, bind/unbind, cover/uncover etc. It is perhaps not altogether an accident that the range of Bantu verbs to which this derivation seems to apply quite consistently very much coincides with the same semantic group in English, to which the un- derivation applies. Thus, I would suggest that the underlying derivation of the reversive in Bantu must originally have been:
The format described above is that of predicate raising. That is, a verb from an embedded sentence is raised and adjoined to the one from the higher sentence -- which then becomes, in Bantu, a suffix. This format is at present controversial, but regardless of one's position with regard to it, I would like to claim that the semantic facts seem to suggest a verbal origin for the Bantu verb suffixes.

b. Cardinal shape redundancy rules. At the word-level, that is after the insertion of second-lexical morphemes and before the application of the rules of Phonology, most Bantu languages seem to obey, with rather few exceptions, the universal morpheme structure condition:

(14) CV*

This condition may need relaxing in many cases by the occurrence of syllables of the form V. The most glaring seeming exception involves NC sequences which have historically arisen from NVC sequences and the loss of a vowel. Other 'deep' NV sequences have given rise to V sequences through the loss of the nasal. I have claimed elsewhere [Givón 1969:2] that in most Bantu languages there is sufficient internal justification for wanting to posit NV as the deep underlying form in either case. Most of these underlying NV sequences in Bantu can be shown to have arisen from *ni, though some, mostly in languages such as Swahili, may also be traced back to *mu (for some further
Another seeming exception to constraint (14) is found in Luganda, where identical CC sequences appear. On purely internal grounds, in most cases, one could reconstruct those at least back to *ziC sequences, and perhaps also, ultimately, back to two underlying contributors: *liC and *giC. (For some discussion of this, see Mould [1971, forthcoming].)

At the storage (first-lexical) level, most unextended Bantu verbs show the cannonic stem shape -CVC-. Now, notice that most erstwhile verbs which turned into modality prefixes seem to show the cannonic shape -CV-. (This is at the word-level. Many may still retain -CVC- at a deeper level.) On the other hand, most of the verb-deriving suffixes in Bantu exhibit the cannonic shape -VC-. That is, if one assumes that both prefixes and suffixes have arisen from -CVC- verb stems, then those which became prefixes lost their final consonant, while those which became suffixes lost their initial consonant. Now, given the universal Bantu CV* cannonic shape constraint at the word level, this differential loss of consonants is not only natural but also predictable, taken as a rule of simplification. Thus, once the language has re-interpreted on the morphemic level (i.e. word-level) two erstwhile distinct verbs as one word (stem plus affix), the CV* constraint is then violated, and the following simplification occurs:

\[ \begin{align*}
\text{suffix:} & \quad -\text{CVC}_v -\text{CVC}_s \rightarrow -\text{CVC}_v -\text{VC}_s \\
\text{prefix:} & \quad -\text{CVC}_p -\text{CVC}_v \rightarrow -\text{CV}_p -\text{CVC}_v
\end{align*} \]

A. E. Meeussen and Benji Wald [both in private communication] have pointed out to me that the hypothesis expressed in (15) above does not yet explain how the neutral suffix -a got lost between the modality prefix and the stem, or, for that matter, between the stem and the suffix. This objection may be answered the following way: the suffix -a is a typical second-lexical morpheme added at word final. But the

7 The most common suffixes are: -i1-, -ik-, -ul-, -i-, -am-, -an-, -ai-, -a1-, -iP-, -ju-, -l-e.
morphemic re-analysis of the erstwhile -CVC- verbs into affixes would prevent just its appearance — since the -CVC-CVC- sequence has now become a single word, so that the -a suffix is added only at its end.8

Alternative simplification patterns can also be observed. Thus, for example, in ChiBemba both the negative verb -kaan- 'avoid' and -bul- 'lack, miss' have been fairly recently converted, under special circumstances, into neg-modality prefixes. In both cases the -a vowel was retained — and even lengthened:

(16) a-ã-kaana uku-boomba
    a-ã-kaanaa-boomba
    ã-ã-bulaa-boomba, ...

'he avoided working'
'he did not work'
'had he not worked ...'

It is very likely that this pattern is only an early intermediate one, since both instances are fairly recent. Perhaps an intermediate case may also be observed with respect to the normal neg. prefix ța- in ChiBemba, where in the infinitive it appears as țaa-:

(17) ța-țu-bomba
    ku-țâa-bomba

'we do not work'
'not to work'

c. Internal reconstruction. Since, as I will argue below, the re-interpretation of main verbs as derivational suffixes predates by many centuries the re-interpretation of main-modal verbs as modality prefixes, it is much harder to obtain convincing etymological evidence, either internal or comparative, for reconstructing the presumed lost consonant of the verb suffixes, or identifying them with specific cognate -CVC- verb stems in Bantu or Niger-Congo. (Two recent works by Welmers [1970] and Hyman [1971] may suggest at least the possibility of the existence of such cognates.) This is of course to be expected, since most morpho-phonemic alternations level off in time, as affixes get more closely 'welded' to their stems. In spite of all this, some evidence from morpho-phonemic alternations has survived in some Bantu

8An obvious question here: Why do bound affixes rather than stems lose phonological material in the process of fusion into each other? For a discussion of some universal principle that may underlie this, see Givón [1971a:5.3].
languages, allowing one to reconstruct at least some -VC- suffixes as -*CVC- morphemes. Two possible examples of this are:

(a) The Modified Base suffix: Most Bantu languages furnish evidence for reconstructing this suffix as -|i|-e, a form to which relatively few phonological rules may apply to yield the more common surface variants (for an illustration of this, see Givón [1970a]). In a few languages, such as Luganda, Kirundi and Runyankole, seemingly crazy alternations are observed, many times involving CC clusters (in Luganda) and specific changes on the verb-final consonant ordinarily associated with the PB /|i/.

