ABSTRACT
        An analysis of applicative constructions in Bantu
languages proposes a typology of applicative structures, using
examples from Ndendeule and Swahili. First, the basic facts about
applicative constructions are presented, including those concerning
morphology, meaning, and alternative expressions, and several
arguments are posited. Primary objects properties diagnostics are
then applied to six different applied objects. Previous typology of
applied objects is reviewed and the proposed new typology is
outlined. Verb phrase (VP) ellipsis is advanced as evidence of the
structure of the VP, and a complex VP structure for applicative
constructions is suggested. It is concluded that based on primary
object properties, there are three types of applicatives whose
prototypes are benefactive, instrumental, and locative. These
constituent structures involve two VPs: one VP which contains the
theme/patient is embedded in another VP, which contains the applied
object. In addition, the applicative morpheme is a predicate head
that selects the minimal VP and the applied object. Implications for
mapping of the structure are considered briefly. Contains 25
references. (MSE)

Towards a Typology of Applicatives in Bantu

Deo Ngonyani

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0. Introduction

The structure of the applicative constructions has been a subject of intense debate recently. However, it appears there is a lot of confusion about the applied objects. Part of it is due to the fact that applied objects get various interpretations and their sentences differ in argument structure as well as other syntactic properties. Generalization about one applied object may not apply to other applied objects. The fact that the objects exhibit different syntactic properties suggests different structures are involved. Some applied objects, however, seem to show similar syntactic behavior. In this paper I take the view that in order to understand applicatives in Bantu, it is necessary to look at their typology. This will enable a person to delimit the relevance of certain generalization and to delimit the applicability of some notions on applicatives. The data for this paper are drawn from Ndendeule[1] and Swahili.

This paper is organized into five sections. In Section 1, I present the basic facts about applicative constructions. I apply the primary object properties diagnostics to six different applied objects in Section 2. Section 3 discusses previous typology and presents my typology. In Section 4, I use VP ellipsis as evidence of the structure of the VP and suggest a complex VP structure for applicative constructions. I discuss implications of my analysis in Section 5.

1. Basic Facts

Bantu languages have an applicative morpheme, {-il-} suffixed to the verb stem. This suffix increases the number of arguments for the verb by one. Example (1) illustrates this in Ndendeule language[2].

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[1] Ndendeule is closest to Ngindo, P.14 in Guthrie's classification. There is no mention of this language by Guthrie.

[2] Abbreviations:

PRT	Present Tense	PST	Past Tense	FUT	Future Tense
SA	Subject Agreement	OA	Object Agreement	FV	Final Vowel
Subj	Subject	NOM	Nominalizer	INF	Infinitive
BEN	Beneficiary	INST	Instrumental	LOC	Locative
DO	Direct Object	IO	Indirect Object	AO	Applied Object
REC	Reciprocal	APP	Applicative	CAUS	Causative

(1) a. n-ghɛni a-ki-hɛmɛl-a   ngoβo
    1-guest 1-PST-buy-FV 10cloth
    the guest bought clothes

 b. n-ghɛni a-ki-n-hɛmɛl-ɛl-a   m̃w-ana   ngoβo
    1-guest 1SA-PST-1OA-buy-APP-FV 1-child   10cloth
    the guest bought the child clothes

The contrast between (1a) and (1b) is in the fact that the former has a verb without the applicative morpheme and has one object, clothes, while the latter has the applicative morpheme and two objects, "clothes" and "child". The additional object, in this case, "child", is known as the applied object.

1.1 Morphology

The realization of the applicative morpheme may vary slightly. In Swahili, it is realized as /-il-/ or /-el-/ depending the vowel height of the preceding vowel of the verb stem. Consonant final stems will take /-i-/ or /-e-/ again determined by vowel harmony. Ndendeule, which has four vowel levels[3] has vowel harmony also and the applicative morpheme is realized as /-il-/, /-el-/ or /-ɛl-/. The vowel systems of Swahili and Ndendeule are as follows:

(2) a. Swahili   b. Ndendeule

       i   u   i   u
                                 e   o
       ɛ   ɔ   ɛ   ɔ
            a   a

The applicative morpheme takes the values of the front vowels only. Thus when the last vowel of the stem is /i/ or /u/, the applicative morpheme will be /-il-/; when it is /e/ or /o/ in Ndendeule, the applicative will be /-el-/; when it is /ɛ/ or /ɔ/, the applicative will be /-ɛl-/. When the last vowel of the stem is /a/, the applicative suffix is /-il-/. The following examples illustrate the different allomorphs of the applicative.

Ndendeule
(3)   a.   -yiβa   ⟶   -yiβila
           steal   steal from/for

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3   For Swahili transcription, I use the standard orthography. But the approximate equivalences of Ndendeule and Swahili vowels are shown in the vowel charts in (2).

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b.	-tula skin	$\longrightarrow$	-tulila skin with/for
c.	-yemba sing	$\longrightarrow$	-yembela sing for
d.	-βola teach	$\longrightarrow$	-βolela teach for/at
e.	-kɛma call	$\longrightarrow$	kɛmɛla call for
f.	-tɔla take	$\longrightarrow$	-tɔlɛla take for
g.	-kanga push	$\longrightarrow$	-kangila push for/to

The following are examples from Swahili.

(4)	a.	-ficha hide	$\longrightarrow$	-fichia hide for/at/with
	b.	-funga close/shut/tie	$\longrightarrow$	-fungia shut for/at/on
	c.	-peleka send	$\longrightarrow$	-pelekea send to/for
	d.	-omba ask for something	$\longrightarrow$	-ombea ask for something for
	e.	-kata cut	$\longrightarrow$	katia cut for/at/on

Therefore, the applicative morphology in the two languages is the same differing only in the vowel quality of the suffix.

1.2 Meaning

Applicative objects may be assigned different interpretations. The different interpretations of the applied objects have been recognized by different authors (e.g. Ashton, 1966; Trithart, 1983; Bresnan and Moshi, 1990; Kimenyi, 1980). The following sentences from Ndendeule illustrate seven different interpretations.

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Ndendeule
(5) a. mayi a-ki-βa-tɛlɛk-ɛl-a βa-na ch-akulya (Benefactive)
mother 1SA-PST-2OA-cook-APP-FV 2-child 7-food
mother cooked the children some food

b. ma-ɣanga βa-ki-kayul-il-a ki-βeɣa (Instrumental)
6-stone 2SA-PST-break-APP-FV 7-pot
the stones, they the pot with them

c. βa-lumba βa-ki-tul-il-a nyama pa-ma-nyahi (Locative)
2-hunter 2-PST-skin-APP-FV 9animal 16-6-grass
the hunters skinned the animal on the grass

d. βa-lumba βa-ki-hyem-el-a mbiya (Motive)
2-hunter 2SA-PST-hunt-APP-FV 10money
the hunters hunted for money

e. mbuya a-ki-βa-kang-í βa-chɔngɔlɔ βa-chikana (Direction)
1grandma 1SA-PST-2OA-push-APP 2-boy 2-girl
grandma pushed the girls to the boys

f. ma-yani ya-ki-βa-yɔmɔl-ɛl-a ma-chi βa-lumba (Malefactive)
6-baboon 6SA-PST-2OA-finish-APP-FV 6-water 2-hunter
the baboons finished the hunter's water

g. m-wana a-ki-lel-el-a ki-hembe
1-child 1SA-PST-cry-APP-FV 7-knife
the child cried for a knife

The additional argument may be assigned any θ-role, except the agent θ-role. For this reason I will refer to such objects with the generic 'applied object'.

1.3 Alternative Expressions

In Ndendeule, only instrumental and motive have alternative expressions with prepositional phrases as shown below.

