

ON THE SYNTAX AND SEMANTICS OF DERIVATIONAL VERB
SUFFIXES IN BANTU LANGUAGES*

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1.0 INTRODUCTION Despite the fact that Bantu languages comprise over three hundred of all the languages spoken in Africa and that they have been the object of intensive linguistic research for over a century (Cole, 1971), the study of the syntax of these languages is still in its infancy. One of the most interesting aspects of the structure of Bantu languages that has yet to be fully investigated, for example, is the interaction between the derivational verb morphology and syntax. While it is a well-known fact that Bantu languages are highly agglutinative, this characteristic is no more apparent than in the derivational verb morphology

Thus, for instance, in addition to the simple verbal suffixes illustrated by the data from Lingala (a Bantu language spoken in Zaire) in (1), one finds complex derivational suffixes such as those in (2) in most Bantu languages

- | | | |
|--------|--------------------|--|
| (1) a. | ko-kund-a | 'to bury' |
| b. | ko-kund-el-a | 'to bury something or someone for/on behalf of someone else' |
| c. | ko-kund-is-a | 'to cause to bury s t /s o ' |
| d. | ko-kund-an-a | 'to bury each other' |
| e. | ko-kund-ol-a | 'to unearth, excavate' |
| (2) a. | ko-kund-el-is-a | 'to cause s.o to bury s t /s o for someone else' |
| b. | ko-kund-el-is-an-a | 'to cause to bury s t /s o for each other' |
| c. | ko-kund-el-an-is-a | 'to cause to bury s t /s o on each other' |
| d. | ko-kund-el-an-a | 'to bury s t /s o for each other' |
| e. | ko-kund-ol-el-a | 'to unearth/excavate for someone' |
| f. | ko-kund-ol-el-an-a | 'to unearth/excavate for each other' |
| g. | ko-kund-ol-an-a | 'to unearth/excavate each other' |
| h. | ko-kund-ol-an-is-a | 'to cause to unearth/excavate each other' |

If all the four basic verbal suffixes illustrated here were to com-

bine freely, twenty-four different complex verbal suffixes of the type illustrated in (2) would result ¹ But this is not possible because the co-occurrence of these suffixes on a verb is determined by the semantic properties of the verb

1 1 The main objective of this paper is to argue that derivational verb morphology in most Bantu languages is inextricably tied to their syntactic structures. In particular, focusing on data from three Zone C Bantu languages, namely, Lingala, Dzamba, and Likila, it is claimed here (1) that the "deletability" of object noun phrases in Bantu languages is largely dependent on the type of derivational verb suffix or extension occurring on the main verb of the sentence (cf Guthrie, 1962 (=1970)), and (2) that the relative order in which post-verbal object noun phrases occur in a sentence is also largely predictable from the order in which the associated derivational suffixes occur on the verb

Of the four verbal extensions illustrated in (1)-(2) above, that is, the Applicative {-el-}, the Causative {-is-}, the Reciprocal {-an-}, and the Reversive {-ol-}, the most productive are the first two. This is true in most Bantu languages. Accordingly and partly because of space limitations, this study will be mainly concerned with these two extensions. Further, for expository reasons, most of the illustrations here will be drawn from Lingala

1 2 Following Chomsky (1970), it is assumed here that transformations do not perform derivational morphology, and that such operations can be more adequately handled by the base rules. That is, the base rules specify in its lexicon the contexts in which derived or extended verbs in Bantu languages may occur according to a fixed set of selectional and strict subcategorization features. And as in the case of other lexical elements, any entry may specify that semantic features are in part dependent on the choice of one or another of the categorial elements Noun, Verb, and Adjective

2 0 SYNTACTIC AND SEMANTIC PROPERTIES OF DVS. Apart from the aspect of the verbal morphology which is the topic of the present paper, various properties of verbal extensions in Bantu languages have been discussed in great detail in a number of studies (cf Guthrie, 1962, Eastman 1967, Scotton, 1967a,b, Givón, 1971a,b, Vail, 1972, among many others). Of these properties, the following three are to be noted as common to almost all Bantu languages: (1) extension of the meaning of the basic verb, (2) "capacity" to support one or more object noun phrases, and (3) the omissibility

of object noun phrases associated with these verbal extensions
Let us consider each of these properties briefly

