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The Applied Affix and Transitivity:
A Historical Study in Bantu

A dissertation submitted in partial satisfaction of the requirements for the degree of Doctor of Philosophy in Linguistics

by

Mary Lee Trithart

1983
The dissertation of Mary Lee Trithart is approved.

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Larry M. Hyman, Committee Co-Chair

Sandra A. Thompson, Committee Co-Chair

University of California, Los Angeles

1983
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<th>Abbreviation</th>
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<td>object of a preposition</td>
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ACKNOWLEDGEMENTS

Cinyanja, the Bantu language discussed intensively in Chapter IV, I spoke for two years as a Peace Corps volunteer in Malawi, Central Africa. The host of Malawians who formally and informally assisted me with their language during this time cannot all be named, but they were the ones who first taught me Cinyanja and who are responsible for much of my interest. In the United States, Malawians working, studying, and living here provided further assistance. Of these, Catherine Fukulani, Benson Kandoole, and John Tembo require special thanks for many hours of painstaking work each, humorously and patiently provided. Of these three, Mr. Tembo was the person who joined me in translating the Cinyanja text of Chapter IV. This text, a collection of stories which illustrate the meaning of traditional Cinyanja proverbs, requires a broad understanding of humor, motivation, and folly in Nyanja society for sensible translation, and this Mr. Tembo provided. His explanations of proverbs, special expressions, and lexical items were also extremely helpful.

My linguistic study of Bantu has been guided almost exclusively by Larry Hyman of the University of Southern California. Because his teaching affiliation is with a university separate from that which I have attended, his interest, care, and time have been particularly unusual. For this, for his encouragement, and for his
involvement with this manuscript from its earliest stages to its completion I am grateful. I also wish to thank William Welmers and Russell Schuh of UCLA for their teachings on non-Bantu African languages.

The person whose work was responsible for my selection of topic is Sandy Thompson. Her encouragement has been important. As a model for clear thinking she has been most impressive.

And finally, I wish to extend thanks to my family. My husband, Michael Weiss, has provided steady encouragement and financial support. Perhaps even more important, he has assumed significant responsibility for care of our son Gregory, now three, on a regular basis. Greg, for his part, has been an overriding force for keeping the study of linguistics in perspective.
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ABSTRACT OF THE DISSERTATION

The Applied Affix and Transitivity:

A Historical Study in Bantu

by

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Doctor of Philosophy in Linguistics

University of California, Los Angeles, 1983

Professor Sandra A. Thompson, Co-chair

Professor Larry M. Hyman, Co-chair

This study presents an account of the many uses of the applied affix in Bantu. It links this account to current linguistic views on transitivity and the direct object relation.

General linguistic usage holds that an applied affix is a morpheme which is attached to the verb to allow the non-subject arguments of the verb to be increased. Accordingly, the Bantu applied affix, commonly reconstructed as -id- or -ed-, can appear on the Bantu verb in connection with a variety of object NPs: benefactive, malefactive, recipient, possessive, purpose, cause, locative, adverb of time, adverb of manner, and instrumental. In addition, the same Bantu applied affix also appears in a variety of other contexts which have no connection with object-marking, the usual basis for the term 'applied.' For example, the affix may be attached to a verb to indicate repetition, duration, 'many do,' or 'do to many.' It may also
be associated with many of the semantic parameters presented as components of transitivity in Hopper and Thompson (1980): 1. number of participants 2. kinesis 3. aspect 4. punctuality 5. volitionality 6. affirmation 7. mode 8. agency 9. individuation of the object 10. affectedness of the object. In parts of Bantu, the applied affix may have discourse function.

The problem of this study is to present a coherent account of the basis for the many uses of this single morpheme. The approach adopted is historical and comparative. Two kinds of data are considered: (1) examples drawn from traditional descriptive grammars, and (2) intensive examination of a text in Cinyanja, a Bantu language (N.3la) spoken in Malawi and eastern Zambia.

Our historical work reconstructs the applied affix back to proto-Niger-Kordofanian. There it is a verbal affix used to mark benefactive object NPs. Other object-marking functions follow in Bantu.

Our text study examines semantic and discourse uses. The indication of repetition, duration, 'many do,' and 'do to many,' along with the affix's association with many of the Hopper and Thompson transitivity parameters, receives special attention. Discussion proposes growth of the semantic uses from the earlier benefactive function. In separate discussion, discourse uses are related to locative functions and a need for inference.
INTRODUCTION

0.1 The applied affix

The applied affix in Bantu is one member in the set of morphemes generally referred to by Bantuists as verb extensions. Usually -VC- in form, verb extensions are the set of morphemes which can be attached to a Bantu verb stem to add semantic information to the verb. The semantic information added depends on the particular extension attached. For example, the reciprocal extension, generally reconstructed as -an-, can change a verb such as -bón- 'see' to -bón-an- 'see each other' (proto-Bantu reconstructions from Meeussen (1967:92)). The causative extension can change 'cultivate' into 'make (someone) cultivate'; the passive extension can change the same verb into 'be cultivated.' The unifying concept for 'verb extension' as a descriptive category is the position of the morpheme following the Bantu verb stem, not any semantic or syntactic similarity of function among the forms.

The term 'applied,' unlike the term 'extension,' is not specifically Bantuist. 'Applied affix' is the general linguistic term for a verb affix which allows the non-subject arguments of the verb to be increased. An applied marker generally occurs with NPs in more than one semantic relation. This is essentially a matter of definition since a verb affix which marks only one semantic relation
is normally referenced via that relation. For example, a verb affix which marks recipient NPs is called a dative marker; one which marks patient NPs is an accusative marker; benefactive NPs, a benefactive marker, and so forth. It is only when a verb affix occurs with two or more distinct semantic relations that it is referred to as applied.

Some of the semantic and syntactic range of the applied affix in Bantu is indicated by the variety of labels it has at times carried. In describing the applied affix in Bantu, Doke (1935:52-53) writes:

The applied form of the verb is used to indicate the action when applied on behalf of, towards or with regard to, some object. Thus the applied form of intransitive verbs may become transitive, while that of transitive verbs may take two objects; it is therefore called by some writers the "objective form." Since the sense of this form is supplied in English by the use of such prepositions and prepositional phrases as "for," "on behalf of," "to the detriment of," "towards," some writers term it the "prepositional form." With verbs of motion, it conveys the idea of "motion towards"; it is therefore sometimes called the "directive form." Others again call it the "relative form." Amongst English writers the term "applied" seems to have gained ascendancy over any other term [although "applicative" is] a term used by Torrend and several other Bantu grammarians to indicate the derivative form of the verb generally called applied.

The applied affix thus appears in Bantu with semantically benefactive, malefactive, recipient, purpose, cause, locative, adverbial, and instrument predicate NPs. It also appears in other uses not generally associated with the term 'applied,' as in deverbative Ns and certain clause types, in broader discourse contexts, and as an inherent part of certain lexical items.
0.2 **Theoretical orientation**

This study began with the selection of a problem, rather than with selection of a theoretical approach. The problem was to bring some insight, order, and perhaps explanation to the various uses of the applied affix in Bantu. The affix is extremely frequently occurring in almost any segment of continuous speech in almost any Bantu language. Yet some of the appearances are not readily relatable to any of the usually ascribed functions; and of those that are, the various functions are at times so loose and heterogeneous as to suggest that much remains to be studied.

Our initial attempts at study started with the assumptions of autonomous syntax and, more specifically, used approaches suggested by relational grammar. Some of the difficulties encountered by this approach are outlined in Chapter I. A second attempt moved to the opposite end of the linguistic spectrum and adopted approaches suggested by form-content analysis. Briefly, form-content analysis eschews the derivational and other assumptions of autonomous syntax and attempts to assign a single very general meaning to a single form in all of its occurrences. Surrounding context allows the listener to infer the specific meaning required on any given occasion. An analysis within this framework was essentially defeated by the extremely heterogeneous nature of the functions of the applied affix in many Bantu languages. Some of the appearances are lexically dictated; others are syntactically conditioned; others are discourse-related. In view of the extremely heterogeneous nature of the
functions of the applied affix in many Bantu languages, such an
approach did not seem fruitful at this time.

Our final approach is eclectic. The two major influences are
(1) a historical orientation, and (2) reference to the recent work
on transitivity by Hopper and Thompson (1980). Both were selected
because they led to interesting insights about our problem. A his-
torical and comparative approach was dictated by the need to bring
some order and reason to the multiplicity of apparent bases for
appearance of the applied affix in many single Bantu languages. The
order which chronology imposed allowed us to determine parent vs.
daughter functions and the nature of factors influencing change.
Readily described functions and appearances were separable from those
not accounted for.