(6) a. β-ana βa-ki-kayu ki-βeɣa na ma-ɣanga
2-child 2SA-PST-break 7-pot with 6-rock
children broke the pot with rocks

b. Ba-lumba Ba-ki-hyem-a n-dembo u-nharu wa m-biya
2-hunter 2SA-PST-hunt-FV 10-elephant 11-reason of 10-money
the hunters hunted the elephants because of money

Swahili allows for the beneficiary to be introduced by a preposition-like structure. The following sentences illustrate this.

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(7) a. wa-geni wa-li-m-let-e-a   zawadi   m-toto
         2-guest 2SA-PST-1OA-bring-APP-FV 10present 1-child
         the guests brought the child some presents

     · b. wa-geni wa-li-let-a   zawadi   kwa ajili ya m-toto
         2-guest 2SA-PST-bring-FV 10present for   1-child
         the guests brought gifts for the child.

The applicative used in (7a) is often ambiguous in that it may be interpreted as "the child" is ultimately the recipient of the presents or the bringing was done in his stead. The paraphrase in (7b) disambiguates and means in some sense the child is the recipient.

Other languages have these patterns too although the different objects (applied and non-applied) have different syntactic behavior cross-linguistically. Within one Bantu language also, the applied objects do not behave the same way.

To summarize, the applicative is made by suffixing {-il-} to the verb and an additional object, the applied object. The value of the vowel in the affix is in harmony with the last vowel of the stem. The applied object may interpreted in different ways

A number of questions arise at this point. They form the focus of this paper.
(a) What is {-il-}?
(b) Is it just an argument structure changing morpheme or is it a head of a projection or Case assigner?
(c) How do the different meanings of the applied objects arise?
(d) Are all applied objects generated in the same position?
(e) What are the syntactic properties of the different applied objects?

1.4 Claim

There are three claims that I make:
(a) There are only three types of applicative whose prototypes are benefactive, instrumental and locative.
(b) I argue on the basis of VP ellipsis that the applicative construction involves a complex predicate with stacked VPs.
(c) The appled morpheme is a predicate head which selects the VP containing the direct object.

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Although the data for this paper is taken from Ndendeule and Swahili, I hope to shed some light on the principles determining argument structure in Bantu applicatives.

2. Primary Object Properties

There is a restricted set of patterns of syntactic behavior of the applied object. This is based on what objects may exhibit primary object properties such as adjacency to the verb, object agreement, passivization and reciprocalization. With respect to constituent structure, however, all applicative constructions exhibit the same constituents. In order to have a manageable size of data, I classify the applied objects on the basis of primary object properties.

Primary object properties have been used by researchers such as Bresnan and Moshi (1990) as a diagnostic for determining what object is higher in the thematic hierarchy of the arguments of a sentence. Although the different interpretations of applied objects have been recognized, there has been no systematic study of the diagnostics to the wide range of the objects in a manner that can help identify their patterns. In this section, I show that there are three patterns of behavior of the applicative constructions with respect to these diagnostics.

2.1 Object Order

In Ndendeule and Swahili, the order of the applied and non-applied object is more or less fixed. The object that appears immediately after the verb is considered primary. Arranging first the applied objects to follow the verb immediately, the following sentences are obtained in Swahili.

2.1.1 V AO DO

Swahili

(8)   a.   Juma a-li-m-nunul-i-a   m-toto ki-tabu   (Benefactive)
            Juma 1SA-PST-1OA-bring-APP-FV 1-child 7-book
            Juma brought the child a book

       b.   *?wa-toto wa-li-vunj-i-a   ma-we ch-ungu   (Instrumental)
            2-child   2SA-PST-break-APP 6-rock 7-pot
            the children broke the pot with rocks

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c. *wa-teja   wa-li-l-i-a   ofisi-ni   ch-akula   (Locative)
   2-customer 2SA-PST-eat-APP-FV office-LOC 7-food
   the customers ate food in the office

d. *?wa-windaji wa-li-wind-i-a   pesa   ndovu   (Purpose)
   2-hunter   2SA-PST-hunt-APP-FV 10money 9elephant
   the hunters hunted the elephant for money

e. m-sichana a-li-sukum-i-a   wa-vulana j-ongoo   (Direction)
   1-girl   1SA-PST-push-APP-FV 2-boy   5-milipede
   the girl pushed a milipede towards the boys

f. fundi   a-li-kat-i-a   m-taa   u-meme   (Malefactive)
   technician 1SA-PST-cut-APP-FV 3-neighborhood 11-power
   the technician cut power to the neighborhood.

Although the verbs are recognized as taking three arguments or two arguments when they take the applied morpheme, in everyday use, instrumental and motive applicatives take only one of the two objects in post verbal position. Examples (8) show some problems associated with the two. The normal use of the instrumental and motive applicatives are shown in the following examples from Ndendeule.

(9) a. na ngoβo, βa-ki-dumul-i   ni?
         and 10cloth, 2SA-PST-cut-APP what
         and cloth, they cut with what

         βa-ki-dumul-i   ki-hembe
         2SA-PST-cut-APP 7-knife
         they cut with knife

     b. *βa-ki-dumul-i   ngoβo ki-hembe
         2SA-PST-cut-APP 10cloth 7-knife
         they cut   the cloth with a knife

     c. mbɔna ndembu   hi-yɔmw-iki
         why   10elephant 10SA-finish-ST+PERF
         why   the elephants are finished

         βa-hyem-í   mbiya
         2SA-hunt-APP 10moncy
         they hunted for money

In all the responses in (9a, c) there is an empty element. In both cases it is the direct object which is empty. Another common use of the instrumental is when the applied object is moved to the beginning of a phrase involving an associative and the patient/theme.

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Swahili

(10) a. ki-jiko   cha ku-l-i-a   supu
          7-spoon of   INF-eat-APP-FV 9soup
          spoon for eating soup

      b. m-fuko wa ku-chukul-i-a dawa
          3-bag of INF-take-APP-FV 10medicine
          bag for carrying medicine

These are similar to English infinitival relatives. Notice in both instrumental applicative constructions, only one object appears in the postverbal position.

2.1.2 V DO AO

When the order of the objects is reversed so that the patient/theme immediately follows the verb, we get different results from the V AO DO.

Swahili

(11) a. *Juma a-li-m-nunul-i-a   ki-tabu m-toto   (Benefactive)
          Juma 1SA-PST-1OA-buy-APP-FV 7-book 1-child
          Juma bought the child a book

      b. *wa-toto wa-li-vunj-i-a   ch-ungu ma-we   (Instrumental)
          2-child 2SA-PST-break-APP 7-pot   6-rock
          the children broke the pot with rocks

      c. wa-teja   wa-li-l-i-a   ch-akula ofisi-ni   (Locative)
          2-customer 2SA-PST-eat-APP-FV 7-food   office-LOC
          the customers ate food in the office

      d. *wa-windaji wa-li-wind-i-a   ndovu   pesa   (Purpose)
          2-hunter   2SA-PST-hunt-APP-FV 9elephant 10money
          the hunters hunted the elephant for money

      e. *m-sichana a-li-sukum-i-a   j-ongoo   wa-vulana (Direction)
          1-girl   1SA-PST-push-APP-FV 5-milipede 2-boy
          the girl pushed a milipede towards the boys

      f. *fundi   a-li-kat-i-a   u-meme   m-taa   (Malefactive)
          technician 1SA-PST-cut-APP-FV 11-power 3-neighborhood
          the technician cut power to the neighborhood.

If we leave out (11b, d), we find that we get exactly the opposite results of what was obtained when the applied object were all lined up immediately following the verb. Therefore, if adjacency to the verb is considered a feature of primary objects, then beneficiaries, goals and maleficiaries are all primary objects. In contrast, in instrumental, motive and locative applicatives, the theme/patient

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is the primary object. These results are also found when object agreement is considered.