A detailed analysis of these alternations has been done by Mould [1971, forthcoming], where he has shown that many of the more crazy alternations may be explained away if one posits the deeper form -C|i|-e or even -g|i|-e for the Modified Base. Or, in other words, one must reconstruct a -CVC-e sequence for this verb suffix. Polomé [in private communication] has informed me that in Chaga the MB form -gíle is still attested on the surface.

(b) A boundary phenomenon in ChiBemba: There exists a strange disparity in the palatalization of Proto-Bantu */k/ in ChiBemba. The PB sequence *ki in the prefixes of class 7 has palatalized to ci (or, preceding vowels, to cy). Other *ki sequences in stem-initial position have also palatalized the same way (uku-cya 'dawn', PB -*ki- or -*ke-; uku-cila 'surpass', PB? -*kiI-). Only in one position, of verb-stem final,3 does one find an unpalatalized /k/, before /i/ of the verb-deriving suffix. This disparity may of course be ascribed to grammatical conditions, citing environments such as 'not before verb-deriving suffixes' in the structural description of the palatalization rule. A solution of this kind, even if synchronically possible, has a

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3This statement requires some amplification. Many former verb-deriving suffixes in Bantu have historically become fused into stem-final position, to the point where the derivation has lost much or all of its regularity. Thus, 'semantically unextended' stems nowadays may often exhibit underlying canonic shapes such as -CVCVC- or -CVCVCVC-. In my view one can simply assume that any non-initial consonant in the Bantu verb stem must have been, at some prior time, a stem-final consonant.
number of drawbacks. To begin with, it explains nothing about a highly natural assimilatory process such as palatalization. Further, grammatical conditioning of highly natural assimilation rules ordinarily arises as a result of the historical loss of an erstwhile purely phonological conditioning environment. Further, another and more restricted rule of palatalization in ChiBemba, that of /s/>/ʃ/, does apply in the very same pre-suffixal environment, i.e. before -ika, -ila and -ile. Finally, palatalization of many consonants in pre-suffix position does occur if the verb suffix is the causative -j-. These changes are:

(18)  
\[
\begin{array}{ll}
k & > \text{ʃ} \\
\text{t} & > \text{ʃ} \\
s & > \text{ʃ} \\
\text{l} & > \text{ʃ} \\
d & > \text{ʃ}
\end{array}
\]

The conditioning environment, if 'grammatical', will have to be adjusted accordingly.

An alternative solution would be to use these data for the reconstruction of a consonant-like 'boundary' at the initial position of -i1-, -ik- and -ile, thus rendering them -*Ci1-, -*Cik-, -*Cile, respectively. Or, in other words, one reconstructs for them the lost consonant of an erstwhile -CVC- verb stem. (As a corollary, one must assume that the historical consonant loss described in (15) must have followed the palatalization rule ki>ci in ChiBemba.)

d. The time-lag factor and some Niger-Congo comparative data. At this point one must consider the following question: How did Bantu languages develop two types of verb affixes, both arising from main verbs -- but one as prefixes and the other as suffixes? The following facts also bear on the answer to this:

(a) The verb suffixes of Bantu are attested as cognates in all Bantu languages, and can thus be reconstructed back to Proto-Bantu. That is, they must have arisen at some time before the putative Bantu dispersal. On the other hand, most of the modality prefixes cannot be reconstructed back to Proto-Bantu, they have risen in each language
from specific verbs and must have developed independently in each Bantu language following the Bantu dispersal. There has obviously occurred a considerable time lag between the conversion of main verbs into verb suffixes and that of other main verbs into verb prefixes.

(b) Welmers [1970] has shown the rudiments of a verb-deriving system roughly corresponding to the Bantu one in Igbo, a Kwa language, where some existing lexical verbs have become suffixed to other verb stems, deriving meanings some of which are quite similar to the Bantu derivations.

(c) Stahlke [1970] has shown that in many Kwa languages, which are related to Bantu within the Niger-Congo family, complex verbs (i.e. verbs which take more than one argument) equivalent to those of Bantu, Indo-European or Semitic languages, rarely occur as single lexical items. Rather, one finds in Kwa the phenomenon of serial verbs, where the number of verbs in a verb phrase roughly corresponds to the number of nominal arguments in the sentence -- with only equi-NP-deletion applying but no predicate raising during lexicalization. As an example consider the following (taken from Stahlke [1970], from Yatye):

(19) \text{iywi aba otsi aba iku u}\text{tsi}  
\text{child} \text{ act} \text{ stick} \text{ act} \text{ shut} \text{ door}  
\{ \text{'The boy caused the stick to cause the door to shut'} \} 
\{ \text{'The boy shut the door with the stick'} \}

Or the following, from Yoruba [Stahlke 1970]:

(20) \text{mo mu iwe wa fun } \text{q}  
\text{I} \text{ took} \text{ book came gave you}  
'I brought the book for you'

In (19) above three serial verbs correspond to the English causative verb 'shut'. In (20) three serial verbs correspond to the English causative verb 'bring'. In my opinion the existence of Serialization in Niger-Congo is extremely significant for the hypothesis concerning the rise of the Bantu derivational suffixes from verbs. The Bantu derived verb involves, in its meaning, the chunking of several more primitive verbs into a single verbal word, through the operation termed
above **predicate raising**. The main difference between Bantu and the serializing Kwa languages seems to be that while both perform equi-NP-deletion in the complex verb phrase, only Bantu performs predicate raising, chunking the verbs-in-series into one **word**, while Kwa languages leave them as separate lexical items, often interspersed among the nominal arguments in the verb phrase.

(d) Voeltz and Hyman [1970, unpublished] and Hyman [1971, to appear] have shown that the phenomenon of serial verbs, in a form substantially identical to that of Kwa, appears in the **Bamileke** group, a 'semi-Bantu' dialect cluster of the Cameroun -- and one of the closest relatives of 'Bantu proper' in West Africa. The significance of these findings is enormous, since there is no single instance known in which a language first developed big, 'chunky', 'multi-argument' verbs, then decomposed them into component serialized verbs. If this is indeed true, then one must assume that at the point before the split of Bantu-Proper from the 'semi-Bantu' group, they all had verb serialization in their verb phrase. And this considerably strengthens my hypothesis about the verbal origin of the Bantu derivational suffixes.