Our reference to the work of Hopper and Thompson (1980) arose
for two reasons. First, this work allows an account of some appear-
ances of the applied affix in Bantu not described within other
theories. Second, their morphologically based approach to the study
of transitivity provides a larger framework for our own morphologi-
cally oriented problem: a single morpheme, one of whose major func-
tions relates to the addition of objects. (For other studies which
refer to the Hopper and Thompson (1980) work, see Hopper and Thompson,
eds. (1982).)

0.3 Methodology

The conclusions of this study are based largely on data from
secondary sources. The majority of these sources are the usual
descriptive grammars of Bantu and related languages. In a few cases, data are drawn from historical or comparative overviews already performed. Such reliance on secondary sources necessitates constant evaluation of the quality of data and of the accuracy of descriptions. Mutually reinforcing claims are required to create a coherent web of evidence. If this can be achieved, however, use of secondary sources allows a study of broader scope than would otherwise be possible.

A final requirement of a study based on secondary sources is that it be formulated in terms of questions which the sources can in fact answer. Where the present study could not realistically be confined to such questions, we turn to analysis of text. Our text was a previously published set of Cinyanja-language stories about proverbs. Analysis of forms in these stories supplemented information gained from the descriptive grammars.

0.4 Organization

Our study begins with a general discussion of transitivity in Chapter I. The rest of the study examines functions of the applied affix. Chapters II and III are historical and comparative material on the applied affix in Niger-Kordofanian and Bantu, respectively. Chapter II is essentially background information for Chapter III, since it indicates the Niger-Kordofanian source function from which the subsequent host of Bantu uses develops. Chapter III outlines the accrual of functions within Bantu. Chapter IV
examines uses either not discussed or minimally discussed in the
descriptive grammars. The text examination of Chapter IV notes
appearances of the applied affix related to the components of
transitivity proposed by Hopper and Thompson (1980) and also
discourse-related appearances.
CHAPTER I

TRANSLITTIVITY

The traditional notion of 'transitivity' has been that it is a property of verbs and that this property assumes the notion of a 'direct object' as part of its definition. Thus, transitivity "in the ordinary grammatical sense . . . distinguishes verbs that take direct objects from those that do not" (Grimes, 1975:178). And similarly, "verbs that tolerate a direct object are said to be transitive, and verbs that do not allow a direct object are intransitive" (Langacker, 1972:86). Accordingly, a verb such as prefer in (1a) has traditionally been considered to be transitive because it can occur with the direct object blondes. The verb flickered of (1b) is not transitive because no direct object can grammatically appear with it.

(1) a. Gentlemen prefer blondes.
   b. The candle flickered.

Transitivity has traditionally been considered also to be a binary property. That is, a verb either is transitive, or it isn't. The Aspects model of grammar, for example, implicitly incorporates this assumption when it explicates strict subcategorization rules using the feature specifications [+Transitive] and [-Transitive] (Chomsky, 1965:90-95).

Footnotes to Chapter I begin on p. 63.
In Sections 1.1, 1.2, and 1.3 we will examine each of these traditional assumptions about transitivity. In Section 1.1 we review recent work on the direct object relation. In Section 1.2 we present counterevidence to the claim that transitivity is exclusively a property of verbs. And in Section 1.3 we examine the viability of the binary assumption.

1.1 The direct object relation

Traditional assumptions about the direct object relation have recently been reexamined within two different approaches to language analysis: (1) relational grammar, a variety of autonomous syntax; and (2) work exploring relationships between syntax and discourse. Relational grammar, part of a formalist tradition, attempts to universally define notions such as 'subject,' 'direct object,' and 'indirect object.' A discourse orientation, on the other hand, views 'subject,' 'direct object,' and 'transitivity' in terms of discourse function.

Within relational grammar, grammatical relations like 'subject,' 'direct object,' and 'indirect object' are taken as primitives in the statement of rules. Such relations are, consequently, extremely important to the theory. For this reason work done within the relational framework will be used as the starting point for our discussion of direct object.
1.11 **Relational grammar**

Within relational grammar the direct object relation is a universal syntactic primitive. Its designation as a 'primitive' means that, theory-internally at least, it does not require definition. Its characterization as 'universal' and 'syntactic' also separates it from certain alternative ways of specifying the nominal arguments of the verb. Its characterization as syntactic, for example, separates 'direct object' from specific semantic roles like patient, recipient, or benefactive. NPs in these semantic roles and those in the direct object relation are intersecting but noninclusive sets. That is, although a patient NP may also be a direct object, some patient NPs are not direct objects and some direct objects are not patients. Although a recipient NP may also be a direct object, some recipient NPs are not direct objects and some direct objects are not recipients, and so forth. For example, in (2a) direct object and patient coincide; garden is both a patient and a direct object. In (2b) however, they do not; garden is still a patient, but it is no longer a direct object. And in (2c) they do not; you is a direct object but not a patient. Instead, it is a recipient, as can be seen more clearly in the paraphrase of (2d).

(2) a. The horde of locusts destroyed the garden.
   b. The garden was destroyed by a horde of locusts.
   c. I thank you.
   d. I extend my thanks to you.
The universal and syntactic character of direct object means that it also cannot be equated with 'accusative.' The equation between accusative and direct object fails on the syntactic criterion because accusative is a morphological notion, not a syntactic one. That is, a noun is considered to be in the accusative case because it appears with accusative case marking, not because of its syntactic context. The equation fails on grounds of universality because many languages do not employ a morphological accusative case marking system. Among these are those which have an accusative case marking system but which use word order, prepositions, or postpositions to mark case rather than nominal affixation, as well as those languages whose case marking system is ergative. Such languages use one case marking, the ergative, only with the subject of sentences that also have an object. Another case, the absolutive, is used both with objects and with single argument sentences that have no object.

Even among languages with a system of morphological accusative case marking, there is generally an imperfect correlation between accusative morphology and the direct object relation. In Russian and certain other Slavic languages, for example, direct objects are marked accusative in affirmative sentences but genitive in negative sentences (Timberlake, 1975:123). In Malagasy, definite animate direct objects are case-marked differently from indefinite inanimate direct objects (Gary and Keenan, 1977:103), and so on.

And finally, the universal character of direct object means that it cannot be equated with any particular surface structural
configuration. This should be obvious, since some languages are SVO, other SOV, others VSO, and so forth.

1.111 Problems with the relational grammar definition

Although the relational characterization of direct object as a universal syntactic primitive has served to differentiate 'direct object' from frequently associated notions like 'patient,' 'accusative,' and specific structural configurations, the characterization has not otherwise unambiguously identified direct object NPs. In the absence of clearly defined criteria for recognition of a direct object, various discovery procedures have arisen. Some have referred to structure and others to hierarchies of syntactic accessibility. Each of these procedures, and associated problems, are discussed in Sections 1.1111 and 1.1112.

1.1111 Structural criteria

In English, the direct object typically occurs immediately after the verb and is the only object not preceded by a preposition. This normative fact of English is sometimes applied as a discovery procedure for determination of the direct object in other SVO languages, such as Bantu. In this respect relational grammarians have adopted the procedure of the transformational grammarians before them: "Observe that the feature specification [+Transitive] can be regarded as merely a notation indicating occurrence in the environment ___NP" (Chomsky, 1965:93).
Note, however, that the "discovery procedure" does not apply with uniform results even to English. In each of the sentences (3) - (8) below, for example, not all linguists would be (equally) comfortable calling the prepositionally unmarked NP immediately following the verb a direct object.

(3) Billy is a liar.
(4) Into the room walked John.
(5) Waldo resembles a fish.
(6) Your cleverness escapes me.
(7) He struggled a hero into the night.
(8) I gave Henry a potato.

In addition to these partially nonnormative problems with English, a structural criterion encounters problems in any SVO language which allows an unmarked predicate NP to follow the verb which, all theories aside, does not appear to be a direct object. Structures of this sort appear in several different guises throughout Bantu. Our examples are taken from Swahili, which shows the full variety of problematic sentences.

1.1111 Idioms

One class of examples consists of phrasal predicates (Harries, 1970), idiomatic constructions in which the meaning of the verb phrase cannot be summed from its parts and where the predicate NP is syntactically inert. A typical example appears in (9). In (9a) jungu 'pot' is an unmarked predicate NP immediately following the
(9) a. tu- li- vunj- a jungu  
we past break FV pot  'we had a big celebration'  
'we broke a pot'

b. tu- li- li- vunj- a jungu  
we past it\textsubscript{1} break FV pot\textsubscript{1}  
'*we had the big celebration'  
'we broke the pot'

c. jungu li- li- vunj- w- a na- si  
pot\textsubscript{1} it\textsubscript{1} past break passv FV by us  
'*a/the big celebration was had by us'  
'the pot was broken by us'

c. jungu, tu- li- (li-) vunj- a  
pot\textsubscript{1} we past (it\textsubscript{1}) break FV  
'*a celebration, we had a big one'  
'the pot, we broke it'

verb 'vunj- 'break.' As such, structurally it looks like a direct object. The sentence in (9a) has two interpretations, one idiom-
atic and the other literal. Under the idiomatic interpretation the "direct object" jungu 'pot' cannot be object-marked, as shown in (9b); it cannot be passivized, as shown in (9c); and it cannot be topicalized, as shown in (9d). Under the literal interpretation all of these are possible.