2.2. Object agreement

There are also restrictions to objects with respect to object marking. In Ndendeule and Swahili only one of the objects may be marked on the verb. The object that is closest to the verb is the one that is marked. In the following examples, I present sentences first with the applied object adjacent to the verb and then another set in which the direct object is closest to the verb.

2.2.1 Applied object marked in the verb

Some applied objects may be marked in the verb and others may not be marked as the following examples from Swahili show.

(12) a.   Juma a-li-m-nunul-i-a   m-toto ki-tabu   (Benefactive)
          Juma 1SA-PST-1OA-bring-APP-FV 1-child 7-book
          Juma brought the child a book

   b.   *wa-toto wa-li-ya-vunj-i-a   ma-we ch-ungu   (Instrumental)
         2-child   2SA-PST-6OA-break-APP 6-rock 7-pot
         the children broke the pot with rocks

   c.   *wa-teja   wa-li-pa-l-i-a   ch-akula ofisi-ni   (Locative)
         2-customer 2SA-PST-16OA-eat-APP-FV 7-food   9office-LOC
         the customers ate food in the office

   d.   *wa-windaji wa-li-zi-wind-i-a   ndovu   pesa   (Purpose)
         2-hunter   2SA-PST-10OA-hunt-APP-FV 9elephant   10money
         the hunters hunted the elephant for money

   e.   m-sichana a-li-wa-sukum-i-a   wa-vulana j-ongoo   (Direction)
         1-girl   1SA-PST-2OA-push-APP-FV 2-boy   5-milipede
         the girl pushed a milipede towards the boys

   f.   fundi   a-li-i-kat-i-a   mi-taa   u-meme   (Malefactive)
         technician 1SA-PST-4OA-cut-APP-FV 4-neighborhood 11-power
         the technician cut power to the neighborhoods.

The results of this diagnostic are the same as those for word order considered above. The applied objects, instruments (12b), location (12c) and motive (12d), may not be marked in the verb. Beneficiary (12a), maleficiary (12f) and goal (12e) may be marked on the verb. Changing the order of the objects gives us the opposite of what we have seen.

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2.2.2 Direct Object marked in the verb

When the object marking is reversed so that the direct object precedes the applied object, different results are obtained. This is shown in the following examples from Swahili.

(13) a. *Juma a-li-ki-nunul-i-a   m-toto ki-tabu   (Benefactive)
Jumu   1SA-PST-7A-bring-APP-FV 1-child 7-book
Juma brought the child a book

   b. ?wa-toto wa-li-ki-vunj-i-a   ch-ungu ma-we (Instrumental)
2-child   2SA-PST-7OA-break-APP 6-rock   7-pot
the children broke the pot with rocks

   c. wa-teja   wa-li-ki-l-i-a   ch-akula ofisi-ni   (Locative)
2-customer 2SA-PST-7OA-eat-APP-FV 7-food   9office-LOC
the customers ate food in the office

   d. ?wa-windaji wa-li-wa-wind-i-a   ndovu   pesa   (Motive)
2-hunter   2SA-PST-2OA-hunt-APP-FV 2elephant 10money
the hunters hunted the elephant for money

   e. *m-sichana a-li-m-sukum-i-a   wa-vulana jongoo   (Goal)
1-girl   1SA-PST-1OA-push-APP-FV 2-boy   1-milipede
the girl pushed a milipede towards the boys

   f. *fundi   a-li-u-kat-i-a   mi-taa   u-meme (Malefactive)
technician 1SA-PST-11OA-cut-APP-FV 4-neighborhood 11-power
the technician cut power to the neighborhoods.

It seems only the direct object in the locative can be object-marked without problems. The appearance of both objects in postverbal position in instrumental and motive applicatives has some problems. With this diagnostic, it is possible to improve the instrumental and motive applicative sentences if the direct object is marked on the verb but only the applied object is assigned phonetic content. Another significant improvement in instrumental and purpose when the direct object is [+human].

From this I conclude that the patient/theme argument in instrumental and motive applicative may be marked in the verb. These results are actually reciprocal to those obtained under 2.2.1. The results obtained so far on object order and object marking pattern the same way as in passivization.

2.3. Passivization

It is assumed that primary objects may be subjects of passives. I compare the applied objects with the direct objects.

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2.3.1 Passivization of the Applied Object

In passive constructions, the object moves to the subject position. Here, I move the applied object first as the following examples in Swahili show. The moved applied object is underlined.

(14) a. m-toto   a-li-nunul-i-w-a   ki-tabu   (Benefactive)
        1-child 1SA-PST-1OA-bring-APP-PASS-FV 7-book
        The child was bought a book

     b. ?ma-we ya-li-vunj-i-w-a   ch-ungu   (Instrumental)
         6-rock 6SA-PST-break-APP-PASS-FV   7-pot
        the rocks were broken pots

     c. ofisi-ni   pa-li--l-i-w-a   ch-akula   (Locative)
        office-LOC 16SA-PST-eat-APP-PASS-FV 7-food
        in the office was eaten food

     d. *pesa   zi-li-wind-i-w-a   ndovu   (Purpose)
        10money 10SA-PST--hunt-APP-PASS-FV 9elephant
        money was hunted an elephant for

     e. wa-vulana wa-li-sukum-i-w-a   j-ongoo   (Goal)
        2-boy   2SA-PST-push-APP-PASS-FV   5-milipede
        the boys were pushed a milipede to

     f. mi-taa   a-li-kat-i-w-a   u-meme   (Malefactive)
        4-neighborhood 1SA-PST-cut-APP-PASS-FV 11-power
        neighborhood were cut power for (i.e. at the expense of)

Passivization of the instrumental object in this test shows a very doubtful case. The purpose phrase in subject position does not give a grammatical sentence. The rest of the applied objects may move to the subject position of the passive. This includes the locative argument as seen in (14c). The results are reversed when the moved phrase is the direct object.

2.3.2 Passivization of the Direct Objects

The direct object is moved to the subject position. The sentences have the same elements as those in (14) above.

(15) a. *ki-tabu ki-li-nunul-i-w-a   m-toto
        7-book   7SA-PST-buy-APP-PASS-FV 1-child
        the book was bought the child

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b. ?ch-ungu ki-li-vunj-i-w-a   ma-we
   7-pot   7SA-PST-break-APP-PASS-FV 6-rock
   the pot was broken with rocks

c. ch-akula ki-li-l-i-w-a   ofisi-ni
   7-food   7SA-PST-eat-APP-PASS-FV 9office-LOC
   the food was eaten in the office

d. ?ndovu   wa-li-wind-i-w-a   pesa
   2elephant 2SA-PST-hunt-APP-PASS-FV 10money
   elephants were hunted for money

e. *jongoo   a-li-sukum-i-w-a   wa-vulana
   1milipede 1SA-PST-push-APP-PASS-FV 2-boy
   the milipede was pushed towards the boys

f. *u-meme   u-li-kat-i-w-a   mi-taa
   11-electricity 11SA-PST-cut-APP-PASS-FV 4-neighborhood
   power was cut for the neighborhoods

This time in (15) we have both instrumental and motive applicative passives as marginally grammatical. The direct object in locative applicative can be the subject of the passive without any problem. The direct object in benefactives, goal and malefactives may not be the subject of the passive.

2.4 Reciprocalization

The reciprocal in both Swahili and Ndendeule consists of the subject and a verb to which the reciprocal -an- is suffixed. Example (16) below illustrates a simple reciprocal in Ndendeule.