2.1 EXTENSION OF MEANING This property has been noted since the inception of Bantu linguistics, and may be observed from the Lingala data given in (1) above. In particular, given a simple or basic verb such as (1a), the occurrence of different derivational verbal suffixes (DVS) on this verb will change or extend its basic semantic reading as illustrated in (1b) through (1e). This change in meaning is not always transparent as the Lingala facts in (1) indicate, in some cases the change is so radical that the relationship between the basic verb and its derived variant is almost completely obscured. An intermediate stage of this sort is the causative form of the Lingala verb -kom- 'write' given in (3) where, as can be seen in (3b), the first meaning of the extended verb is not as transparent with respect to the basic verb as the second meaning

- (3) a. kò-kòm-à 'to write'
b. kò-kòm-is-a '(1) to register/enroll'
'(2) to cause to write'

A more obscure example is the causative form of the verb -tambòl- 'walk' below

- (4) a. kó-támbòl-à 'to walk'
b. kó-támbòl-is-a '(1) to drive, (2) to direct/
manage, (3) to cause to walk'

Thus depending on the context in the sentence, the derived verbs in (3b) and (4b) can make a sentence multiply ambiguous as may be observed from the following set of Lingala sentences

- (5) a. Mw-ana à-kòm-ákí mo-nkanda
child he-write-Impf. a letter/book
(A/The child wrote a letter/book)
b. Mo-lakísí à-kòm-ís-ákí mw-ana mo-nkanda
he-write-Caus-Impf child a letter
(A/The teacher caused the child to write a letter)
c. #Mo-lakísí à-kòm-ís-ákí mw-ana.
(1. The teacher registered/enrolled the child)
(2. The teacher caused the child to write something)
(6) a. Mo-lakísí à-támbòl-ákí
(The teacher walked)

- b Mo-lakısı a-tambol-is-ákı mu-ntuka
(The teacher drove the car)
- c Mo-lakısı a-tombol-is-ákı mw-ana
(The teacher caused/made the child (to) walk)
- d Mo-lakısı a-tambol-is-ákı sukulu
(The teacher directed/managed the school)
- e #Mo-lakısı a-tambol-is-ákı
(The teacher drove something, or caused someone to walk,
or directed/managed something)

Lexical ambiguities such as these are very common for verbs involving the Causative verbal suffix, but they are not restricted to this extension alone. The facts illustrated in (3) through (6) are paralleled in Dzamba and Likila. The ambiguities exemplified in the Lingala sentences (5c) and (6e) also occur in a number of other Bantu languages.

2.2 EXTENSION OF SYNTACTIC RANGE This property, termed by Guthrie (1962: 94) as the "capacity" of an extended verb to support an extra object or one object less, is illustrated by the (b) sentences in (7) and (8) below.

- (7) a Mw-ana a-kund-ákı mbongo awa
child he-bury-ed money here
(A/The child buried the money here)
- b Mw-ana a-kund-el-ákı tata wa-ye mbongo awa
App-ed father of-his
(The child buried the money her for/on behalf of his father)
- c *Mw-ana a-kund-ákı tata wa-ye mbongo awa
child he-buried father his money here
- (8) a Moto moko a-kuf-áká lobı
person one he-die-Past yesterday
(Someone died yesterday)
- b Moto moko a-kuf-el-áká mw-ası wa-ye lobı
App-ed wife his
(Someone died for his wife yesterday)
- c *Moto moko a-kuf-áká mwası wa-ye lobı
someone died wife his yesterday

That is, given a transitive verb such as -kund-a in (7) or an intransitive one such as -kuf-a in (8), the occurrence of the applicative verbal suffix on these verbs makes it possible for them to

take an additional object noun phrase as in (7b) or simply to permit the occurrence of an object in constructions where it would not have been possible otherwise, as in (8b). The ungrammaticality of both (7c) and (8c) attests to the importance of this property. The extension of the syntactic range of a basic verb illustrated here is only characteristic of the Applicative and Causative extensions. The other two suffixes, namely the Reciprocal {-an-} and the Reversive {-ol-}, have different effects on the verb, the occurrence of the former on a verb detransitivizes that verb as illustrated in (9), and that of the latter reverses the presuppositions associated with the basic verb as can be seen in (10).