Sentences like this are not unique to Swahili. These peculiar-
ities of the phrasal predicate in Swahili are typical of the general syntactic inaccessibility of NPs in idiomatic constructions across languages. The same phenomenon is found in English, for example, shown in (10) – (14). In each case the a-sentence has both an idiomatic and a literal interpretation, with the idiomatic interpretation being the more usual one. Under the passive and topicalization
transformations of b and c however, the sentences do not really still allow both interpretations, and in each case it is the idiomatic reading which is lost.

(10) a. We broke the ice
    b. The ice was broken (by us).
    c. The ice, we broke (it).

(11) a. He bit the bullet.
    b. The bullet was bitten (by him).
    c. The bullet, he bit (it).

(12) a. We broke bread together on our knees.
    b. The break was broken (by us) together on our knees.
    c. The break, we broke (it) together on our knees.

(13) a. We hit the hay/sack.
    b. The hay/sack was hit (by us).
    c. The hay/sack, we hit (it).

(14) a. He kicked the bucket.
    b. The bucket was kicked (by him).
    c. The bucket, he kicked (it).

1.1112 Subject-object reversal

A second class of problematic examples are constructions in which the unmarked NP preceding the verb and that following can be interchanged without apparently altering the meaning of the sentence, shown in (15) below (Whiteley, 1968).
(15) a. ki-jiti ki-me kaz- a m-lango
    peg₁ it₁ perf make fast FV door
    'The wedge has tightened the door.'

    b. m-lango u- me kaz- a ki-jiti
door₁ it₁ perf make fast FV peg
    'The wedge has tightened the door.'

There is no clear reason for considering either of these sentences
to be nonbasic. It is also not completely obvious that the unmarked
NP immediately following the verb, m-lango 'door' in (15a) and
ki-jiti 'peg' in (15b), is a direct object in both cases. Note that
these sentences are something more than mere shifts in word order,
for changes in the subject agreement marker on the verb accompany the
switch in NP positions. In (15a) the subject marker is ki-, agreeing
with ki-jiti 'peg.' In (15b) the subject agreement marker u- agrees
with m-lango 'door.' In Swahili the possibility of this interchange
may be governed by the choice of lexical verb. In Kinyarwanda
(Kimenyi, 1976:151-53)¹ however, it is apparently quite general, and
Meeussen (1967:120) reconstructs such NP interchangeability for
proto-Bantu.

1.11113 Adverbs

A third set of problematic examples is introduced by Ashton
with the statement that "a characteristic of Bantu speech is the
frequent use of nouns with no preceding preposition to introduce
them" (Ashton, 1947:299). The reason that this characteristic
requires particular mention is that the unmarked predicate NPs are
unusual from an English-speaker's point of view because they do not
seem to be direct objects. Instead they serve an adverbial function, shown in (16) and (17) below, not usually associated with the direct object relation. 2

(16) a-li- fik- a u-siku
    he past arrive FV night
    'He arrived at night.'

(17) M-to u- me- kauk- a ma-ji
    riveri iti past dry FV water
    'The river is dried up.'

1.1114 Locatives

And finally, throughout Bantu locative NPs have posed a problem for a structurally recognized direct object in two ways. First locatives in Bantu are derived nouns rather than prepositional phrases; consequently, they fit the structural criterion for a direct object as an unmarked NP (immediately) following the verb. Like the adverbial nouns just described, however, pretheoretically locatives are not usually considered to be basic direct objects. Consequently, within relational grammar their status has been a subject of debate (Trithart, 1975; Dalgish, 1976a, 1976b; Dalgish and Sheintuch, 1977).

Second, locatives have posed a problem for a structural criterion for direct object by their ability to engage in an interchange of pre-verb and post-verb NPs, with no alteration in the meaning of the sentence, similar to the subject-object reversal discussed earlier for non-locative NPs (Section 1.1112). This possibility of
pre-verb NP (subject) and post-verb NP interchange is shown in (18).

Note that the Swahili sentences, unlike the English counterparts show

(18) a. wa-fanyikazi wa- ta- kw- end- a ofisi-ni
workers1 they1 fut to go FV office-loc
'The workers will go to the office.'

b. ofisi-ni ku- ta- kw- end- a wa-fanyikazi
office-loc1 there1 fut to go FV workers
'To the office will go the workers.'

changes in the subject agreement marker on the verb in addition to
the reversal in NP positions. In (18a) the subject agreement marker
wa- agrees with wa-fanyikazi 'workers'; in (18b) the subject agree-
ment is ku-, agreeing with ofisi-ni 'office.' Thus, in both (18a)
and (18b) an unmarked NP immediately follows the verb; in neither
case, however, is it particularly clear that this NP is a direct
object, and language- internally there is nothing to indicate that
either sentence is more basic than the other. Sentences like this
occur productively throughout narrow Bantu.

1,11115 Multiple direct objects

So far we have discussed problems that a structural definition
of direct objects can encounter when SVO languages like Bantu permit
an unmarked predicate NP which, all theories aside, does not appear
to be a direct object. A second kind of problem also arises. This
problem is associated with the possibility that a number of unmarked
predicate NPs may follow the verb, sometimes with some variation
allowed in their word order. This situation has been reported in a
number of Bantu languages: Sesotho (Morolong and Hyman, 1977); Olutsootso (Dalgish and Sheintuch, 1977); Luyia (Gary, 1977); Mashi (Gary, 1977); Kimeru (Hodges, 1977); Chichewa (Trithart, 1979); Shambala (Duranti, 1979); Haya (Duranti, 1979; Duranti and Byarushengo, 1977); Swahili (Riddle, 1975); Kinyarwanda (Kimenyi, 1976:78-126; Gary and Keenan, 1977); Chimwini (Kisseberth and Abasheikh, 1977).

Confronted with these multiple unmarked predicate NPs a number of authors (Gary and Keenan, 1977; Gary, 1977; Kisseberth and Abasheikh, 1977; Duranti and Byarushengo, 1977) have proposed that a sentence may have more than one direct object. Such proposals have not been accepted, however, within the theory of relational grammar. Instead the theory has adhered to the more traditional view stating that at most one NP in a sentence can be so identified.

1.11116 Summary

To summarize, although the relational characterization of direct object as a universal syntactic primitive has served to differentiate 'direct object' from frequently associated notions like 'patient,' 'accusative,' and specific structural configurations, the characterization has not otherwise unambiguously identified direct object NPs. Within relational grammar, 'direct object' as a primitive, does not theory-internally require a definition. That is, just as transformational grammarians designated 'N' and 'V' as primitives to be used in the statement of rules without definition,
relational grammar designated 'direct object' a primitive to be used in the statement of rules without definition. Unlike linguists working within the framework of transformational generative grammar, however, those working within relational grammar have not been able to agree on specific examples of the theory's primitives, with the direct object relation being the major source of dispute. Although this situation has led to attempts at definition, so far none has appeared. The direct object relation, in its resistance to unambiguous characterization, has been particularly problematic among the grammatical relations assumed basic within the theory of relational grammar: the subject relation has been characterized (Keenan, 1976); identification of the indirect object relation poses problems (Faltz, 1978:76-87), but discussion here has not taken on the ramifications of that surrounding the direct object relation.

In the absence of agreement on what constitutes a direct object, some investigators have employed essentially structural criteria for identification. In SVO languages, such as English and Bantu, for example, structural criteria designate the prepositionally unmarked NP immediately following the verb as the direct object. Even within SVO languages, however, these criteria do not apply with uniform results. In Sections 1.1111 - 1.1115 we have described some of the problems such criteria encounter in Bantu, exemplified by Swahili.

Given that criteria referring to structural configurations cannot easily identify direct object NPs in Bantu, let us now
consider the second set of discovery procedures sometimes used. These refer to the accessibility hierarchy.