(16) a. βa-na β-i-n-liɣ-a   tati   ɣw-aβe
        2-child 2SA-PRT-1OA-insult-FV father 1-their
        the children are insulting their father

     b. βa-na β-i-liɣ-an-a
        2-child 2SA-PRT-insult-REC-FV
        the children are insulting each other

There is no object in (16). There is only a plural subject. In applicative constructions, one object reciprocalizes and therefore leaves a gap in the postverbal position. The other object which is not reciprocalized is fully realized as the following example shows.

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Swahili
(17) a. wa-geni wa-li-nunul-i-an-a   zawadi
          2-guest 2SA-PST-buy-APP-REC-FV 10present
          guests bought presents for each other

      b. wa-geni wa-li-pig-an-i-a   zawadi
          2-guest   2SA-PST-hit-REC-APP-FV 10present
          guests hit each other for presents

These two examples illustrate three things. One, the order of the suffixes can
be APP+REC as shown in (17a), or it may be REC+APP as in (17b). There is
also a different in meaning involved. Secondly, the missing/reciprocalized object
can be the applied object as in (17a) or it may be the direct object as in (17b).
Thirdly, the order of the two suffixes correlates with which argument will be
reciprocalized.

     Objects in applicative constructions do not reciprocalize freely. Some
applied objects do reciprocalize and some do not reciprocalize. The pattern,
however, repeats what I have already shown regarding adjacency to the verb,
object agreement and passivization. I provide test examples in which the
applied object reciprocalizes and then reciprocalize direct objects.

2.4.1 Reciprocalize the Applied Object

     In this set of examples, the reciprocalized (and therefore the missing)
object is the applied object.

Ndendeule
(18) a. βa-ki-kɔm-ɛl-an-a   mbuhi
          2SA-PST-kill-APP-REC-FV 10goat
          they killed goats for each other

      b. *βa-ki-hiβ-il-an-a   n-dyango
          2SA-PST-close-APP-REC 3-door
          they used each other to block the door

      c. *βa-ki-lɛk-ɛl-an-a   mi-γonda
          2SA-PST-leave-APP-REC-FV 4-farm
          they left the farms because of each other

      d. βa-chɔngɔlo βa-ki-kang-il-an-a   ma-γɔngɔlɔ
          2-boy   2SA-PST-push-APP-REC-FV 6-milipede
          boys pushed milipedes to each other

      e. βakiyɔmɔlɛlana   mbiya
          2SA-PST-finish-APP-REC-FV 10money
          they finished each other's money

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In this set of examples, I have used the APP+REC order. In this order, the beneficiary, maleficiary and goal may reciprocalize as (18a,d,e). The instrument and motive may not reciprocalize as seen in (18b,c). I could not make a sentence in which the locative is reciprocalized.

2.4.2 Reciprocalizing the Direct Object

With the same order, APP + REC, the missing object (i.e. the reciprocalized object) is the direct object.

Ndendeule
(19) a. *βa-ki-kɔm-εl-an-a   mbuhi
      2SA-PST-kill-APP-REC-FV i0goat
      they killed each other for the (benefit of) goats

    b. *βa-ki-tεm-εl-an-a   ki-hembe
       2SA-PST-cut-APP-REC-FV 7-knife
       they cut each other with a knife

    c. *βa-ki-tεm-εl-an-a   ku-ki-hinja
       2SA-PST-cut-APP-REC-FV 17-7-kitchen
       they cut each other in the kitchen

    d. *βa-ki-lεk-εl-an-a   mi-ɣonda
       2SA-PST-leave-REC-APP-FV 4-farm
       they left each other because of farms

    e. *βa-chɔngɔlo βa-ki-kang-il-an-a   li-yɔngɔlɔ
       2-boy   2SA-PST-push-APP-REC-FV 5-milipede
       boys pushed each other to the milipede

In order to successfully reciprocalize the direct object, the order of the two suffixes must be REC + APP.

Ndendeule
(20) a. βa-ki-kɔm-an-i   mbuhi
      2SA-PST-kill-REC-APP 10goat
      they killed each other for the (because of) goats

    b. βa-ki-tεm-an-i   ki-hembe
       2SA-PST-cut-REC-APP 7-knife
       they cut each other with a knife

    c. βa-ki-tεm-an-i   ku-ki-hinja
       2SA-PST-cut-REC-APP 17-7-kitchen
       they cut each other in the kitchen

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d. βa-ki-lεk-an-i   mi-γonda
    2SA-PST-leave-REC-APP 4-farm
    they left each other because of farms

e. *βa-ki-kεm-an-i   βa-hana βa-βε
    2SA-PST-call-REC-APP 2-wife   2-their
    they called each other for their wives

With the order REC+APP the direct object is reciprocalized in instrumental, motive and locative applicatives (20a-d). The direct object in benefactive applicatives may not be reciprocalized when the order of the suffixes is REC+APP as shown in (20e).

Once more the applied object may be reciprocalized if it is a beneficiary, goal or maleficiary. The order of the morphemes in such cases is APP+REC. If this order of morphemes is maintained no sentence of instrumental, motive or locative comes out grammatical (see 18). However, if the order of the morphemes is reversed so that we have REC+APP as seen in (20), then we get instrumental, locative and motive readings. The reciprocalized argument is not the applied object. The reciprocalized argument is the direct object.

3. A Typology of Applicatives

3.1 Previous Typology

Few studies have dealt with organizing the diverse applied objects into types. The few include Baker (1988b, 1990, 1992), Alsina and Mchombo (1988), Marantz (1993) and Hoffman (1991). Even when tyology is discussed, most of the applied objects are not clearly discussed with respec to other applicatives they pattern with. I will discuss briefly typology as discussed by these in so far as they have a bearing in my analysis of the applicatives.
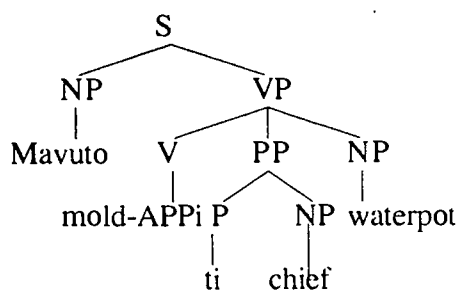
3.1.1 Baker's Typology

Baker (1998b, 1990, 1992) identifies two types of applicatives: benefactives and instrumentals. He further suggests that the locative applicatives belong to the benefactive type. There are at least four ways in which benefactive applicative differs from instrumental applicative.

(a) Primary object properties: In the language he studied, Chichewa, only the beneficiary exhibits primary object properties in benefactive applicatives. In instrumental applicatives either object may exhibit primary object properties.
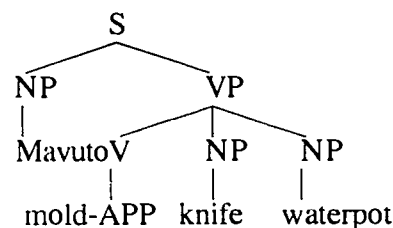
(b) Theta-theory: Benefactives, like locatives, are arguments of prepositions. They are θ-marked by the preposition, in this case, the applied affix. In instrumental applicatives, both the instrument and the theme/patient are arguments of the verb. They are both θ-marked by the verb.

(c) The structure: The structure of the two applicatives incorporating the θ-theory features is as follows.

(21) a. Benefactive   b. Instrumental

```
           S                                      S
         /   \                                  /   \
       NP     VP                              NP     VP
       |     / | \                            |     / | \
     Mavuto  V  PP   NP                     Mavuto V  NP   NP
            |  / \   |                             |   |    |
       mold-APPi P  NP waterpot          mold-APP knife waterpot
               |    |
               ti  chief
```

In either case, the VP has a ternary branching structure. The beneficiary in (21a) is a complement of a preposition which has moved out to incorporate into the verb. In instrumental applicatives, both the instrument and the theme are complements of the applicative verb.