(e) Larry Hyman [in private communication] has pointed out to me that there exist numerous examples in Niger-Congo serializing languages in which the complementizer (main) verb in the series **follows** rather than precedes the complement (lower) verb. He thus cites the following example from Gwari:

(21) wo ☉ tnu-tnú ☉ zo ☉ l0
    he work working finish go
    'He is finishing working'

where ☉ 'go' is used as the modal 'present continuous', zo 'finish' and tnu-tnú 'work' (preceded by the semantic cognate-object ☉

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10A seeming exception to this is Krio from Sierra Leone, which has taken 'chunky' English verbs and serialized them. However, Krio is a contact language, and one may argue that it has simply borrowed the surface shapes of 'big' English verbs to lexicalize **already-serialized** Kwa-type constructions, a process that is in no way similar to a historical change from a non-serializing to a serializing verb phrase.
The significance of this type of data is considerable, since it represents a situation in Niger-Congo where, in addition to verb serialization, the main verb is the last element in the verb phrase, the next-highest verb is next-to-last and the lowest verb is the first. Or, in other words, it represents the syntactic order COMP:VERB in the verb phrase. The relevance of this to the present discussion will be made apparent shortly.

Finally, A. E. Meeussen [in private communication] has informed me that there exist several North-West Bantu languages, such as Ewondo, Bulu, Fang, Mboon and others (of zones A, B of Guthrie's [1948] classification, the closest to Niger-Congo) in which verb serialization still exists. Further, in some of those (Mboon) the syntactic order in the verb phrase is COMP:VERB.

5. A hypothesis

The question posed earlier -- why first verb suffixes and later verb prefixes -- will be now answered by the following hypothesis:

(a) At some very early stage of Proto-Proto-Proto-Bantu, in all likelihood before the separation from the Benue-Congo sub-family, the precursor language must have had the syntax COMP:VERB in its verb phrase.

(b) At that early stage the precursor language must have also had a wide measure of verb serialization in its verb phrase.

(c) Subsequently the first morphemic re-interpretation (or diachronic predicate raising) occurred, through which main verbs became verb suffixes -- since at that time the followed the complement verb.

(d) This morphemic shift represented the end of verb serialization in Bantu-proper. The fact that the 'semi-Bantu' languages still serialize verbs strongly suggests that the first morphemic shift occurred after the separation of Bantu-proper from its closest relatives in West-Africa, and perhaps also after the separation of many Zone A, B languages from the main Bantu-proper core.

(e) At some later date the core Bantu-proper group changed its verb phrase syntax from COMP:VERB to VERB:COMP, which is the current order.
(f) Main verbs that have become verb affixes after this diachronic change in syntax naturally became verb prefixes.

(g) This second morphemic shift has occurred, for the most part,\textsuperscript{11} after the putative Bantu-proper dispersal. This explains the relatively low number of overall cognates among the Bantu modality prefixes.

The differential rise of prefixes (later) vs. suffixes (earlier) is thus explained by the syntactic difference at the time these morphemic shifts occurred:

\begin{align*}
(22) & \quad \text{comp:verb (syntax)} \quad \text{suffixation (morphology)} \\
& \quad \begin{array}{c}
\text{VP} \\
\text{(NP)} \\
\text{S} \\
\text{VP} \\
\text{[\ldots\ldots]}_v \\
\text{[\ldots\ldots]}_m
\end{array} \quad \Rightarrow \quad \\
& \quad \begin{array}{c}
\text{VP} \\
\text{(NP)} \\
\text{[\ldots\ldots]}_v \\
\text{[\ldots\ldots]}_m
\end{array}
\end{align*}

\begin{align*}
(23) & \quad \text{verb:comp (syntax)} \quad \text{prefixation (morphology)} \\
& \quad \begin{array}{c}
\text{VP} \\
\text{(NP)} \\
\text{S} \\
\text{VP} \\
\text{[\ldots\ldots]}_m \\
\text{[\ldots\ldots]}_v
\end{array} \quad \Rightarrow \quad \\
& \quad \begin{array}{c}
\text{VP} \\
\text{(NP)} \\
\text{[\ldots\ldots]}_m \\
\text{[\ldots\ldots]}_v
\end{array}
\end{align*}

6. \textit{Discussion}

The hypothesis presented above is admittedly strong. It would be nice if data from other areas of Bantu grammar could support it. One such support involves the \textit{anaphoric object ('infix') pronoun}. Given the current verb:comp syntax of Bantu, it is very hard to account for an anaphoric object pronoun occurring as verb prefix, as in the \textit{\textsuperscript{11}A few Bantu modality prefixes may be reconstructed back to Proto-Bantu. The most conspicuous among those are the \textit{á} and \textit{à} past-tense markers. What this implies is that the second morphemic shift, that of main verbs to modality prefixes, has already begun before the putative Bantu dispersal.}
This position of the object pronoun, which is reconstructible to Proto-Bantu, finds a most natural explanation in my hypothesis concerning a diachronic change in Bantu syntax — namely, the Bantu object prefix arose at the time when the precursor language must have still had the verb phrase syntax COMP:VERB. The subsequent syntactic change has merely left the bound pronoun 'stranded' or 'petrified' in its earlier syntactic position, a rather typical state of affairs with bound morphology (for similar developments in Amharic, Arabic and Indo-European languages, see Givón [1971a]).