1.1.12 Accessibility hierarchy

Within relational grammar the basis for positing a universal syntactic category 'direct object' is an implicational hierarchy which governs the differential accessibility across languages of various NPs to certain syntactic processes. The original such hierarchy appeared in a study of relative clause formation in 40 languages (Keenan and Comrie, 1977). There the relative accessibility across languages of major NP positions was found not to be independent of others. Furthermore the dependencies were the same in all languages studied, despite considerable differences in the absolute relativizability of some positions and despite considerable differences in the relative clause formation strategy used. The dependencies among the NP positions were described in terms of the accessibility hierarchy shown in (19), where

(19) \text{Subj} \geq \text{DO} \geq \text{IO} \geq \text{O-Prep} \geq \text{Poss-NP} \geq \text{O-Comp-Particle}

'\geq' means "greater than or equal to in accessibility." The points on this hierarchy were justified by the fact that for each point there were at least two languages with a relative clause formation strategy that naturally relativized on that point and all points to the left of it but none of the points to the right of it. Subsequent work within the theory claimed that passive (Johnson, 1974; Trithart, 1975); causative (Comrie, 1976); and verb agreement (Perlmutter and Postal, 1974) followed comparable hierarchies.
Within this relational framework, because the category 'direct object' is considered to separate, for example, those NPs which could undergo (a certain strategy for) relativization from those which could not, facts about accessibility to (certain strategies for) relativization were later used in attempts to syntactically distinguish nouns which were direct objects from those which were not, particularly in problematic cases. In attempting to determine the range of applicability of certain syntactic processes, linguists discovered that, within many single languages, a number of non-syntactic facts about language systematically influenced the differential syntactic precedence of multiple unmarked predicate NPs. Specifically, semantic role, person, humanness, and definiteness provided additional hierarchies, shown in (20) - (22), which supplemented and sometimes contradicted the syntactic hierarchy based on grammatical relations.

(20) Benefactive ≥ Recipient ≥ Patient ≥ Instrumental ≥ Locative
(21) 1st ≥ 2nd ≥ 3rd pers human ≥ 3rd pers animate ≥ inanimate
(22) definite ≥ indefinite

In Sections 1.11121, 1.11122, and 1.11123 below, we briefly review the nature of the evidence which supported each of these non-syntactic hierarchies.
1.11121 The hierarchy of semantic roles: Benefactive > Recipient > Patient > Instrumental > Locative

Relationally, benefactive is usually considered an oblique NP; recipient tends to be equated with indirect object; and patient, with direct object. Relationally therefore, the expectation is that if any disparity in syntactic accessibility exists, the patient/direct object will show greatest syntactic accessibility, followed by the recipient/indirect object; the benefactive NP will be the least syntactically accessible. Structurally, in many Bantu languages benefactive, recipient, and patient are among the several NPs which can appear without a preposition following the verb. Structurally, therefore, there is no basis for choice among them. In point of fact, in Bantu generally when benefactive or recipient and patient appear in the same sentence, if any disparity in syntactic accessibility exists, it tends to favor the benefactive or recipient NP, contradicting the relational expectation and supplementing the information provided by structure. These facts are independent of animacy consideration.

Evidence:

1. A hierarchy of this sort appears in Swahili, for example, in the application of passive, where a Benefactive > Recipient > Patient hierarchy occurs (Riddle, 1975), rather than the reverse Patient > Recipient > Benefactive hierarchy expected on the basis of grammatical relations. The semantic hierarchy is required to explain the ungrammaticality of passive in certain examples where
otherwise grammaticality would be expected. Specifically, alone in a sentence a patient can passivize. When both a recipient and a patient are present however, only the recipient can passivize. And when benefactive, recipient, and patient are all present, only benefactive can passivize.

2. In Haya (Duranti and Byaruhengo, 1977:58-59), a Recipient > Patient hierarchy governs word order: a semantic dative precedes a patient in unmarked word order; this order becomes fundamental when both patient and dative are human.

3. Similarly, in Chichewa (Trithart, 1977:13), both benefactive and patient NPs can reflexivize. When both appear in a reflexive sentence, however, the benefactive is the only possible referent for the reflexive pronoun.

4. In Shambala and Haya (Duranti, 1979), all other things being equal, benefactive clitic pronouns occur closer to the verb stem than do patient clitic pronouns.

5. In Shona (Hawkinson and Hyman, 1974), a patient NP can topicalize only if no recipient NP is present in the sentence. If a recipient is present, it is the only NP accessible to topicalization.

For Patient > Instrumental, relationally patient is often equated with direct object; instrumental NPs are considered obliques. A hierarchy based on grammatical relations makes the same prediction here, therefore, as does the semantic hierarchy: patient/direct
object > instrumental/oblique. Structurally, patient and instrumental in Bantu may be among the several (prepositionally) unmarked NPs which follow the verb. (Instrumental may in many Bantu languages alternatively have prepositional case marking instead.) Structurally, therefore, there is not necessarily any clear basis for choice among them. In point of fact, patient preempts instrumental in the application of some syntactic processes.

Evidence:

1. In Chichewa (Trithart, 1977:38-42), for example, when an instrumental is the only unmarked predicate NP, it can control object agreement on the verb. When a patient is also present, however, only the patient can control object agreement.

2. In Shambala (Duranti, 1979), the clitic pronoun for a patient occurs closer to the verb stem than that for an instrument when both are present in the sentence.

3. In Chimwini (Kisseberth and Abasheikh, 1977), instrumental can appear in its unmarked form only where it is the topic, or at least presupposed (not asserted). It is thus much more restricted in its accessibility to syntactic operations than is patient, which generally appears in unmarked form.

The Instrumental > Locative hierarchy generally appears in verb agreement. In many, if not most, Bantu languages, nouns in the locative derived noun classes cannot control locative object agreement or infix pronouns on the verb.
The person/animacy hierarchy: 1st ≥ 2nd ≥ 3rd pers human ≥ 3rd pers animate ≥ inanimate

Within a framework based on grammatical relations, no differences in behavior are predicted for 1st vs. 2nd vs. 3rd person. Structurally they are also identical. In fact, however, there are systematic syntactic differences among them. Of the three hierarchies listed in (20) – (22), this one has been claimed to be the most influential for Bantu (Hyman and Duranti, 1982:224).

Evidence:

1. In languages generally, the pro-form which substitutes for a conjunction of 1st and 2nd person is the 1st person plural, not the 2nd person plural form. In English, for example, the correct alternative to (23a) is (23b), not (23c). First person, therefore, exerts greater control than 2nd person over choice of the pro-form.

   (23) a. You and I should go to the store.

       b. We should go to the store.

       c. You (all) should go to the store.

   Similarly, the pro-form substituting for conjunction of 2nd and 3rd person is the 2nd person plural form, not the 3rd. The correct alternative to (24a), for example, is (24b), not (24c).

   (24) a. You and he should go to the store.

       b. You (all) should go to the store.

       c. They should go to the store.

   And 1st person, of course, exerts greater control over the choice of the pro-form than does 3rd, as shown in (25), where the
correct alternative to (25a) is (25b), not (25c).

(25) a. He and I should go to the store.
    b. We should go to the store.
    c. They should go to the store.

2. Language-specifically, in Haya (Duranti, 1979), the 1st person object clitic pronoun appears closer to the verb than does the 2nd person object clitic pronoun, which in turn appears closer to the verb than does the 3rd person object clitic pronoun.

3. In Shambala (Duranti, 1979), 1st and 2nd person object clitic pronouns systematically appear closer to the verb than do 3rd person object clitic pronouns.

4. In Shona (Hawkinson and Hyman, 1974), 1st and 2nd person pronouns preempt 3rd person pronouns for the benefactive semantic role in passive sentences regardless of whether they appear in subject position (the usual position for the benefactive) or object position.

For human $\geq$ animate $\geq$ inanimate, as for 1st $\geq$ 2nd $\geq$ 3rd person, relational grammar makes no prediction of systematic difference. Similarly structurally, they are all identical. In fact, however, just as there were systematic syntactic differences for points on the person hierarchy, there are systematic syntactic differences for points on the animacy hierarchy.

Evidence:

1. In Sesotho (Morolong and Hyman, 1977), there is a constraint against having a nonhuman noun precede a human noun after
the verbal complex. In addition, some verbs allow only human objects to be object-marked.

2. In Shona (Hawkinson and Hyman, 1974), as in other Bantu languages, human, animal, and inanimate NPs in general trigger different subject concord on the verb. If two nouns from different levels of the animacy hierarchy are conjoined in Shona, the logical conflict in subject concord is resolved in favor of the more animate being: if any member of the conjunct is human, the difference is resolved in favor of that noun; if not, and if any member is an animal, the difference is resolved in favor of that noun. Not only is it incorrect to resolve agreement conflicts in favor of a less animate noun, it is equally incorrect to list such a referent before the more animate noun in a conjunct.

3. In Shambala and Haya (Duranti, 1979), object clitic pronouns referring to human nouns systematically appear closer to the verb stem than do object clitic pronouns referring to nonhuman nouns.

4. And in most Bantu languages, [+human] NPs trigger object concord on the verb much more frequently than do other NPs (Wald, 1979:507; Kisseberth and Abasheikh, 1977:fn. 3).