(d) Case Theory: From the structure, differences in Case between the two types are derived. Following Chomsky (1986) and Belletti (1988), Baker (1988a, 1990, 1992) assumes structural Case is assigned under government at S-structure while inherent Case is assigned under government and θ-marking at D-structure. Structural Case is assigned to NP adjacent to the case assigner. This adjacency is not necessary in inherent Case. Each transitive verb can assign both structural case and inherent Case. In benefactive applicatives, the verb with its applicative suffix, assigns structural Case to the beneficiary. Having moved out of the PP, the preposition cannot assign Case, neither can its trace. The theme receives inherent Case. Such a trace is not found in instrumental applicatives. Here,

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the verb with the applicative suffix assigns structural Case to one object and inherent Case to the other freely.

This account is unclear on many points. The structures presented above are based on stipulation rather than evidence from Chichewa. In particular, the typology is based on classifying the applicative morpheme, in one case as a preposition and in another as a non-incorporated suffix. There is no evidence supporting this classification. This is carried further when beneficiaries are compared to locatives as arguments of prepositional phrases. With respect to primary object properties, locatives behave in many ways like instrumentals as seen in Section 2 above and as Alsina and Mchombo (1990) point out. The ternary branches of the VPs present a particular empirical problem as no evidence is presented to support the three way branching. This structure makes a particular prediction that processes affecting the VP will always show the effects on both objects in all applicative constructions. An example of VP ellipsis will show that this is not the case.

Ndendeule
(22) a. n-haru tati a-ki-dumul-í n-kɔta ki-hembe,
　　　　3-reason father 1-PST-cut-APP 3-sugar cane 7-knife
　　　　since the father cut the sugar cane with a knife,

　　　　na mw-ana a-ki-dumul-í n-kɔta ki-hembe helahe
　　　　and 1-child 1SA-PST-cut-APP 3-sugar cane 7-knife too
　　　　and the child cut the sugar cane with a knife too

　　b. na mw-ana a-ki-dumul-í n-kǝta ki-hembe helahe
　　　　and 1-child 1SA-PST-cut-APP --- 7-knife too
　　　　and the child cut the sugar cane with a knife too

　　c. *na mw-ana a-ki-dumul-í n-kɔta ki-hembe helahe
　　　　and 1-child 1SA-PST-cut-APP 3-sugar cane ------ too
　　　　and the child cut the sugar cane with too

　　d. na mw-ana a-ki-dumul-í n-kǝta ki-hembe helahe
　　　　and 1-child 1SA-PST-cut-APP ------- too
　　　　and the child did too

I have shown in these examples that VP ellipsis can affect one object only as in (22b) and can affect both (22d). It shows also that the applied object may not be affected alone. This suggests the structure presented in (21b) is incorrect. With it go all the stipulations about θ-role assignments.

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Alsina and Mchombo (1990) point out similarities between instrumental and locative applicatives with respect to primary object properties. As can be seen in Section 2 above also, in locative applicatives, just as in instrumental applicatives, the theme is the object adjacent to the verb, may cliticize and passivize. But in addition, the locative may passivize. This calls for looking at the locative applicatives on their own.

The most important point from Baker's typology, however, is the idea that the typology is structurally motivated. This idea is also found in Marantz's discussion of the asymmetry between the benefactive applicatives and instrumental applicatives.

3.1.2 Marantz (1993)

Marantz (1993) following Barss and Lasnik (1986) and Larson (1988) analyses the applicative construction as a complex predicate. The beneficiary is outside the the event structure which contains the direct object. For this reason, the beneficiary is located in in the higher VP. The instrument and the locative are in the event structure containing the direct object. The exact position of the two objects is not dictated by the event structure. That is why either object in instrumental applicative may be higher.

Marantz's analysis is mainly based on asymmetries in c-command relations. As Marantz (1993) points out, c-command tests (as those in Barss and Lasnik (1986)) for the applicative constructions are not possible except the quantified noun phrase (QNP) -pronoun relation. There is an asymmmetry between benefactive applicatives and instrumental applicative with respect to QNP-pronoun relations. The following examples from Ndendeule have the bound pronoun italicized in benefactive applicative.

(23) a. na-ki-m-βek-e   kila mu-ndu hundi *hy-ake*
       I-PST-1OA-put-APP-FV each 1-person 1Ocheck 1O-his
       I put aside for each person his checks

b. *na-ki-m-βek-e   hundi   *hy-ake* kila mu-ndu
      I-PST-1OA-put-APP-FV 1Ocheck 1O-his   each 1O-worker
      I put for each worker his checks

The possessive pronoun in (23a) is bound by a c-commanding QNP "each". In benefactive applicatives, only the beneficiary may bind into the theme/patient. The theme/patient may not bind into the beneficiary. The conclusion here is unambiguous that the beneficiary is higher than the theme/patient.

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The following sentences from Ndendeule show the QNP-pronoun relation in instrumental applicatives.

(24) a. a-ki-dindul-i   kila n-dyango pungulu *y-ake*
     1SA-PST-open-APP each 3-door   9key   9-its
     she opened each door with its key

    b. *a-ki-dindul-i   n-dyango *w-ake* kila   pungulu
     1SA-PST-open-APP 3-door   3-its   each 9key
     she opened its door with each key

    c. a-ki-dindul-i   kila pungulu n-dyango *w-ake*
     1SA-PST-open-APP each 9key   3-door   3-its
     he opened with each key its door

    d. *a-ki-dindul-i pungulu *y-ake* kila n-dyango
     1SA-PST-open-APP 9key 9-its each 3-door
     he started with its key each car

In (24a) the QNP direct object binds into the instrument. In this case, the instrument must be in the scope of the patient. The patient c-commands the instrument. If the order of the objects is reversed such that the instrument precedes the patient, the quantified instrument binds into the patient (24c). In this case, the patient is in the scope of the instrument. The instrument c-commands the patient.

The locative applicatives also have a different pattern from the benefactive and instrumental applicatives. This can be seen in the Ndendeule sentences in (25).

(25) a. βa-ki-m-βol-e   kila mu-ndu pa-kaya   *p-ake*
     2SA-PST-1OA-teach-APP each 1-person 16-9home 16-his
     they taught   each person at her home

    b. *βa-ki-βol-e   kila pa-kaya mu-ndu *w-ake*
     2SA-PST-teach-APP each 16-9home 1-person 1-its
     they taught   at each home its person

Only the patient may bind into the locative phrase (25a). The reverse is not possible (25b). This means only the patient can c-command the locative phrase. There is a constraint for locative phrases because they do not appear in QNP.

The results of this tests are summarized in the following table.

(26) QNP-pronoun relations

	BENEFACTIVE	INSTRUMENTAL	LOCATIVE
Applied Object binds into Direct Object	√	√	*
Direct Object binds into Applied Object	*	√	√

In instrumental applicatives either object may bind into the other. Marantz concludes because either may occupy either of the two object positions.

Example (22) above, however, suggests Marantz's analysis is incorrect because VP deletion does not target a constituent with the instrument but which does not contain the direct object. The DO-AO order must be derived by some movement to some quantifier position which allows the direct object to bind into the instrument.

3.2 Typology Based on Object Properties

The results of the four diagnostic tests, adjacency to the verb, object agreement, pasivization and reciprocalization consistently show that the beneficiary, the goal and the maleficiary are applied objects which exhibit primary object properties. The direct objects which appear with these applied objects do not exhibit primary object properties. On the other hand, the instrument, motive and locative do not exhibit primary object properties. Their direct objects do exhibit primary object properties. Although the locative argument shows almost all features of a non primary object, it may passivize.

These results may summarized in a table in which I have arranged according to their behavior.