One would eventually like to know why the erstwhile verbs condensed into verb suffixes became derivational (first-lexical) morphemes, while many semantically similar main verbs later condensed into prefixes became modality (second-lexical) morphemes. The explanation to this may derive from diverse quarters. First, notice that the presence of the 'infix' object pronoun has prohibited the modality suffixes from fusing into the verb stem, as has indeed happened in the case of many of the older derivational suffixes. Next, one might also suspect that the difference between first vs. second lexicon spelling is not purely morphemic, but is grounded in some deeper syntactic-semantic facts. It is, for example, almost universal to find the following categories appearing as inflectional — i.e. second-lexical: pronouns, subject-agreement morphemes, some case marking morphemes, and tense-aspect-modals. All these categories are sensitive to T-rules: pronominalization and agreement are T-rules of feature copying; genitive case often arises out of relative embedding; some accusative cases ('I want him to go', 'I wish her good luck', 'I knew them to be fools') arise from complementation; finally, modality morphemes depend heavily on many T-rules involved in various verb complementations, conjunctions and subordinations (for further discussion of dependent modals, see Givón [1971b]). Finally, a detailed semantic analysis of the tense-
aspect-modal system of at least one Bantu language [Givón 1970b] has shown that a considerable amount of semantic re-analysis has gone on between the main-verb stage and the subsequent modal-prefix stage. Thus, even when the etymological connection between a certain modality prefix and a certain verb is rather clear, the semantic re-interpretation seems to have been considerable. For example, the Bantu copula -li has become the [past] marker in Swahili, a [future] marker in Luganda, a [present-progressive] auxiliary in Siluyana and sometimes a marker for the feature [action focus] in ChiBemba. As I have shown elsewhere [Givón 1970b], much of the semantic reanalysis also involves the hierarchy and markedness properties of the erstwhile verbs.

The value of a farfetched hypothesis is often due to its usefulness in explaining a wide range of phenomena which until then seemed unrelated. I believe the hypothesis concerning the verbal origin of the Bantu verb-deriving suffixes goes some way in attempting to do just that.
REFERENCES


LES ROLES SYNTAXIQUES DU PRONOM DE CLASSE EN HUNDE

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1. Introduction

Le but de cet article est de décrire les différents types de phrase où le pronom de classe (voir définition ci-dessous en (4)) apparaît en hunde (langue bantu: cote D.51 de M. Guthrie [1967]), d'une part; et de faire ressortir, d'autre part, certaines particularités du pronom de classe en hunde, par comparaison avec son équivalent dans une autre langue bantu, le swahili.

En laissant de côté le rôle de simple substitutif que les pronoms remplissent dans la majorité des autres langues, nous nous proposons de décrire trois types de phrase où le pronom de classe hunde présente certaines particularités, parmi lesquelles son caractère obligatoire dans un de ces trois types de phrase.

Dans les deux exemples suivants, le pronom de classe remplit en swahili et en hunde le rôle de simple substitutif:

(1) Sw. ameleta vi-tu \(\Rightarrow\) ame-vi-leta
    Hu. amerêta bi-ndu \(\Rightarrow\) amerêta byo
    'Il a apporté des objets' \(\Rightarrow\) 'Il les a apportés'

Par contre, dans le type de phrase suivant, dont le verbe est de ceux dits "applicatifs" (cf. 4. ci-dessous), le pronom est obligatoire en hunde, mais ne l'est pas en swahili:

(2) Sw. amele-t-e-a vi-tunga mafuta
    Hu. amerét-er-a bi-tôngá byó mápfúta
    'Il a apporté de l'huile pour les paniers'

Les trois structures de phrase que nous allons prendre en considération sont la phrase relative, la phrase thématique et la phrase contenant deux compléments non joints par une conjonction de coordination (voir l'exemple précédent). Chacune de ces phrases est réductible à la structure fondamentale, qui consiste en un groupe nominal (GN) suivi d'un groupe prédicatif (GPred). Ainsi nous postulons que
(3) \( P + GN + GPred \)

où \( P \) = la phrase fondamentale en hunde, et où la flèche signifie 'consiste en'.

Par pronom de classe, nous entendons chacune des formes suivantes:

(4) cl. 1 \( mu / yo \) cl. 11 \( lo \)
    cl. 2 \( bo \)        cl. 12 \( ko \)
    cl. 3 \( wo \)        cl. 13 \( to \)
    cl. 4 \( yo / ro \)   cl. 14 \( bo \)
    cl. 5 \( ro \)        cl. 15 \( ko \)
    cl. 6 \( o \)         cl. 16 \( ho \)
    cl. 7 \( kyo \)       cl. 17 \( ko \)
    cl. 8 \( byo \)       cl. 18 \( mo \)
    cl. 9 \( yo / ro \)   cl. 19 \( hyo \)
    cl. 10 \( so / to \)

2. La phrase relative

Par phrase relative nous entendons dans cette étude une phrase complète qui renferme une proposition relative.

Etant donnée la phrase agrammaticale

(5) \*bametólá álujo nǐnatsiřra lo

dans laquelle le pronom \( lo \) représente la pronominalisation d'une forme nominale \( álujo \) qui se réfère au même objet que celui qui est exprimé par le deuxième mot de la même phrase, nous estimons que la phrase grammaticale

(6) bametólá álujo lo nǐnatsiřra

'Ils viennent de prendre la meule que j'aime'

est une transformée de (5) dont les deux derniers mots ont été permutés. On a encore une phrase relative grammaticale, si dans (6) on élimine le pronom \( lo \) ou la forme nominale \( álujo \) :

(7) bametólá álujo nǐnatsiřra

'Ils viennent de prendre la meule que j'aime'

ou
(8) bamétolá lo nínatsífra
'Ils viennent de prendre celle que j'aime'

On a le même type de phrase relative dans les deux exemples suivants
(à antécédents locatifs)

(9) aonciraa kumutsí kútalibwa bíryo
'Il a dormi dans un village où on ne mange jamais de la nourriture'

(10) angahiká ho túbishiré ámápfu
'Il peut arriver là où nous avons caché la bière'

Les caractéristiques qui distinguent les exemples précédents d'autres phrases relatives sont:
(a) la position de l'antécédent (qui est une forme nominale ou un pronom de classe) au milieu de la phrase;
(b) l'apparition ou la présence d'une forme verbale de chaque côté de l'antécédent ou, en d'autres mots, le fait que l'antécédent apparaît entre et en même temps que deux formes verbales.