1.11123 The specificity hierarchy: definite ≥ indefinite

Relationally and structurally there are no differences between definite and indefinite nouns. In terms of syntactic accessibility, however, there are.
Evidence:

1. In Maya (Duranti and Byarushengo, 1977), only definite or generic NPs can be made the subject of a sentence by passive, although the definite/generic constraint does not hold for the basic subject of active sentences.

2. In Bantu generally, object concord usually indicates definiteness; definite nouns, therefore, clearly are shown preference over indefinite nouns for this marking.

1.112 Summary

Although the relational characterization of direct object as a universal syntactic primitive has served to differentiate 'direct object' from frequently associated notions like 'patient,' 'accusative,' and specific structural configurations, the characterization has not otherwise unambiguously identified direct object NPs. In the absence of clearly defined criteria for recognition of a direct object, various somewhat unofficial discovery procedures have implicitly arisen. Some of these have referred to sentence structure; others, to syntactic accessibility.

For linguists attempting to apply structural criteria, in SVO languages like English and Bantu, a prepositionally unmarked NP which occurs immediately after the verb is often regarded as the 'direct object.' This "discovery procedure," however, does not apply with uniform results even in English. In Bantu, an even greater variety of problematic cases appears. These include idioms (Section 1.1111),
sentences with subject-object reversal (Section 1.11112), certain sentences in which a prepositionally unmarked predicate NP serves an adverbial function (Section 1.11113), locatives (Section 1.11114), and sentences which apparently have multiple direct objects (Section 1.11115).

The use of syntactic accessibility as a discovery procedure for identification of direct object NPs has also encountered problems. In attempting to determine the range of applicability of certain syntactic processes, linguists have discovered that, within many single languages, a number of nonsyntactic facts about language systematically influence the application of syntactic processes. Specifically, semantic role (Section 1.11121), person/animacy (Section 1.11122), and definiteness (Section 1.11123) provide additional hierarchies which supplement and sometimes contradict the syntactic hierarchy based on grammatical relations. This means that a wide range of problematic cases once again occurs in the identification of direct objects.

1.12 A discourse approach

One method of handling this problematic information has been to maintain a hierarchy of grammatical relations which includes 'direct object,' but to propose some "wrinkle" in its predictions to accommodate the problematic data from semantic role. Another approach has been to reevaluate the basis for the direct object relation. This approach notes that all three of the hierarchies in (20) - (22) share
a common basis: all have their roots in discourse. The reasoning then goes that the relationship of each hierarchy to this common level of language use indicates a more appropriate basis for the notion 'direct object' than does the idea of a universal syntactic primitive. It also allows a more unitary approach to the data. "The direct object is as much a discourse notion as it is a grammatical notion in Sesotho, as it probably is in (Eastern) Bantu as a whole" (Mroj and Hyman, 1977:199). And more generally, "in the case of direct object . . . I will argue for considering it a pragmatic case . . ." (Givón, 1975:59).

This alternative proposal is sufficiently different from the previous one to require special comment about its assumptions and goals. The first analysis, which continues to view direct object as a universal syntactic category, occurs within an approach to language known as autonomous syntax. Such an approach includes theories of structuralism as well as transformational grammar, relational grammar, and the more recent arc pair grammar (Johnson and Postal, 1980). Its main proponents have stood in a line of teacher/pupil succession: Zellig Harris for structuralism (Harris, 1951), Noam Chomsky for transformational grammar (Chomsky, 1965), Paul Postal and David Perlmutter for relational grammar, and David Johnson and Paul Postal for arc pair grammar (Johnson and Postal, 1980). The distinguishing feature of such an approach is its definition of the explanation which is its goal.
Within any linguistic analysis it is necessary to abstract factors from the data which allow similarities and differences to be described. For example, it is necessary to be able to indicate that the subject of laugh must be human. To the extent that these factors "work" the analysis is descriptively adequate. To the extent that other potentially applicable factors cannot be substituted for them, the analysis is convincing. Within autonomous syntax, the framework used to present and discuss these factors is explanation. For example, explanation would be the feature notation [+human] which might be applied to the subject of laugh. A less trivial example is that the explanation for the differential syntactic accessibility of NPs is the NP accessibility hierarchy. This kind of explanation can be equated to "formalism" and "meta-language." This concept of explanation is analogous to the concept in the physical sciences that, once something can be described by a mathematical equation, it has been explained. The difference between autonomous syntax and the physical sciences is that mathematical formulae have received independent verification elsewhere; the formalisms of autonomous syntax have not. The nature of explanation is thus theory-internal as are the procedures for its evaluation. Under the assumptions of autonomous syntax, language is treated as independent of other aspects of human behavior.

This approach to explanation is clearly different from that which must underlie the second analysis, which "explains" the behavior of direct objects through their relationship to discourse. Here explanation reaches outside the formalism of linguistics. It is
theory-external and relates to cause and effect.

Let us now consider exactly how each of the three hierarchies we have discussed (person/animacy, definiteness, and semantic role) relates to the discourse function of language.

1.121 The person/animacy hierarchy

The person/animacy hierarchy could be more accurately called an egocentricity hierarchy: the more closely a referent is identified with the speaker, the greater its syntactic accessibility. Thus 1st person, the speaker, has the greatest syntactic accessibility, followed closely by 2nd person, the speaker's companion in conversation. Other people, 3rd person(s), are not so preferred, but certainly rank higher than animals in being identified with the speaker, which in turn rank higher than inanimates. This same hierarchy roughly corresponds to the likelihood of a NP occupying the 'agent' (vs. 'object') position in a basic sentence (Dixon, 1979:85-91).

The egocentricity (person/animacy) hierarchy appears in discourse as a description of the most frequent topics of human speech. That is, oneself is the most frequent topic of one's own conversation, followed in order of preference by the conversational partner. Other people come next on the list of frequency, with nonhuman animates and inanimates following, although not necessarily in that order. The same hierarchy, described as an empathy hierarchy, allows clarification of certain problems in syntactic accessibility, precedence, and command (Kuno and Kaburaki, 1975; Kuno, 1976).
A comparable egocentricity hierarchy appears in the psychological literature on selective attention where experimental evidence shows that we process information about other human beings more readily than that about nonhumans, but not as readily as we process information about ourselves (Zubin, 1979).

Given these facts, several relationships among discourse, syntactic accessibility, and the egocentricity hierarchy are possible. The least interesting possibility for our present purposes relates discourse and syntax in a non-causal way. Here the egocentricity hierarchy is noted as a general human institution. As such, it appears in language as well as in other areas of human behavior. Among its manifestations in language are (1) the selection of topics for conversation and their duration, (2) language universals such as the pro-form preferences illustrated in (23) - (25), and (3) language-specific facts of syntactic accessibility.

Without additional assumptions, this kind of explication does not propose any specific relationship between discourse and syntactic accessibility. The two are both merely different language phenomena, different pieces of evidence of the same underlying human predisposition.

Additional assumptions can, however, be added. Another possible view, for example, is that as before, the egocentricity hierarchy helps determine the selection of topics for conversation and their duration. Now, however, these discourse facts are assumed to separately determine syntactic accessibility through some mechanism such
as a functional explanation, a reference to the cognitive requirements of information processing, or a claim of syntacticization.

The possible explanations for the causal relationship are not mutually exclusive. They could, in fact, be mutually reinforcing. Likewise the causal and non-causal accounts do not preclude each other. The causal account simply requires additional assumptions. At present there is no decisive evidence to force a choice among any of these hypotheses, causal or otherwise.

1.122 The specificity hierarchy

The definite/indefinite distinction depends on the speaker's assumptions about his listener's knowledge at a specific point in a specific discourse. Roughly speaking, a definite noun means that the speaker presupposes that the hearer can unambiguously identify the referent of the noun. An indefinite noun does not make such an assumption. An assumption of this sort may obviously change from one listener to another, for the same listener on different occasions, or even for the same listener at different points in a single discourse. In the discourse of (26), for example, a pickup truck is indefinite in its first occurrence, but thereafter its referent is assumed to have been established, and in its remaining occurrences it appears in the definite form.

(26) A tow truck driver was killed and five people, including a California Highway Patrol officer, were injured Sunday afternoon after being struck by a pickup truck driven by an allegedly drunken man, officers reported.
Harold Robb Jr., 22, of Garden Grove, was preparing to tow a damaged car from the shoulder of the San Diego Freeway near the Fairview Road exit at about 4 a.m. when the pickup swerved off the freeway and hit him.

The pickup truck also struck Officer Rodney Campbell, 32, of Anaheim . . . .

(Los Angeles Times, Monday, July 14, 1980; Part II, page 1, "1 Killed, 5 Hurt as Truck Veers on Freeway.")

In sum, the relationship between definiteness and discourse is direct. Definiteness cannot be described without reference to discourse. It cannot be explained without reference to speaker assumptions.