(27) A Checklist of Primary Object Properties

		BENEF.	GOAL	MALEF.	INSTRUM	MOTIVE	LOCAT.
OBJ. ORDER	AO DO	√	√	√	*	*	*
	DO AO	*	*	*	?	?√	√
OBJ. AGR.	APP. OBJ.	√	√	√	?	*	*
	DIR. OBJ.	*	*	*	?√	√	√
PASS. SUBJ.	APP. OBJ.				?	*	√
	DIR. OBJ	*	*	*	?√	√	√
RECIPROC.	APP. OBJ.				*	*	*
	DIR. OBJ.	*	*	*	√	√	√

Key to Judgments

√	Grammatical
?	Marginal
*	Ungrammatical

From the foregoing, three types of applicatives emerge:

(a)   Benefactive, goal and malefactive. I will consider the benefactive as the prototype for this group;

(b)   Instrumental and motive. I will take the instrument to be the prototype.

(c)   Locative as a unique applicative.

This typology goes against Baker's (1988a,1990, 1992) and provides details not presented before in Alsina and Mchombo (1990).

4. VP Ellipsis

VP ellipsis is a good diagnostic for the internal structure of the applicative predicate. In both Swahili and Ndendeule, VP ellipsis eliminates the complement of the verb. The verb is not eliminated as can be seen in the following examples.
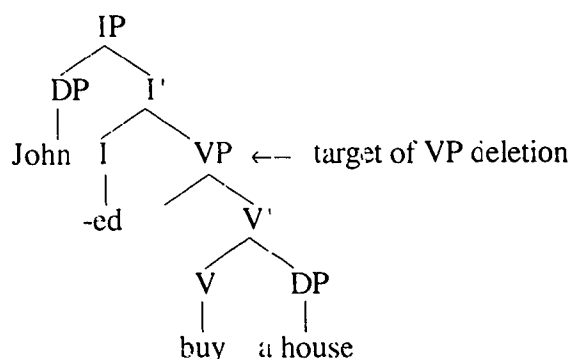
Swahili
(28)   mw-alimu a-li-nunu-a   ki-tabu cha Chomsky
        1-teacher   1SA-PST-buy-FV 7-book of   Chomsky
        the teacher bought Chomsky's book

        na ʾva-nafunzi wa-li-nunu-a   pia.
        and 2-student   2SA-PST-buy-FV too
        and students did too

The verb is the tense carrier. The verb has moved out of the VP in order to support tense. This is unlike VP ellipsis in English where tense moves to the V in non-elliptical structure. In VP ellipsis, the verb deletes together with the complement and if there is no auxiliary, tense is supported by an inserted *do* as the following example shows with its structure in (29b).

(29) a.   John bought a house
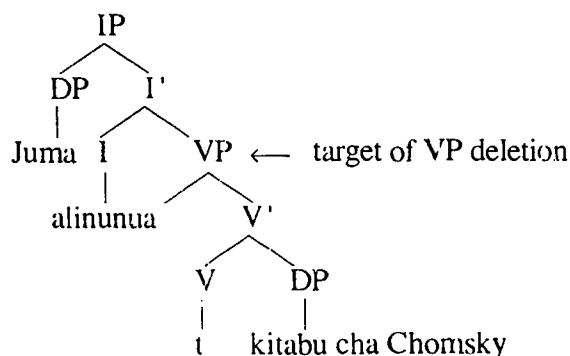
b.

```
              IP
            /    \
          DP      I'
          |      /  \
        John    I    VP  ←— target of VP deletion
                |    /\
               -ed  /  V'
                   /  / \
                  /  V   DP
                  | |    |
                 buy   a house
```

In Swahili, however, the verb does not disappear.

(30) a. Juma a-li-nunu-a ki-tabu cha Chomsky
         Juma 1SA-PST-buy-FV 7-book of Chomsky
         Juma bought Chomsky's book

b.

```
               IP
             /    \
           DP      I'
           |      /  \
         Juma    I    VP  ←— target of VP deletion
                 |   / \
              alinunua  V'
                       / \
                      V   DP
                      |   |
                      t  kitabu cha Chomsky
```

An alternative to the VP ellipsis analysis is to regard the gap in the second clause of (28) as a null object. This analysis is not correct for at least four reasons. The first reason is derived from facts about object clitics. As Bergvall (1986) showed, in Kikuyu and Swahili an null object can only be found in construction in which the verb has an object clitic. This means that for the Bantu languages, like Romance languages, the null object shares ϕ-features (gender and number) with a coindexed object clitic. In example (28) there is no object clitic and therefore I conclude the gap lacks the nominal features. Therefore it is not an object gap.

Secondly, given that null objects need a coindexed object clitic, a gap involving two objects shows all the more that it is not pronominal. Both Ndendeule and Swahili do not have double clitics. Therefore when we see a gap for double object constructions such as datives and applicatives, we should conclude that it is devoid of the ϕ-features of the two objects.

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The third argument against a null object analysis is that the disappearance may affect elements which are not objects.

Swahili
(31)a.   mama   a-li-tak-a   ku-m-nunul-i-a   m-toto vi-atu
         mother 1SA-PST-want-FV INF-1OA-buy-APP-FV 1-child 8-shoe
         mother wanted to buy the child shoes

         na baba   a-li-tak-a   --- pia
         and father 1SA-PST-want-FV -- too
         and father wanted --- too

   b.   wa-limu wa-li-end-a   shamba-ni   na wa-nafunzi wa-li-end-a ---   pia
        2-teacher 2SA-PST-go-FV 5farm-LOC and 2-student 2SA-PST-go-FV --- too
        teachers went to the farm and their students did -- too.

In (31a) the complement of *taka* (want) is an infinitival clause. The disappearance of this infinitival complement in the second clause cannot be attributed to a null pronoun. Similarly, no null pronoun can be posited for the locative complement of the second clause of (31b) because the complement is not an object.

The fourth argument is that idiom chunks behave in the same way. Idioms appear after specific verbs. One restriction of idiom chunks is that they may not be pronominalized. I give examples from English.

(32) a. The president pays lip service to the people

      b. *The president pays it to the people

      c. The ruling party took advantage of the confusion in the opposition

      d. *The ruling party took it of the confusion in the opposition

Sentence (32a,c) have the object idioms which are italicized. Following them are pronominalized forms of the object idioms in (32b,c). Both are ungrammatical. If we cliticize the object found in the idiom, we get ungrammatical sentences as shown in the following examples.

Swahili
(33) a. dada a-li-pig-a   *simu*
          sister 1SA-PST-hit-FV 9-telephone
          sister called

      b. *dada a-li-*i*-pig-a
          sister 1SA-PST-9OA-hit-FV
          sister called

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c.   Mumbi a-li-kul-a *ki-apo*
     Mumbi 1SA-PST-eat-FV 7-oath
     Mumbi took the oath

d.   *Mumbi a-li-*ki*-l-a
     Mumbi 1SA-PST-7OA-eat-FV
     Mumbi took the oath

I have indicated the object idiom by italics in (33a,c). A word for word translation of the VP in (33a) is *hit the phone*. Pronominalization of the phone in (33b) results in an ungrammatical structure. The VP in (33c) translates as *eat the oath*. Pronominalization of "the oath" is bad.

Although the object idiom cannot be pronominalized, it does disappear under VP ellipsis.

Swahili
(34) a.   dada a-li-pig-a   *simu*   na mama a-li-pig-a   pia
          sister 1SA-PST-hit-FV 9-telephone and mother 1SA-PST-hit-FV --- also
          sister called and mother did too

b.   Mumbi a-li-kul-a   *ki-apo*   na Njoroge a-li-kul-a   pia
     Mumbi 1SA-PST-eat-FV 7-oath   and Njorore 1SA-PST-eat-FV also
     Mumbi took the oath and Njoroge did too

In both these sentences, the objects have disappeared. Therefore, pronominalization and disappearance of the object under VP ellipsis are two different things. In (34) we have two examples of VP ellipsis which are not consistent with pronominalization.