- (9) a Musa a-bet-ákı Poso lelo
 M he-hit-ed P today
 (Musa hit/beat Poso today)
- b Musa na Poso ba-bet-an-ákı lelo
 M and P they-hit-Rec -ed today
 (Musa and Poso hit each other)
- c *Musa na Poso ba-bet-an-ákı ba-na lelo
 Musa and Poso they-hit/beat each other children today
- (10) a Musa a-funq-ákı ekukı te.
 M he-close-ed door not
 (Musa did not close/lock the door)
- b Musa a-funq-ol-ákı ekukı te
 he-close-Rev-ed
 (Musa did not open/unlock the door)
- c *Musa a-funq-ol-ákı mw-ana ekukı te
 Musa he-close-Rev ed child door not

That is, given a transitive verb such as -bet-a in (9a), for example, the occurrence of the Reciprocal suffix on that verb will yield a structure such as (9b) where both Musa and Poso are functioning as the subjects of the sentence.² The occurrence of this suffix on the verb makes it impossible for another object noun phrase to co-occur with it as the ungrammaticality of (9c) demonstrates. The occurrence of the Reversive verbal extension, in contrast, has no syntactic effect on the verb: the verb functions just like a basic transitive verb by maintaining its object (10c), and as expected, it cannot take an additional object noun phrase without the occurrence of a second derivational suffix such as the Applicative or Causative (cf. examples in (2) above). A more detailed discussion of these suffixes for the Bantu languages under consideration here may be found in Bokamba (1975).

2 3 THE OMISSIBILITY OF ASSOCIATED OBJECT NP'S The third and last property of derivational verbal suffixes that is commonly discussed in the Bantu linguistic literature is the omissibility of the noun phrases associated with the different verbal extensions, particularly the Applicative and Causative. Even though both of these extensions have the syntactic effect of increasing the number of arguments that may occur as objects of the verb, their behavior with respect to the omissibility of the associated object noun phrases is significantly different as can be observed by comparing the set of Lingala sentences in (11) and (12)

- (11) a Ba-soda ba-kund-ákí ebembe lelo
 soldiers they-bury-ed cadavre today
 (The soldiers buried a/the cadavre today)
- b Ba-soda ba-kund-el-ákí Musa ebembe lelo
 (The soldiers buried a/the cadavre for Musa today)
- c Ba-soda ba-kund-el-ákí Musa lelo
 they-buried-for Musa
 (The soldiers buried something for Musa today)
- d *Ba-soda ba-kund-el-ákí ebembe lelo
 soldiers they-buried-for cadavre today
- e *Ba-soda ba-kund-el-ákí lelo
 soldiers they-buried today
- (12) a Ba-soda ba-kund-ís-ákí Musa ebembe lelo
 (The soldiers caused/made Musa (to) bury the cadavre today)
- b Ba-soda ba-kund-ís-ákí ebembe lelo
 (The soldiers caused the cadavre to be buried today)
- c Ba-soda ba-kund-ís-ákí Musa lelo
 they-caused bury Musa
 (The soldiers caused/made Musa (to) bury something today)
- d *Ba-soda ba-kund-ís-ákí lelo
 soldiers caused/made-bury today