1.123 The hierarchy of semantic roles

As a hierarchy of semantic constructs, the Benefactive ≥ Recipient ≥ Patient ≥ Instrumental ≥ Locative hierarchy must link to more concrete linguistic features which are clearly related to discourse in order to be regarded as a hierarchy based on discourse considerations. The customary link is with the two hierarchies just discussed: animacy and definiteness (Hawkinson and Hyman, 1974; Morolong and Hyman, 1977; Comrie, 1979; Trithart, 1979). The claim is that benefactive and recipient NPs tend to be human; patients are less consistently so; instrumentals and locatives are usually inanimate. Furthermore, when talking about humans, conversation tends to be more specific about the particular humans involved than when the discourse covers inanimates.
By themselves, these suggested frequencies of occurrence mean nothing. That is, unless some explanatory factor enters in, there is no reason that syntactic accessibility should refer to semantic role rather than to the features of humanness and definiteness, proposed as the explanatory factors. The concept used, usually implicitly, to bridge the link between animacy and definiteness, obviously relevant to the discourse context, and semantic role, less directly related, is that of syntacticization.

In general, the idea of syntacticization is that high frequency of occurrence in a particular syntactic environment can lead a morpheme which at one time had semantic import to lose its semantic impact. Instead of indicating content it shifts to an indication of function. It is milked of its independent meaning and becomes syntactically, a function of its construction. For example, it is a general fact of language that the subject of a sentence is usually referential (Keenan, 1976:319) and that [+human] NPs are also usually referential. In Bemba (Givón, 1969:66) a [+human] subject is obligatorily coded as being referential, whether or not it actually is so. That is, the morpheme which elsewhere distinguishes referential from non-referential NPs does not carry this import for [+human] NPs in the subject relation. Instead here it is merely associated with subjecthood. A claim of syntacticization would be that the very high coincidence of [+human] subject with referential coding had led to the syntacticization of this coincidence. This is to say that referential coding for [+human] subjects became obligatory over time.
as a result of its overwhelmingly predominant occurrence. New speakers simply did not formulate a grammar which took into account the relatively few instances in which a [+human] subject NP did not carry referential coding. Instead they assigned the referential form of coding to all [+human] subject NPs.

The claim that the hierarchy of semantic roles is a syntacticization of the animacy and definiteness hierarchies takes as basic the fact that the benefactive recipient roles are usually filled by [+human] and [+definite] NPs; the patient role is not filled as high a proportion of the time by such NPs; and instrumental and locative roles are usually filled by [-human] NPs. The claim is that the documented greater syntactic accessibility of [+human] and [+definite] NPs has spread from specific occurrences of the NPs to the semantic roles with which they are customarily associated. It is only through an assumption of this sort that the hierarchy of semantic roles can be linked to discourse context, for in and of itself the hierarchy is a semantic abstraction, not directly related to discourse considerations.

1.124 Summary

To summarize, the hierarchy of grammatical relations shown in (19) was originally proposed to account for the consistent differential syntactic accessibility of NPs across languages to certain syntactic processes. Subsequently, the hierarchy of semantic roles in (20), the egocentricity (person/animacy) hierarchy in (21), and the
definiteness hierarchy in (22) were found in some language families, particularly Bantu, to supplement and override the relational hierarchy in explaining syntactic precedence among object NPs. On the basis of these facts some investigators, specifically those whose work was based on an assumption of autonomous syntax, continued to accept the basic validity of the relational hierarchy. That is, they continued to view grammatical relations as universal syntactic categories, albeit modified and supplemented by the new evidence. Other investigators, however, noted that each of the three additional hierarchies controlling syntactic accessibility had its roots in the communicative context. This fact led them to propose an alternative basis for the direct object relation. Rather than viewing it as a universal syntactic category, part of a theory of autonomous syntax, they saw it in a more pragmatic perspective as part of discourse.

This approach is essentially an extension of a framework earlier applied to subject. For several years subject has been seen in a discourse as well as a syntactic perspective (Li, 1976). In the work we have just reviewed direct object is being analyzed in the same vein. The fact that both subject and direct object can be approached from discourse allows their pragmatic functions to be compared and contrasted. For example, whereas the subject relation is seen as a grammaticized topic (Lehmann, 1976), or topic as a premature subject (Chafe, 1976), the direct object relation indicates discourse prominence. "The properties said to characterize direct objects are accorded to those non-subject arguments which are the most prominent in
discourse, either as the syntacticization of universal tendencies, or, if the language permits flexibility, as warranted by a particular discourse situation" (Morolong and Human, 1977:215). Whereas subject usually refers to old information, direct object is the major avenue for introducing new referential arguments into discourse (Givón, 1979: 51-52). Whereas the subject was definite, the direct object was indefinite (Givón, 1979:51-52). Subject is usually presupposed, but direct object is often asserted (Givón, 1975).

Work which viewed 'subject' and 'direct object' as syntactic categories with their roots in discourse laid the foundation for a comparable reexamination of transitivity. Logically, if direct object is a discourse notion, then 'transitivity,' which has traditionally assumed 'direct object' as part of its definition, must be a discourse notion as well. The actual evidence presented in the discourse discussion of transitivity, however, goes considerably beyond the factors we have reviewed for direct object. This new evidence also bears on our second and third traditional assumptions about transitivity, and will be discussed in conjunction with them. In Section 1.2 we examine the claim that transitivity is a property of verbs. In Section 1.3 we review the possibility of a binary characterization of transitivity.

1.2 Transitivity as a property of verbs: counterevidence

Although transitivity is usually stated to be a property of verbs, even the examples given to illustrate this statement sometimes
do not appear to entirely support it. The following quotation is a case in point.

Thus we have the complete verb in *he sings, he plays, he begins*; and the same verb followed by a complement in *he sings a song, he plays the piano, he begins work*. In this case it is usual to call the verb intransitive in one case and transitive in the other, while the complement is termed its object.

(Jespersen, 1965:88)

To the naive observer, of course, it is not obvious that there is any difference in the verbs of the first set of sentences and those of the second. That is, the *sings of he sings* appears to be the same as the *sings of he sings a song*; the *plays of he plays* appears to be the same as that of *he plays the piano*, and so forth. The sentences, of course, are different, but the verbs appear to be the same. One wonders why transitivity is not a property of sentences rather than of verbs.

The tradition of regarding verbs, rather than sentences, as transitive, has its roots in structuralism, with its emphasis on segmentation and equivalence classes. After a sentence was broken down into its immediate constituents, the constituents of the sentence were seen as a "frame" and individual items were discussed in terms of the frames in which they could appear (Harris, 1951). Transformational generative grammar continued this approach in the form of strict subcategorization rules and the complex symbols which specified the frameworks for lexical insertion (Chomsky, 1965). Because such approaches tend toward the description of wholes in terms of their parts, description of parts is essential. The possibility of applying
a term like 'transitive' to a complex entity such as a sentence is not a goal, since a complete analysis will identify the critical constituent of the sentence which makes it so. Within such an approach a concept such as 'transitivity' provides a convenient way of describing a verb such as prefer in (1a) which must appear with a following NP from one such as flickered in (1b) which cannot. From this, it is a very short step to describe a verb such as sings in he sings as intransitive because it appears in the same kind of structural frame as flickered, whereas the same verb sings in he sings a song is transitive because it appears in the same kind of structural form as prefer. Once the goal is no longer the description of parts, however, so that alternative applications for terms receive consideration, it becomes obvious that transitivity is affected by a number of aspects of language in addition to the verb.

1.21 Verbless sentences with differences in transitivity

One argument which makes the presence of additional factors perfectly clear comes from certain Swahili sentences which do not have a verb. Although these sentences are verbless, there nevertheless seems to be differences in transitivity among them. Thus something other than the verb must be affecting transitivity. The sentences are of two kinds, those with a copular meaning (intransitive) and those which imply 'have' (transitive). An intransitive verbless sentence appears in (27b). In (27a) we see the same morphemes in a
full tensed copula construction, required for all tenses except the present.

(27) a. (mimi) ni- li- ku- w- a m-pishi
   (I₁)  I₁ past to be FV cook
   'I was a cook.'

b. ni mi-pishi
   I  cook
   'I am a cook.'

In (27a) mimi 'I' is a free-standing pronoun; ni- 'I' is a subject agreement marker attached to the verb -w- 'be'. This subject agreement marker can serve a pronominal function in the absence of an overt subject NP. The word m-pishi 'cook' is a NP indicating profession. In the verbless sentence of (27b), ni- 'I' and m-pishi 'cook' are the same forms as those which appear in (27a) with the full tensed verb. The predication thus consists of the subject agreement marker and the predicate NP. Historically a sentence like (27b) contained the copula -li, which took a subject agreement marker. Synchronically, the copula -li has disappeared and only the subject agreement marker remains, so that the sentence is now verbless.