I have argue that the gap found in the complement of the verbs is actually a case of VP ellipsis. The surface realization of the verb is derived from the fact that the verb raises to an Infl node. This movement of the verb is similar to what is found in Romance languages and in Japanese, Korean and Chinese (Otani and Whitman, 1991).

4.2 VP Ellipsis in Applicative Constructions

VP ellipsis makes an interesting prediction regarding the the structure of applicative constructions. If both objects are in the same simple VP, then both should disappear under VP ellipsis. However, if they are in different VPs, one should be able to disappear without the other. Further, if one of the VPs is a constituent of the other, it should be impossible for one of the objects to

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disappear without the other. I use this diagnostic with the three types of applicatives, benefactive, instrumental and locative.

4.2.1. VP Ellipsis in Benefactive Applicative

The two objects in benefactive applicatives are the beneficiary (or goal, maleficiary, etc) and the direct object. Evidence from benefactive applicatives suggests that there are two VPs in the applicative construction. The following set of examples are from Ndendeule.
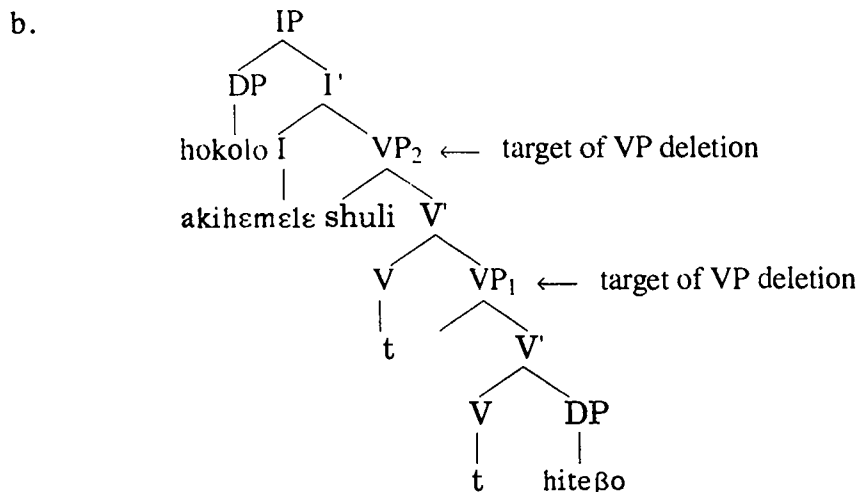
(35) a. n-ghɛni a-ki-hɛmɛl-ɛ́   shuli hi-teβɔ
        1-guest   1SA-PST-buy-APP 9school 8-chair
        the guest bought the school chairs

        na hokolo a-ki-hɛmɛl-ɛ́   shuli   hi-tebo helahé
        and grandpa 1SA-PST-buy-APP 9school 8-chair too
        and grandpa bought   the school chair

    b. na hokolo a-ki-hɛmɛl-ɛ́   shuli   hi-tebo helahé
        and grandpa 1SA-PST-buy-APP 9school 8-chair too
        and grandpa bought   the school chairs

    c. *na hokolo a-ki-hɛmɛl-ɛ́   shuli   hi-tebo helahé
        and grandpa 1SA-PST-buy-APP   9school 8-chair too
        and grandpa bought   the school chairs too

    d. na hokolo a-ki-hɛmɛl-ɛ́   shuli   hi-tebo helahé
        and grandpa 1SA-PST-buy-APP 9school 8-chair too
        and grandpa did too

In (35b), only the theme disappears. The beneficiary is a remnant. This sentence is grammatical. In (35c), however, the beneficiary is missing leaving behind the theme. This is ungrammatical. In (35d), both the theme and the beneficiary disappear. This sentence is grammatical.

Two important conclusions are derived from these results. One is that the benefactive applicative construction consists of two VPs because it is possible for the theme to disappear leaving behind the beneficiary. Secondly, the beneficiary may only be disappear together with the theme. This means the beneficiary forms a larger constituent VP together with the VP which contains the theme. That is to say the theme is the innermost object, object of

the subordinate VP. A simple tree diagram such as the following shows the stacked VP structure and how the VP ellipsis results may be derived.

(36) a. hokolo a-ki-hɛmɛl-ɛ́   shuli   hi-tebo helahé
        grandpa 1SA-PST-buy-APP 9school 8-chair too
        grandpa bought   the school chair

   b.
```
                    IP
                 /\
              DP    I'
              |    /\
           hokolo I    VP₂  ←— target of VP deletion
                  |   /\
            akihɛmɛlɛ shuli  V'
                          /\
                        V    VP₁  ←— target of VP deletion
                        |   /\
                        t    V'
                           /\
                          V    DP
                          |    |
                          t   hiteβo
```

Deletion of VP_1 does not affect the beneficiary. Only the theme disappears. Deletion of VP_2, however, causes both the theme and the beneficiary to disappear. The beneficiary, therefore, must be in the specifier of the VP_2. This position of the beneficiary is the same as that of the instrument in instrumental applicative to which I now turn.

4.2.2. VP Ellipsis in Instrumental Applicatives

Unlike benefactive applicatives in which the applied object (the benefactive) exhibits primary object properties, in instrumental applicatives, the theme/patient exhibit primary object properties. The pattern of VP ellipsis obtained when examining the benefactive applicative is the same for the instrumental applicatives as the following set of examples show.

(37) a. n-haru   tati   a-ki-dumul-i   n-kɔta   ki-hembe,
        3-reason father 1-PST-cut-APP 3-sugar cane 7-knife
        since the father cut the sugar cane with a knife,

        na mw-ana a-ki-dumul-i   n-kɔta   ki-hembe helahe
        and 1-child 1SA-PST-cut-APP 3-sugar cane 7-knife   too
        and the child cut the sugar cane with a knife too

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b. na mw-ana a-ki-dumul-i   n̶-k̶ə̶t̶a̶   ki-hembe helahe
    and 1-child   1SA-PST-cut-APP -----   7-knife   too
    and the child cut the sugar cane with a knife too

c. * na mw-ana a-ki-dumul-i   n-kəta   k̶i̶-̶h̶e̶m̶b̶e̶ helahe
    and 1-child   1SA-PST-cut-APP 3-sugar cane   -----   too
    and the child cut the sugar cane with too

d. na mw-ana a-ki-dumul-i   n̶-k̶ə̶t̶a̶ ——————— k̶i̶-̶h̶e̶m̶b̶e̶ helahe
    and 1-child   1SA-PST-cut-APP -------   too
    and the child did too

Like the benefactive applicative, the instrumental applicative allows for the VP containing the patient to delete while the instrument is a remnant (37b). It is also possible to delete the VP containing the instrument together with the VP containing the patient (37d). However, there is no VP such that it contains only the instrument without the patient. That is why (37c) is ungrammatical. Therefore, the structure is again of stacked VPs like that of benefactive applicative. The [Spec, VP_2] position is the same position at which the instrument is generated.

This raises an interesting prospect of generating all the applied objects from the same structural position. In order to determine this, I now apply the diagnostic to locative applicatives.

4.2.3 VP Ellipsis in Locative Applicatives

In locative applicatives, the theme/patient exhibit primary object properties. In a way this is similar to instrumental applicatives where the theme/patient also exhibits primary object properties. The behavior of locative applicatives in VP ellipsis is the same as that found in benefactive and instrumental applicatives. This is illustrated in the following set of examples.