The Lingala sentences in (11) show that given a structure such as (11b) which contains an extended applicative verb and two object noun phrases, the direct object or the one associated with the basic verb, viz ebembe, may be omitted as exemplified in (11c), but the indirect or benefactive object, Musa, cannot be omitted as the ungrammaticality of (11d) attests. Further, both object noun phrases cannot be omitted. The ill-formedness of (11d) may also be

explained by the fact that the Applicative verbal extension in the three Bantu languages under investigation here cannot co-occur with non-human benefactive object noun phrases

The sentences of (12), in contrast, show that either the object of the causative verb (12b) or that of the simple verb (12c) may be omitted without affecting the grammaticality of the sentence. But as we saw in (11), both object noun phrases cannot be omitted at the same time, as the ungrammaticality of (12d) demonstrates. The restrictions on the omissibility of object noun phrases illustrated by the Lingala sentences (11) and (12) are common to most Bantu languages (cf Guthrie, 1962, Eastman, 1967, Scotton, 1967a, Vail, 1972). That this should be the case is not at all surprising for, as stated previously, one of the main functions of the verbal extensions in Bantu languages is to increase the number of post-verbal arguments that may occur with a verb. To a certain extent, then, derivational verbal suffixes in Bantu languages function as case-markers in that each suffix is associated with a specific object noun phrase in any given clause.

3 0 POST-VERBAL WORD ORDER Having thus shown the correlation that exists between the omissibility of object noun phrases associated with the Applicative verbal extension and those associated with the Causative, let us now consider the order in which post-verbal arguments occur relative to the associated verbal suffixes. The main question to which we address ourselves in this part of the paper is this: To what extent does the order of post-verbal object noun phrases reflect the order in which the derivational extensions occur on the verbs in the three Bantu languages under study here? Put differently, can the order of object noun phrase be predicted from that of the verbal extensions? Our answer to this question is affirmative.

3 1 INHERENTLY DOUBLE-OBJECT PREDICATES To see this, let us consider first by way of background the type of word order found in sentences involving inherently double-object predicates such as the equivalent of the English "tell" and "give" in the languages under investigation here. The most common word order in Lingala, Dzamba, and Lukila, as in most other Bantu languages, is subject-verb-object (SVO). If a verb has two object noun phrases, the most commonly found word order is subject-verb-indirect object-direct object, that is SVID. This word order is fixed in most Bantu languages, as the ungrammaticality of the Dzamba sentences (13b) and (14b) demonstrates.

- (13) a oMusa a-eza-ák1 oPoso buku
 M he-give-Impf P a book
 (Musa gave Poso a book)
- b *oMusa a-eza-ák1 buku oPoso
 Musa gave a book Poso
- (14) a oMusa a-ímol-ák1 oPoso ekano '4
 M he-tell-Impf P a story
 (Musa told Poso a story)
- b *oMusa a-ímol-ák1 ekano oPoso
 Musa told a story Poso

That the word order indirect-object before direct-object is fixed³ can also be seen in the kind of interpretations assigned to sentences such as the Dzamba (15a-b) below when the two object noun phrases are reversed

- (15) a oMo-teye1 a-eza-ák1 oMusa oPoso loome
 the-teacher gave Musa Poso today
 (The teacher gave Musa (to) Poso today)
- b oMo-teye1 a-eza-ák1 oPoso oMusa loome
 (The teacher gave Poso (to) Musa today)

That is, in (15a) the teacher is giving Poso to Musa, while in (15b) he is giving Musa to Poso. Constructions such as the above are possible because both object noun phrases are [+ human], it would not be possible, as we shall see below, to reverse the order of the objects if one of the noun phrases is non-human. The only case where a direct object may precede the indirect object in the languages under consideration here is when the former is a pronominal clitic, but the latter is not. If both objects are pronominal clitics, the only permissible ordering of the clitics in the verb is indirect-object before direct-object, in other words, the same order as illustrated in (13) and (14) above.