Ces caractéristiques correspondent à ce qu'on peut convenir d'appeler proposition relative complément d'objet, y compris la relative locative.

Les phrases relatives dans lesquelles une des deux propositions peut ne pas contenir une forme verbale sont celles où l'antécédent est en position initiale. Ainsi aux propositions de forme verbale qui sont les derniers mots des exemples (11) et (12) correspondent des propositions de forme non-verbale des exemples (13) - (22):

(11) abíkum byo jábítsína byángahembírwe
'Les jeunes filles qui ont dansé devraient être récompensées'

(12) byo jábítsína byáméfúluka
'Celles qui ont dansé viennent de rentrer'

(13) ákikum kyo jákítsína kyéngé
'La jeune fille qui a dansé est intelligente'

(14) kyo jákítsína kyéngé
'Celle qui a dansé est intelligente'

(15) ákikum f jákítsína kyéngé
'La jeune fille qui a dansé est intelligente'
(16)  ákikumí fátxungę kírá
   'La jeune fille que nous avons vue, la voilà'

(17)  ákikumí kínakambá ábalúme kírá
   'La jeune fille qui injurie souvent les hommes, la voilà'

(18)  átúsírá táta analuká túngí
   'Les nasses que mon père tresse d'habitude sont nombreuses'

(19)  kyo jákítsina kyákawétu
   'Celle qui a dansé est de chez nous (au village)'

(20)  byo jábítsina ámlongo bínghé
   'Celles qui ont dansé la danse du dos sont combien?'

(21)  ábikumí fátxungę bínghínda
   'Les jeunes filles que nous avons vues sont au nombre de sept'

(22)  ho túbishírá ámápfu hatsibu
   'Là où nous avons caché la bière, c'est difficile'

Dans cette catégorie de phrase relative dont l'antécédent apparaît en position initiale et dont une proposition peut être exprimée par une forme non-verbale, celle-ci n'apparaît qu'en position finale. On n'a pas, en comparaison avec (13) et (14),

(23)  *ákikumí kyo kyéngé jákítsina

(24)  *kyo kyéngé jákítsina

Mais, si l'on a une phrase grammaticale dans

(25)  ákikumí kyéngé jákítsina
   'La jeune fille intelligente a dansé'

que l'on comparerà à (15), il ne s'agit pas de phrase relative, mais d'un groupe nominal adjectival suivi d'une forme verbale. On a le même type de phrase dans:

(26)  fátxungę ákikumí kírá
   'Nous avons vu cette jeune fille-là'

à comparer à (16)
(27) játuxunga ávikumí birínda
  'Nous avons vu les sept jeunes filles'
à comparer à (21).

On constate donc que dans la phrase relative dont l'antécédent apparait en position initiale et dont le GPred de la proposition non-verbale apparaît en position finale, la forme verbale constitue avec l'antécédent GN initial le sujet du GPred. L'antécédent peut être un GN qui est complément d'objet de la forme verbale ainsi que dans (16) et (18). D'autre part, le GV de la proposition verbale peut avoir un complément d'objet qui n'est pas l'antécédent ainsi que dans (17) et (20).

Tous les exemples de phrase relative qu'on vient de voir peuvent être schématisés comme suit:

(28) \[ P_{rel} \rightarrow \begin{cases} (\text{GN}_1 + \text{GV}_1 + \text{Ant} + \text{GV}_2) \\ (\text{Ant} + \text{GV} + \text{GPred}) \end{cases} \]
(cf. (6) à (10))
(cf. (11) à (22))

où \( P_{rel} \) = phrase relative; la flèche = "consiste en"; GV = 'groupe verbale' ou 'forme verbale'; GPred = 'groupe prédicatif', qui peut être verbal ou non-verbale; les accolades symbolisent un choix obligatoire d'exclusion;

(29) \[ \text{Ant} = \text{antécédent} \rightarrow \begin{cases} \text{Nom (Pro)} \\ \text{Pro} \end{cases} \]

où Nom = 'forme nominale'; Pro = 'pronom de classe'; les parenthèses entourent un constituant facultatif.

On remarque que, dans la phrase relative, l'antécédent est obligatoire et apparaît soit sous forme d'une forme nominale suivie ou non d'un pronom de classe soit sous forme du pronom seul.

3. La phrase emphatique ou thèmatique ('cleft')

Un exemple de phrase emphatique est:

(30) ávikumí byó byámefuluka
  'Ce sont les jeunes filles qui viennent de rentrer'

Etant donnée la structure de base de la phrase hunde,
(31) $P \rightarrow GN + GPred$

la phrase emphatique est une transformée de celle-ci, par addition, à droite de la forme nominale contenue dans le GN, d'un pronom de la même classe que ce GN (si le GPred est verbal: (34); adjectival: (35); ou démonstratif: (36)) ou de la même classe que le GPred (lorsque celui-ci est nominal: (37) (38)). Dans l'un et l'autre cas, c'est le GN sujet initial qui est emphatisé. Le GN sujet d'une phrase de base verbal est constitué d'une forme nominale libre facultative (Nom) et d'un classificateur obligatoire (Class), qui, dans l'écriture courante, est attaché au GV du GPred, ainsi:

(32) abikumf bi + amefúluka

'Les jeunes filles (elles +) viennent de rentrer'

Si le GPred de (31), $P \rightarrow GN + GPred$, commence par une forme verbale, alors le GPred de la phrase transformée emphatique

(33) $P \rightarrow GN + Pro + GPred$

port un ton haut$^1$ sur sa syllabe initiale, celle-ci étant, comme on vient de dire, le Class du GN sujet (cf. (32)).

(34) abikumf byamefúluka $\Rightarrow$ abikumf byó byamefúluka

'Les jeunes filles viennent de rentrer' $\Rightarrow$

'Ce sont les jeunes filles qui viennent de rentrer'

Si le GPred est non-verbal, les tons restent les mêmes que dans la phrase fondamentale et la transformation ne fait qu'introduire le pronom.