(38) a. n-ghɛni a-ki-lel-é   nhɛlɛ mu-nyumba
          1-guest 1SA-PST-eat-APP rice   18-9-house
          the guest ate rice in the house

          na hokolo a-ki-lel-é   n-hɛlɛ mu-nyumba helahe
          and grandpa 1SA-PST-eat-APP 3-rice 18-9house   also
          and grandpa ate rice in the house too

      b. na hokolo a ki-lel-é   n-hɛlɛ mu-nyumba helahe
          and grandpa 1SA-PST-eat-APP ----   18-9house   also
          and grandpa did -- in the house too

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c. * na hokolo a-ki-lel-é   n-hɛlɛ mu-nyumba helahe
   and grandpa 1SA-PST-cat-APP 3-rice -----   also
   and grandpa ate rice in -- too

d. na hokolo a-ki-lel-é   n-hele mu-nyumba helahe
   and grandpa 1SA-PST-eat-APP -------   also   ·
   and grandpa did -- too

In locative applicative sentences, just as in benefactive and instrumental applicatives, the theme/patient appears in the lowest VP. When this VP is deleted, the remnant is a VP in which we find the applied object, in this case the locative (38b). If VP deletion targets the higher VP which contains the locative, the result is the lower VP which is a constituent of the higher VP disappears with it (38d). There is no way VP ellipsis can target the locative argument alone as (38c) shows.

4.2.4 A Unified Account of VP Ellipsis in Applicative Constructions

The foregoing discussion has shown that although the different appled objects behave differently with respect to primary object properties, they all behave the same way with respect to VP ellipsis. The following table summarizes the results of this diagnostic. Therefore, under the Benefactive column. the AO is the beneficiary. Under instrumental, it is the instrument and under locative the AO is a locative phrase. In this table, the objects are arranged in their preferred order.

(39) VP deletion

BENEFACTIVE	INSTRUMENTAL	LOCATIVE
Subj V AO DO	Subj V DO AO	Subj V DO AO
Subj V AO DO	Subj V DO AO	Subj V DO AO
*Subj V AO DO	*Subj V DO AO	*Subj V DO AO
Subj V AO DO	Subj V DO AO	Subj V DO AO

The different object order notwithstanding, direct may be targeted at the exclusion of the applied object. The applied object may only be affected when both objects are involved. In all three types of applicatives, the theme/patient is in the lower VP and the applied object is in the higher VP.

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Three crucial conclusions are arrived at. One is that the Verb raises to an Infl node as also demonstrated in the simple predicate sentences. Secondly, the applied object is not within the minimal VP. The direct object (theme/patient) is in the minimal VP. Thirdly, the VPs are stacked.
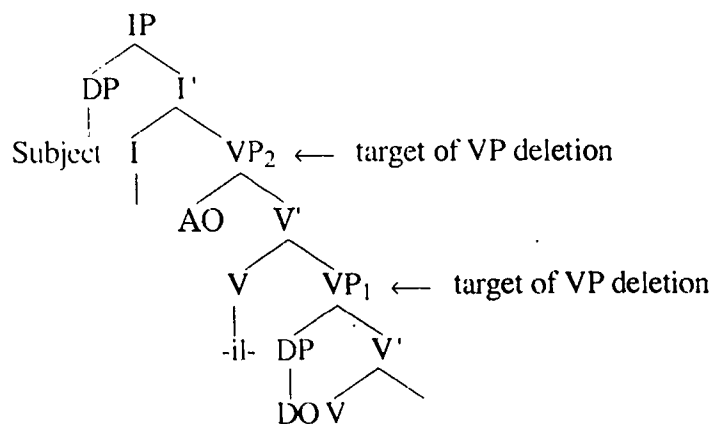
4.3 Universal Structure of the Applicative

Before I present the proposed universal structure of applicative constructions, I need to state that I assume a strictly local relationship between the verb and the complement (following Chomsky, 1993). Furthermore, I assume Baker's Uniformity of Theta Assignment Hypothesis (UTAH) which states that:

(40) Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure (Baker, 1988b p.46).

Therefore themes/patients must be in a local relationship with V. The applied object which is licensed by the applicative morpheme must be in a local relationship.

Recall that the theme is in the minimal VP. The V is generated in this minimal VP. This minimal VP is a complement of a higher V. I will tentatively propose that the higher V is the applicative morpheme. The other available position for this higher projection is the spec position. If we assume that the applied object is generated in this position, we maintain the local relationship between the head (the applicative morpheme) and the argument it licenses (the applied object). The first approximation of the universal applicative construction can be presented this way.

(41)

```
              IP
            /    \
          DP      I'
          |      /  \
      Subject   I    VP₂  ←— target of VP deletion
                |   /   \
                  AO     V'
                       /    \
                      V      VP₁  ←— target of VP deletion
                      |     /   \
                    -il-   DP    V'
                           |    /  \
                          DO V
```

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If VP ellipsis targets the lowest VP, only the theme/patient disappears. If it targets the higher VP, then both objects disappear.

This structure is in many ways similar to that of Marantz (1993). He based his proposal on c-command relations determined by quantified noun phrase-pronoun relations following Barss and Lasnik (1986) and Larson (1988) complex predicate analysis.

5. Conclusion

To summarize the arguments of this paper: Based on primary object properties, there are three types of applicatives whose prototypes are benefactive, instrumental and locative. Using VP ellipsis as a diagnostic for constituent structure, I arrived at the conclusion that there are two VPs involved. One VP which contains the theme/patient is embedded in another VP which contains the applied object. I conclude also that the applicative morpheme is a predicate head which selects the minimal VP and the applied object.

The crucial question now is how are the arguments mapped onto the sentence structure. I am inclined to consider the meaning differences of the various types of applicatives to be a factor of structural differences (Hale and Keyser, 1993) which go beyond the universal structure of the applicative construction proposed in (41). Consider for example instrumentals. There are two types of instruments.

Swahili
(42) a. m-toto   a-li-l-i-a   wali   ki-jiko   (aide)
          1-child 1SA-PST-eat-APP-FV 11-rice 7-spoon
          child ate rice with a spoon

      b. m-toto a-li-kat-i-a   mu-wa   ki-su   (tool)
          1-child 1SA-PST-cut-APP-FV 3-sugar cane 7-knife
          child cut   sugar cane with a knife

As in English, the two types of instruments differ in Swahili too. The following two sentences illustrates such a difference.

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Swahili

(43) a. ki-su   ki-na-kat-a   mi-wa   vi-zuri
        7-knife 7SA-PRT-cut-FV 4-sugar cane Adv-good
        the knife cuts sugar cane well

     b. *ki-jiko ki-na-kul-a   wali   vi-zuri
        7-spoon 7SA-PRT-eat-FV 11rice Adv-good
        the spoon eats rice well

The "spoon" may not be the subject of this verb. Assuming VP-internal subject hypothesis (Koopman and Sportiche, 1991), it can be seen that "knife" may be generated in that subject position, but "spoon" may not. How does the applicative construction handle such facts is a question that needs further research.

How are the surface features derived? For example, if all applied objects are base-generated in the same spec position higher than the direct object, then we need to explain how the order of the objects is DO AP. We need to explain also why there is a symmetry between the two objects in asymmetrical object languages such as Chichewa.

The typology, therefore, mainly is intended to help in organising the data which is to be studied. It is nevertheless a very important tool since it raises interesting questions regarding the grammar of diverse phenomena in the Bantu languages that is related to applicatives. Such phenomena include verb extensions, constituent structure, agreement and quantification.

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Deo Ngonyani

Linguistics Department

University of California Los Angeles

405 Hilgard Ave.

Los Angeles, CA 90095

ngonyani@humnet.ucla.edu