3.2 DERIVED DOUBLE-OBJECT PREDICATES The word order of noun phrases found in constructions involving derived double- or triple-object predicates in the three Bantu languages under investigation here, and in other Bantu Zone C languages, is the same as that found in constructions involving inherently double-object predicates SVID. Reconsider, for example, the Lingala sentences (11b) and (12a) repeated below as (16a) and (16b), respectively

- (16) a Ba-soda ba-kund-el-ák1 Musa ebembe lelo
 (The soldiers buried the cadavre for Musa today)

- b Ba-soda ba-kund-is-ák1 Musa ebembe lelo
(The soldiers caused/made Musa (to) bury the cadavre
today)
- c *Ba-soda ba-kund-el-ák1 ebembe Musa lelo
they-buried-for cadavre Musa
- d *Ba-soda ba-kund-is-ák1 ebembe Musa lelo
they-caused-bury cadavre Musa

If the order of the object noun phrases in (16a,b) is reversed, the resulting sentences are the ungrammatical (16c,d) ⁴ That is, sentence (16c) is ill-formed because the direct object, *ebembe*, precedes the indirect object, and (16d) is ungrammatical because the object of the causative verb follows, rather than precedes, the direct object.

Hawkinson and Hyman (1974 158-163) in considering facts such as those in (16a,b) in contrast to those in (16c,d) in Shona (a Bantu language spoken in Zimbabwe), argue that the ordering of a benefactive or that of causative object noun phrase before a direct object (as in 16a,b) is determined by a natural hierarchy of topics. This hierarchy, according to Hawkinson and Hyman (1974), states that whenever a benefactive and a direct object occur together in a sentence, the former must precede the latter. Similarly, whenever a causative object and a direct object co-occur in a sentence, the former must precede the latter. Hawkinson and Hyman (1974) argue that the same type of natural topic hierarchy applies with respect to the accessibility of noun phrases in a sentence to the subject position.

3.3 A MIRROR-IMAGE STRUCTURE While Hawkinson and Hyman's proposal appears to account correctly for the facts of Lingala, Dzamba, and Likila as well as Shona, we believe that there is a much more systematic way of predicting the relative order in which post-verbal arguments occur in a sentence in these Bantu languages. Our hypothesis is that the order in which object noun phrases occur in a sentence in these four languages is the mirror-image or reverse of the order in which the associated derivational verbal suffixes occur on the verb.

To see this, reconsider once more sentences (16a,b) in contrast to (16c,d) above. The first set of sentences which we have observed to be grammatical, has not only what we have established to be the only permissible word order for object noun phrases but also verb forms that should be suggestive of a correlation between object word order and derivational suffixes order. Specifically,

in sentence (16a) the benefactive object, Musa, both precedes the direct object, ebembe, and occurs immediately after the applied verb. In other words, the object associated with the Applicative verbal extension occurs next to it--the tense-marker being a constant, and the object associated with the basic verb occurs away from that verb. Similarly, in (16b) the object of the causative verb occurs next to its associated verbal extension or the verb, and the direct object occurs away from the verb. In the ill-formed sentences (16c,d) these ordering relations are reversed: the direct object noun phrase ebembe occurs next to the extended verbs, while the object associated with these derived verbs occurs away from them. Now, if our hypothesis that the relative order in which object noun phrases occur in a sentence is the mirror-image of the order in which their associated derivational suffixes occur on the verb is correct, then the ungrammaticality of constructions such as the Lingala (16c,d) is easily explained as a violation of this ordering restriction.

A priori, the correlation observed here with respect to sentences (16) may be purely accidental unless one were to show that reversing the order of the suffixes will have a corresponding effect on the associated object noun phrases. While the data cited in Hawkinson and Hyman (1974) does not permit us to determine whether or not this operation is possible in Shona, the facts of Lingala, Dzamba, and Likila indicate that such a reversal is permissible. The Lingala sentences (17c,d) and (18b,c) that contain complex verbal extensions illustrate this fact.