$^1$Malgré la différence de ton de leurs syllabes initiales, les formes byamefúluka et byamefúluka, placées respectivement à gauche et à droite de la flèche dans (34), sont une seule et même forme verbale. Le changement de ton observé dans ce cas-ci est attribuable à la transformation thématicque en elle-même. Dans la plupart des autres cas, le changement tonal d'une syllabe semble être en rapport avec les tons des syllabes voisines dans la même phrase. Mais les recherches pour déterminer le sens dans lequel s'effectue ce changement tonal n'ont pas abouti jusqu'ici.
La transformation ainsi définie ne peut se faire que si le Nom du GN est exprimé; car le Nom est facultatif dans

(39) \( \text{GN} \rightarrow (\text{Nom}) \text{ Class.} \)

Ainsi, si la suite

(40) byamefúluka

'Elles viennent de rentrer'

est une phrase complète bien formée, la suite

(41) \(*\text{byo} \ byamefúluka\)

ne constitue pas une phrase complète, à cause de l'absence d'une forme nominale devant le pronom byo.

La forme principale du GPred peut être un groupe verbal, un adjectif, un démonstratif ou une forme nominale (voir les exemples (34) - (38), plus haut):

(42) sangóko \( bɨ\)-twe \( \rightarrow \) sangóko \( \text{byo} \ \text{bɨ}-\text{twe} \)

'Les poules sont des richesses' \( \rightarrow \)

'Ce sont les poules qui sont les richesses'

D'après la règle transformationnelle que nous venons de formuler plus haut en (31) et (33), la phrase emphatique, par la suppression du pronom thématisateur du sujet initial exprimé, se réduit à la phrase
Pour décrire l'émphatisation d'un complément d'objet, il faut recour-
ir à un procédé indirect qui a une portée plus générale que le simple 
recours à la phrase fondamentale, comme on vient de le faire. La règle 
transformationnelle qui explique l'émphatisation du sujet n'explique pas 
celle du complément d'objet en position initiale comme dans la phrase 
suivante, où ce qui est souligné correspond au sujet:

(43) ábikumí byó tů - káhémba

'Ce sont les jeunes filles que nous récompenserons'

Il ne s'agit pas ici d'une simple addition d'un pronom emphatique, en 
l'occurrence byó, car si on supprime ce dernier, la suite qu'on obtient 
n'est pas une phrase fondamentale ni une phrase complète:

(44) *ábikumí tukahémba

Nous expliquons (43) en considérant la phrase emphatique, en général, 
comme une transformée de la phrase relative (qui est elle-même une phrase 
transformée supposée connue) de schéma:

(45) Ant + GV + GPred

dans lequel on ajoute, en avant-dernière position, un deuxième antécé-
dent (Ant₂), constitué d'un Pro (obligatoire) suivi d'une forme nominale 
(Nom) facultative. Lorsque tous deux sont présents, ces deux éléments, 
Pro et Nom, appartiennent à la même classe. Le schéma de la phrase 
emphatique est donc, dans ce cas:

(46) Ant₁ + GV + Ant₂ + GPred

où

(47) Ant₂ → Pro(Nom)

Par exemple:

(48) abikumí byo jábítsina byáméfuluka
    abikumí byo jábítsina byo ábikumí byáméfuluka
    'Les jeunes filles qui ont dansé viennent de rentrer' 
    'Ce sont les jeunes filles qui ont dansé qui (sont les jeunes 
    filles) viennent de rentrer'
(49) abikumf byo mútsf'fre bitano
Équivalent : abikumf byo mútsf'fre byo bikumf bitano
'Les jeunes filles que vous aimez sont cinq'
'Ce sont les jeunes filles que vous aimez qui sont (les jeunes filles) cinq'

(50) álutsf' lo úkáxúnga lo lutsi lůwe
'C'est la portière que tu verras qui est sa portière'

(51) ámukátsf yo wanihikitsaa yo mukátsf mwéngé
'C'est la femme que tu m'as fait épouser qui est une femme intelligente'

(52) ámukátsf yo wanihikitsaa yo mwéngé
'C'est la femme que tu m'as fait épouser qui est intelligente'

La classe du deuxième antécédent (Ant₂) peut être différente de celle de Ant₁:

(53) abikumf byo jábítsina bo bandu báméfúluka
'Ce sont les jeunes filles qui ont dansé qui sont les personnes qui viennent de rentrer'

(54) árebalé ro játúxunga ko kalamo twáletyíre
'C'est la pierre que nous avons vue qui est le salut que nous apportons'

(55) ásambéne so nínápfúá byo bitwé bǐwe
'Ce sont les chèvres que j'élève qui sont ses richesses'

Dans ce cas, le Nom de Ant₂ est forcément exprimé. On n'a pas:

(56) *árebalé ro játúxunga ko twáletyíre
(57) *ásambéne so nínápfúá byo bǐwe

Mais, si le GPred a comme constituant principal une forme démonstrative, seul le Pro tient la place de Ant₂, le Nom étant éliminé:

(58) abikumf byo jábítsina byo bíno
'Ce sont les jeunes filles qui ont dansé que voici'
(59) `rébalé ro játúxunga ro ríráa

C'est la pierre que nous avons vue que voilà'

On n'a pas:

(60) *ábikumf byo jábítsina byo bikumf bíno

(61) *rébalé ro játúxunga ro íbalé ríráa

Si le GPred a comme constituant principal un groupe verbal atta­
ché à un préfixe classificateur de classe différente de celle du classi­
ficateur de Ant₂, alors Ant₂ et le groupe verbal peuvent permuter, après
l'élimination, au préleable, de la forme nominale de Ant₂ de sorte que
seul le Pro est postposé au groupe verbal:

(62) ábikumf byo jábítsina byo bikumf tukahémba ➞
    ábikumf byo jábítsina byo túkahémba ➞
    ábikumf byo jábítsina túkáhembá byo