A transitive verbless sentence appears in (28b). Again, in (28a) we see the same morphemes in a full tensed construction with a verb. Comparison of the two shows that in (28b) ni- 'I' is again a subject agreement marker or pronoun, -na is the preposition 'with,' and ki-su 'knife' is the nominal object. The important difference between (27b) and (28b) is in their ability to accept some form of

(28) a. (mimi) ni- li- ku- w- a na ki-su
   (I₁)  I₁ past to be indic with knife
   'I had a knife!'

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b. ni- na ki-su
    I with knife
'I have a knife.'

object marking: (27b) can't, but (28b) can, shown in (29a) and (29b).

Insofar as object agreement is considered an indicator of transitivity

(29) a. ni- na- ch-o
    I with it ref
'I have it.'

b. Hamisi a- na- (vy- o) vi-tabu vy-a-ngu
    Hamisi1 he1 with (them1 ref) booksj myj
'Hamisi has my books.'

therefore, (28b) is transitive and (27b) is not.

The object markers permitted in these verbless sentences, shown
in (29), are comparable to those which occur in Swahili sentences with
full tensed verbs, shown in (30), the sort of examples usually used
for illustrations of object agreement. The transitive sentence in
(30a) has no object marker and is comparable to (28a) or (28b). That

(30) a. u- me- let- a ch-akula
    you perf bring FV food           (Ashton, 1944:44-45)
'Have you brought the food?'

b. u- me- ki- let- a ch-akula
    you perf it1 bring FV food1
'Have you brought the food?'
    (which I asked you to bring)

c. ni- me- ki- let- a Bwana
    I perf it bring FV sir
'I have brought it, sir.'

in (30b) has an object agreement marker -ki-, agreeing with ch-akula
'food,' and is comparable to (29b). That in (30c) has a pronominal
object marker -ki- and is comparable to (29a). If transitivity is
exclusively a property of verbs, then verbless sentences should not
be able to show differences in transitivity. The fact that they can suggests at least that other factors influence transitivity as well.³

1.22 Hopper and Thompson (1980)

A second set of arguments against the view that transitivity is (exclusively) a property of verbs comes from observations that in many languages the morphosyntactic signals of transitivity depend on aspects of the sentence other than the choice of lexical verb. These observations have been organized and summarized in Hopper and Thompson (1980) where the data, in addition to arguing against a verbal definition of transitivity, form the basis for an alternative hypothesis. The Hopper and Thompson (1980) paper, hereafter H & T, is the transitivity hypothesis examined most fully in this paper. The material which follows, therefore, based almost exclusively on H & T, is both an argument against a verb-based definition of transitivity and a basis for further discussion. The evidence here cited is a sampling, rather than a summary, of the evidence given there.

Cross-linguistically, the morphosyntactic signals of transitivity depend on a wide variety of sentence parameters. Among these parameters are:

1. Number of participants: the presence of both an agent and an object as opposed to the presence of just one of these.

Evidence: This claim is roughly equivalent to the observation that verbs with (both a subject and) an object may be marked as

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transitive whereas those without both are often not. As such it is not disputed.

2. Kinesis: the degree of physical activity implied by a verb; action vs. nonaction. For example, I hugged Sally is more kinetic than I like Sally.

Evidence: In Estonian, a Finnish language spoken in Russia, the object of a verb of feeling (nonkinetic) appears in the partitive case rather than the genitive, which carries most of the functions of the accusative. In Samoan, a Malayo-Polynesian language, verbs of perception (nonkinetic) appear in the non-ergative clause type. 4

3. Aspect: whether the action described in the clause is viewed in its entirety or not. Perfective actions are associated with transitivity.

Evidence: In Samoan, Malayo-Polynesian, the ergative clause (transitive) signals perfective aspect and the antipassive clause (intransitive), imperfective. Hindi shows ergativity in a perfective or preterite environment and a non-ergative construction in an imperfective or non-preterite environment. In Finnish the accusative/partitive case distinction stands duty as a means of encoding the aspect of the clause. The accusative stands for perfective; the partitive, for imperfective.

4. Punctuality: lexical aspect. A punctual verb like kick is more likely to be marked as transitive than a nonpunctual one like carry, which does not inherently specify that the action comes to completion.
Evidence: In Samoan, Malayo-Polynesian, the contrast between more punctual and less punctual actions is encoded in the ergative/antipassive (associated with transitive/intransitive) contrast. In Spanish, for certain actions a punctual verb appears with the reflexive object se, thus appearing to be transitive; the non-punctual verb does not appear with se, thus appearing to be intransitive. Compare for example, dormirse 'to go to sleep' with dormir 'to sleep.'

5. Volitionality: deliberateness or spontaneity of agent. For example, write is a volitional verb but forget is not.

Evidence: In Yidi of North Queensland, a detransitivizing suffix -idi-n appears if the 'agent' is something inanimate, which could not exercise voluntary control over the action, or if the action is accidental rather than purposeful. In Eastern Pomo, a Hokan language of northern California, clauses with one argument mark that argument with the marking appropriate for agents or objects according to the degree of control it exercises over the activity.

6. Affirmation: whether a clause is affirmative or negative.

Evidence: In Finnish and Estonian, related languages, the partitive, rather than the accusative, is used for the object of a negated verb.

7. Mode: realis/irrealis. A cover term for the opposition between indicative and such nonassertive forms as subjunctive, optative, hypothetical, imaginary, conditional, and so forth.

Evidence: In Yukulta, irrealis non-past clauses elicit the antipassive rather than the ergative construction.
8. Agency: whether an agent is high in potency vs. low in potency.

Evidence: The Indonesian suffix -kan is a transitivity marker. In verb pairs such as sewa 'to rent from,' sewakan 'to rent out to' and pinjan 'to borrow,' pinjamkan 'to lend,' the -kan form is the one which takes an active, initiating agent rather than a passive, receiving one. In many languages, among them Spanish, an experiencer NP as I in I like beer appears in an oblique case rather than appearing with agent coding as it does in English.

9. Individuation of the object: this term was first introduced in Timberlake (1975) where it was defined as "the degree to which the participant is characterized as a distinct entity or individual in the narrated event" (Timberlake, 1975:124). Timberlake lists nine properties of a NP which affect its individuation. H & T have shortened this list to six, omitting the three features in parentheses. The referents of nouns with the properties on the left are more highly individuated than are nouns with their counterparts on the right.

| proper     | - | common           |
| concrete   | - | abstract         |
| count      | - | mass             |
| animate    | - | inanimate        |
| singular   | - | plural           |
| referential| - | nonreferential   |
| definite   | - | emphatic negation|
| neutral    | - | neutral          |
| topicalized| - | neutral          |
Evidence: In Russian, the full set of NP properties above describes the cumulative environments which synchronically determine increasing likelihood that the accusative rather than the genitive will mark the object of a negated verb. The variable use in the synchronic grammar results from a historic trend away from the genitive toward use of the accusative. In Turkish, Hebrew, Amharic, and Persian, special object marking appears on definite objects. In Spanish the marked objects (those taking á) must be referential and either human or human-like.

10. Affectedness of object: how completely the patient is affected. For example, the object is more totally affected in I drank up the milk than in I drank some of the milk. Similarly, in we sprayed paint on the wall vs. we sprayed the wall with paint, the second but not the first implies that the object, here wall, is completely affected while the first suggests that only part of the object is affected.

Evidence: In Hungarian, with a totally affected object the verb is in the objective conjugation. With a partially affected object the verb is in the subjective (intransitive) conjugation. In Trukese, Micronesian, the intransitive stem of the verb signals a partitive object and the transitive stem is used to indicate the total object.

The sum of the morphosyntactic evidence we have just cited argues against an exclusively verb-based view of transitivity.
Some of the linguistic parameters we have mentioned as affecting morphosyntactic marking are admittedly arguably verb-related: number of participants, kinesis, punctuality, and agency; and other of the variables may interact with the verb-related parameters. For example, there is an interrelatedness between punctuality and aspect, between agency and volitionality. Certain of these parameters, however, such as affirmation, mode, and particularly individuation of the object, are independent of the verb. These last variables preclude a verb-based definition of transitivity if such a notion is to be held responsible to the morphosyntactic evidence.

1.3 Transitivity as binary

A binary property is one which can assume either of two possible values, for example, either 0 or 1, either + or -. The assumption that transitivity is binary is often made without being directly acknowledged. For example, a grammar or analysis which simply indicates verbs as [+transitive] or [-transitive] makes such an assumption. The same is true of a description which groups verbs exhaustively into transitive vs. intransitive categories without allowing for other cases which fit somewhere along the continuum. An alternative version of this of course is the categorization of verbs according to whether they do or do not take a direct object.

Because such definitions do not directly verbalize the binary assumption, it is easy to lose sight of the fact that a property must meet certain requirements before it can correctly be assumed to be
binary. Once these requirements are clearly explicated, it becomes clear that transitivity is not inherently possessed of them.