- (17) a Musa a-somb-ákí bíleí
Musa he-buy-ed food
(Musa bought some food)
- b Musa a-somb-el-ákí mo-paya bíleí
(Musa bought some food for the guest)
- c Mo-tekísí a-somb-el-is-ákí Musa mo-paya bíleí
seller he-buy-App-Caus-ed M guest food
(The seller made Musa buy some food for the guest)
- d Mo-tekísí a-somb-is-el-ákí mo-paya Musa bíleí
(The seller made Musa buy some food for the guest)
- (18) a Kapíta a-beb-is-ákí mw-así
chief he-spoiled woman
(The chief spoiled the woman)
- b Kapíta a-beb-is-el-ákí mo-balı mw-así
(The chief caused the woman to be spoiled for the man)

- c Kapita a-beb-el-is-áki mwasi mo-bali
 (The chief caused the woman to be spoiled for the man)
- d *Kapita a-beb-el-is-áki mo-bali mw-asi
 (The chief caused the man to be spoiled for the woman)

Notice in these sentences that in each case the object noun phrase associated with the last derivational verbal extension occurs immediately after the verb (17c) and (18b). When the order of the derivational suffixes is reversed as in (17d) and (18c), the same correlation is maintained. Sentence (18d) is grammatical but inappropriate here because it does not have the same reading as (18b,c) as may be seen from its gloss. Further, notice that object noun phrase associated with the simple verb in (17c,d) occurs the furthest from the verb. The facts illustrated in (17) and (18) are paralleled in the other two Bantu languages under study here.

3 4 CONCLUSION In this paper we have attempted to show that derivational verbal morphology in three Bantu languages is inextricably tied to the syntax and semantics of these languages. This relationship is shown by the fact that the occurrence of additional object noun phrases in a sentence is determined by the occurrence of derivational suffixes on simple verbs, and by the fact that the omissibility of such object noun phrases is dependent on the type of verbal extension that occurs on a verb. Further, we have proposed that the relative order in which object noun phrases occur in a sentence containing an extended verb in Lingala, Likila, and Dzamba is the mirror-image of the order in which the associated verbal extensions occur on the verb. We have argued that if this hypothesis is correct it will provide a systematic way of predicting post-verbal word order, and thus permit a principled explanation of facts such as those illustrated by the ill-formed sentences (16c,d). Whether the hypothesis proposed here can be generalized to other Bantu languages or not remains to be determined, we suspect that the correlation discussed here with respect to post-verbal word order is language-area specific.⁵ In any event, we find the mirror-image hypothesis very attractive in light of the data from Lingala, Likila, and Dzamba.

NOTES

*This paper is an abbreviated version of section (2.2) of chapter II of my doctoral dissertation (Bokamba, 1975). I have benefited from discussing this topic with Charles Kisseberth and my Bantu syntax students.

¹There is a fifth verbal suffix in Bantu languages, viz the Passive {-am-}, which has been treated by some Bantuists (cf Guthrie, 1962, Givón, 1971a, 1972, among others) as a derivational verbal suffix on a par with the other four DVS discussed here. We consider this analysis to be inaccurate not only for the languages under investigation here, but also most Bantu languages for at least one main reason the Passive suffix in most Bantu languages appears to be clearly derived via the syntactic rule of Passive and in this respect differs from all the other verbal extensions which do not appear to be determined by any transformational rule.

²I am assuming here that sentences such as (9b) are derived from a conjoined structure such as the following

Musa a-bet-ákí Poso lelo mpe Poso a-bet-ákí Musa lelo
(Musa hit Poso today and Poso hit Musa today)

via conjunction reduction

³In some non-Zone C Bantu languages, for instance Swahili and Chi-Mwi ni, it is possible for the direct object noun phrase to precede the indirect object in certain specified discourse contexts involving emphasis. The indirect-object before direct-object word is still the most common in these languages

⁴There is a possible interpretation, but a forced one, for these sentences "the soldiers buried something for the dead Musa today" or that the soldiers caused the dying Musa to be buried today. In other words, ebembe Musa in (16c,d) would be interpreted as the benefactive object or the object of the causative

⁵Swahili and Tshiluba, for example, do not allow the type of reversal of derivational verbal suffixes discussed here

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