'Ce sont les jeunes filles qui ont dansé qui sont les jeunes
filles que nous récompenserons' ➞

'Ce sont les jeunes filles qui ont dansé qui sont celles que
nous récompenserons' ➞

'Les jeunes filles qui ont dansé, nous les récompenserons'

On n'a pas:

(63) *ábikumf byo jábítsina túkáhembá byo bikumf

(64) *ábikumf byo jábítsina bf-ámfúluka byo

Comme dans le cas de la phrase relative décrite plus haut ( (7) et
(8) ), on peut éliminer soit la forme nominale soit le pronom, mais non
pas les deux à la fois, dans le premier antécédent (Ant₁) de la phrase
emphatique:

(65) ábikumf byo jábítsina byo byámfúluka
    ábikumf jábítsina byo byámfúluka

'Ce sont les jeunes filles ayant dansé qui viennent de rentrer'

byo jábítsina byo byámfúluka

'Ce sont celles qui ont dansé qui viennent de rentrer'
(66) \( \text{sangóko so játuleta so wáñndíre} \)  
\( \text{sangóko játuleta so wáñndíre} \)  
\( \Rightarrow \)  
'Ce sont les poules que nous avons apportées que tu refuses'
\( \text{so játuleta so wáñndíre} \)  
'Ce sont celles que nous avons apportées que tu refuses'

On n'a pas:

(67) \( *\text{játuleta so wáñndíre} \)

Dans la phrase emphatique relative de la forme

(68) \( \text{Ant} + \text{GV} + \text{Ant}_2 + \text{GPred} \)

le Pro contenu dans \( \text{Ant}_1 \) et le GV peuvent être éliminés, pourvu que la forme nominale contenu dans \( \text{Ant}_1 \) soit exprimée:

(69) \( \text{abikumí byo abítsína byo byámefúluka} \)  
'Ce sont les jeunes filles ayant dansé qui viennent de rentrer'
\( \text{abikumí byó byámefúluka} \)  
'Ce sont les jeunes filles qui viennent de rentrer'

(70) \( \text{abikumí byo abítsína byo tükáhémba} \)  
'Ce sont les jeunes filles ayant dansé que nous récompenserons'
\( \text{abikumí byó tükáhémba} \)  
'Ce sont les jeunes filles que nous récompenserons'

C'est cette dernière règle qui explique l'exemple (42) et, par ailleurs, ces deux illustrations de l'emphatisation d'un complément placé en tête:

(71) \( \text{lukimbá lutsito lo mwámi anembála} \)  
'C'est d'une étoffe lourde qu'un roi s'habille habituellement'

(72) \( \text{mbéné ngúma yo bapa-kyénu balétaa} \)  
'C'est une seule chèvre que tes parents ont apportée jadis'

D'après la suggestion très pertinente que m'a communiquée le Professeur Penchoen, on peut plus directement expliquer l'emphatisation de ce GN complément en partant de la phrase fondamentale contenant ce GN dans sa position ordinaire postverbale et en distinguant entre une transfor-
mation d'emphase (cleft) et une autre de thématisation. Pour la thémati­sation, la transformation opérerait le déplacement du GN à la position pré-verbale laissant un pronom de la même classe à sa place post-verbale. Pour l'emphatisation, le GN serait mis en tête et on ajouterait le pronom qui convient devant ce qui reste de la phrase fondamentale.

(73a) tukahémba ábikumf
'Nous récompenserons les jeunes filles'

(73b) thématisation: ábikumf, tukahémba byo
'Les jeunes filles, nous les récompenserons'

(73c) emphatisation: ábikumf byo tükáhémaba
'Ce sont les jeunes filles que nous récompenserons'

(74a) tukahémba ábikumf (byo) jábítsina
'Nous récompenserons les jeunes filles qui ont dansé'

(74b) thématisation: ábikumf (byo) jábítsina, tükáhémaba byo
'Les jeunes filles qui ont dansé, nous les récompenserons'

(74c) emphatisation: ábikumf (byo) jábítsina byo tükáhémaba
'Ce sont les jeunes filles qui ont dansé que nous récompenserons'

(75a) mwámi anembala lukimbá lutsito
'Un roi revêt d'habitude une étoffe lourde'

(75b) thématisation: lukimbá lutsito, mwámi anembala lo
'Une étoffe lourde, un roi la revêt d'habitude'

(75c) emphatisation: lukimbá lutsito lo mwámi anembala
'C'est une étoffe lourde qu'un roi revêt d'habitude'

4. La phrase à groupe prédicatif contenant deux compléments
Les compléments dont il est question sont, à l'exclusion des pronom, les formes nominales, y compris les formes nominales locatives ou les formes invariables, qui accompagnent un verbe, soit simple, soit muni d'un affixe applicatif. Il y a deux genres de verbes qui apparaissent accompagnés de deux compléments:
(a) Les verbes applicatifs dérivés: un de leurs compléments est direct
\((\text{GN}_2)\), tandis que l'apparition de l'autre \((\text{GN}_3)\) est liée à la présence de l'affixe dérivatif applicatif -ir- ou -er- :  

(76) \(\text{ïnïen-er-a} \; \text{GN}_3 \; (\text{GN}_2)\)  
'dire \((\text{GN}_2)\) pour \((\text{GN}_3)\)', 'parler pour'  
(\text{verbe simple correspondant: ïnïen-a} \; (\text{GN}_2) 'parler')

(77) \(\text{ixond-er-a} \; \text{GN}_3 \; (\text{GN}_2)\)  
'chercher \((\text{GN}_2)\) pour \((\text{GN}_3)\)'  
(\text{verbe simple correspondant: ixond-a} \; (\text{GN}_2) 'chercher')

(78a) \(\text{ixonderer} \; \text{GN}_2 \; \text{halw}fi\text{ci} \; (=\text{forme locative})\)  
'chercher \((\text{GN}_2)\) près de la rivière'  

(78b) \(\text{ixonderer} \; \text{GN}_3 \; \text{lw}fi\text{ci} \; (=\text{GN}_2)\)  
'chercher une rivière pour \((\text{GN}_3)\)'  

(78c) \(\text{ixonderer} \; \text{GN}_2 \; \text{b}u\text{ja} \; (=\text{forme invariable})\)  
'chercher \((\text{GN}_2)\) pour rien ou vainement'

(79) \(\text{ïc-fr-a} \; \text{GN}_3 \; (\text{GN}_2)\)  
'cracher \((\text{GN}_2)\) sur \((\text{GN}_3)\)'  
(\text{verbe simple correspondant: ïc-a} \; (\text{GN}_2) 'couper (GN)'

(b) Les verbes applicatifs simples: l'apparition des deux compléments n'est liée à celle d'aucun affixe. Cette catégorie de verbes est assez restreinte:

(80) \(\text{ibútsa} \; \text{GN}_3 \; (\text{GN}_2)\)  
'demander à \((\text{GN}_2)\) pour savoir \((\text{GN}_3)\)'  

(81) \(\text{ïha} \; \text{GN}_3 \; \text{GN}_2\)  
'donner \((\text{GN}_2)\) à \((\text{GN}_3)\)'  

(82) \(\text{ihana} \; \text{GN}_3 \; \text{à} \; (\text{GN}_2)\)  
'conseiller \((\text{GN}_2)\) à \((\text{GN}_3)\)', 'donner un conseil à \((\text{GN}_3)\)'  

(83) \(\text{ihema} \; \text{GN}_3 \; (\text{GN}_2)\)  
'demander à \((\text{GN}_3)\) pour avoir \((\text{GN}_2)\)'  

(84) \(\text{i-ir-a} \; \text{GN}_2 \; \text{b}â\text{te} \; (=\text{forme invariable})\)  
'comment faire \((\text{GN}_2)\)'
Les compléments qu'on vient de voir ne forment des suites grammaticales avec le verbe qui les précède que si le premier complément est suivi d'un pronom de la même classe que ce complément:

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(85) *Ifèma GN₃ (GN₂)  
'prononcer une malédiction (GN₂) contre GN₃'

(86) *ihá mundu bwéngé  
ihá mundu yo bwéngé  
'communicuer une ruse à quelqu'un'

(87) *ihá kikumf múlfinga  
ihá kikumf kyó múlfinga  
'donner un anneau à une jeune fille'

(88) naháa bikumf byó mfrínga  
'j'ai donné des anneaux à des jeunes filles'

(89) *néira emápfu bâte  
néira emápfú mó bâte  
'comment ferais-je la bière'

(90) *jànéenerá ha-mbúa bù́ja  
jànéenerá ha-mbúá hó bù́ja  
'il a parlé dans la cour en vain'

(91) *ixondera bù́jaké ha-lwíci  
ixondera bù́jaké bó hialwíci  
'chercher du remède près de la rivière'

(92) *ixondera tutsáná binwa  
ixondera tutsaná to binwa  
'chercher des paroles pour des petits gamins'

(93) *batacira ku-mu-biri máte  
batacira ku-mu-biri kó máte  
'on ne crache jamais de la salive à un corps'

(94) *batacira mu-biri máte  
batacira mu-biri wó máte  
'on ne crache jamais de la salive à un corps'
Le pronom dont il s'agit dans les exemples précédents n'est obligatoire que si le complément qu'il accompagne est exprimé, c'est-à-dire, s'il n'est pas pronominalisé. En effet, dès que le premier complément est remplacé par un pronom, il n'apparaît pas un deuxième pronom de la même classe à droite du premier. Mais, la pronominalisation du deuxième complément n'empêche pas l'application de la règle exemplifiée en (86) - (93); ainsi un pronom qui représente le deuxième complément peut apparaître en même temps que le pronom qui accompagne ou qui représente le premier complément:

(95a) namehá ábáná bó kalima ➞ namehá ábáná bó ko
'je viens de donner des arachides aux enfants' ➞ 'je viens de les donner aux enfants'

(95b) namehá bó kalima ➞ namehá bó ko
'je viens de leur donner des arachides' ➞ 'je viens de les leur donner'

(96a) namehá ámwaná yó kalima ➞ namé-mú-há kalima²
'je viens de donner des arachides à l'enfant' ➞ 'je viens de lui donner des arachides'

(96b) namé-mú-há ko
'je viens de les lui donner'

On n'a pas:

(97) *namehá bó bó kalima

(98) *namé-mú-há yó kalima

Le rôle que joue le pronom de classe dans les exemples précédents ne doit pas être identifié à celui que remplit le pronom dans une structure presque analogue en swahili: en hunde, le pronom est obligatoire entre

²Le pronom substitutif d'une forme nominale de classe 1 est toujours infixé devant le radical verbal, tandis que les pronoms des autres classes sont toujours postposés au verbe, en hunde.
deux formes nominales compléments qui sont exprimés simultanément, mais, en swahili, ce n'est que le complément appartenant à une certaine classe qui doit être annoncé par un pronom infixé devant le radical verbal. Le rôle de ce pronom infixé est le même en présence d'un seul complément qu'en présence de deux compléments d'un même verbe:

(99) níi i-wa-fukuza watoto wako
    'j'ai chassé tes enfants'

(100) níi-iwa-fukuz-i-a watoto wako kosa kubwa
    'j'ai chassé tes enfants pour une faute grave'

(101) níi iwa-omba watoto wako huruma
    'j'ai demandé pardon à tes enfants'

(102) nilisom-e-a kitabu njiani (verbe applicatif)
    'j'ai lu le livre en chemin'

5. Conclusion

Le pronom de classe hunde joue le rôle de pronom relatif (nom obligatoire), celui de pronom de construction emphatique (obligatoire) et celui d'accompagnateur obligatoire du premier de deux compléments d'un verbe applicatif.

REFERENCES


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<td>groupe nominal</td>
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