1.31 Problems with a binary determination

Let us approach the problem of whether transitivity is binary by first considering a matter which can correctly be described in binary terms. We will then contrast our binary example with the parameters of transitivity to see whether a similar description is appropriate here. Our binary example concerns eligibility for the draft. Eligibility for the draft may appropriately be described as binary. That is, at any given time a decision may be made about every person as to whether that person is eligible. There are no people for whom such a decision is inappropriate, nor in the final analysis are there intermediate cases. Whatever the problems of decision, ultimately either you are or you aren't.

Eligibility for the draft depends on a number of factors. Of them, we will consider sex, citizenship, age, and marital status. We will assume that a person must be male, a U.S. citizen, 18-35 years old, and unmarried in order to be eligible. We select these factors because we wish first to indicate some of the aspects of transitivity which might initially be thought to preclude a binary evaluation but which, in fact, do not. Thus we note that, based on the factors we have listed (1) eligibility for the draft here depends on several factors, not just one; (2) not all of these factors are inherently binary. Specifically, age is a continuum; and finally,
(3) some of the factors are correlated if not interdependent. For example, the likelihood of being single decreases with increasing age. None of these facts about the data, however, precludes a binary decision-making process. Thus, the same facts about the transitivity data cannot be used as counter-binary arguments.

To elaborate, all of the binary approaches to transitivity have been associated with the assumption that a + or - judgment depends exclusively on the presence or absence of a direct object (or of a following unmarked predicate NP). That is, they have all made determination of transitivity dependent on a single undifferentiated factor. This does not have to be the case, however. That is, the fact that 'direct object' may be differentiated rather than absolute, the fact that a number of sentence parameters may participate in a judgment of transitivity, that some of these parameters may not be inherently binary, or that they may interact, does not in and of itself preclude a binary evaluation of this property. Although arguments for a binary transitivity which refer to these more complex dependencies have never been made, the multifaceted, non-binary, and interdependent nature of the data does not preclude them.

The aspect of transitivity which precludes a binary evaluation is not the nature of the data but rather the nature of the decision-making process. To see this more clearly let us return for a moment to our example on eligibility for the draft. In determining draft eligibility, the decision procedure occurs in a series of discrete steps. At each step it is possible to make a positive or negative
evaluation, and this binary determination decides the subsequent course of the decision-making process. For example, if a person is [+male], then the decision-making process can proceed to the determination of citizenship. If the person is [-male], however, the decision-making process stops. Eligibility has already been determined; it is negative. Similarly, if a person is [+U.S. citizen], then the decision-making process can proceed to the determination of age. Otherwise it stops. And so forth. The steps in the decision-making process, as opposed to the actual data, are discrete, not interactive. For this reason, a person is no more ineligible if both foreign and female than if simply foreign. Ineligibility is an absolute category, and any factor is potentially capable of indicating it. To generalize, although the input factors for a binary evaluation may be dynamic and interactive, the steps which make up the decision process may not be. The decision structure must be discrete and sequential.

Let us now consider transitivity. The problem with a binary determination of transitivity is that the structure of the decision is not a series of discrete steps. There is no factor or combination of factors which determines all [+transitivity] classifications, with everything else labelled [-transitive]. Instead, each factor is influential, but none are critical determinants. When the factors reinforce each other, a clear transitivity decision emerges; when they do not, one doesn't. Of the English sentences in (31) for example, judgment for (31a) is clear, [+transitive], since each
(31) a. Abraham killed his son Isaac.

b. Isaac should not live.

c. Abraham needs his son Isaac.

transitivity component points toward this conclusion. Likewise the judgment for (31b) is clear, [-transitive], since each transitivity component points to this opposite conclusion. For (31c) however, intuitively neither binary classification seems really appropriate, and our intuitive judgment is confirmed by the oddness of the corresponding passive ('His son Isaac is needed by Abraham.') and by examination of the transitivity components in the active sentence.

Although some sentence parameters boost transitivity (number of participants, affirmation, mode, individuation of object), others reduce it (kinesis, aspect, punctuality, volitionality, agency, affectedness of object). This conflict produces a sentence which is neither clearly transitive nor clearly intransitive. The sentence is simply not appropriate for a binary classification.

This problem undermines the very basis for absolute categorization. It is much more devastating than a mere list of exceptions would be. Exceptions could be isolated and excluded. This problem, however, is pervasive in every transitivity judgment; almost any example can be made problematic simply by altering a few sentence parameters.
1.32 **Alternative proposals**

Although sentences like (3lc) make it fairly clear that transitivity is not binary, there is no general agreement on an alternative proposal for its characterization.

1.321 **A 'squishy' concept**

The most conservative proposal on the basis of the data we have seen is that transitivity is 'squishy.' This amounts to saying that a number of factors affect it. When these factors are all present, relevant, and act in unison, the sentences at opposite poles can be sharply contrasted with each other. When any of these contingencies does not hold, a variety of intermediate cases appears.

A claim of 'squishiness' is generally simply a foil to absolute categorization. It shows that not everything which is labelled the same, acts the same, and that a number of factors effect divergencies in behavior. All of the factors are not necessarily equal in importance to each other, however. Obviously, although a claim of squishiness says that not everything is the same, it does not allow for comprehensive comparison of the things that may be different. Specifically, although a squishy concept of transitivity allows some sentences to be characterized as more transitive than others, many sentences cannot be directly compared. For example of the sentences in (32) and (33), (32a) and (32b) can be directly compared:

(32) a. There's soup in the kitchen.
   
   b. There isn't any soup.
(33) a. Let peace reign.
   b. Peace reigns.

(32a) is more transitive because it is affirmative rather than negative; on all of the other transitivity parameters the two sentences are equivalent. Similarly (33a) and (33b) can be directly compared: (33b) is more transitive because of mode; on all of the other transitivity components, the two sentences are equivalent. It is not possible however, to compare (32b) with (33a). This is because there is no way to evaluate negation vis-à-vis mode.

1.322 The Hopper and Thompson (1980) characterization and relationship to discourse

Although a squishy concept of transitivity is the one which is most directly indicated by the evidence we have reviewed thus far, other characterizations appear. H & T, for example, use procedures in the comparison of transitivity data which make much stronger assumptions about the transitivity components than those discussed above. Specifically, they generally make comparisons of the sort which we described as disallowed, comparisons such as that between (32b) and (33a). For example, they obtain transitivity measures for clauses by counting up the number of binary factors, out of ten, which are present. These counts are then used to make relative comparisons of transitivity between sentences (Hopper and Thompson, 1980:253). At another point transitivity counts are averaged for sentences in one group; this average is compared to the transitivity average for another group of sentences (Hopper and Thompson, 1980:284).
Comparisons of this sort require that all of the transitivity components be equal interval measures. Or stated less technically, they require that the parameters be equivalent to each other and interchangeable in reaching transitivity decisions. Intuitively, this does not seem to be the case, and their assumption that transitivity has an equal interval scale is probably too strong. Fortunately, non-equivalent procedures are also used to argue their points, so that the equal interval assumption is not critical to the import of the study.

For linguists who work outside theories of autonomous syntax, a squishy category is interesting primarily insofar as some cohesive explanation can be advanced for the various linguistic parameters that influence it. The explanation which H & T propose relates to discourse. High transitivity is associated with foreground material, defined as "the material which supplies the main points of the discourse" and low transitivity is associated with background material, "that part of a discourse which does not immediately and crucially contribute to the speaker's goal, but which merely assists, amplifies, or comments on it" (Hopper and Thompson, 1980:280). Once again, therefore, we find transitivity and discourse linked.

Two counts are presented to support the claim of association: (1) a comparison of the average transitivity rating of clauses in foreground material vs. those in background material (requiring an equi-interval assumption), and (2) percent comparisons for each transitivity feature in foreground vs. background material (not
requiring such an assumption). All of their counts support an association between high transitivity and foreground, and conversely between low transitivity and background. H & T posit an association among their ten high transitivity features as a linguistic universal; they suggest the foreground/background distinction as the functional explanation for this universal.

1.4 **Review of the arguments linking transitivity and discourse**

To summarize, in this chapter we have presented a review of the recent literature on transitivity. We have presented arguments against the view that transitivity is a binary property of verbs, associated with the presence or absence of a direct object, undifferentiated as a syntactic category. Our orientation has been toward a more complex and componential view of transitivity. Arguments have been presented for an association between this kind of transitivity and discourse function. At this point it seems useful to review the nature of the arguments that link transitivity and discourse.

1.41 **The nonsyntactic hierarchies influencing syntactic procedure**

Under the assumption that transitivity is associated with the direct object relation, we saw three hierarchies which seem to make some NPs more object-like than others. Here the evidence for object- hood was both morphosyntactic marking and differentially ordered syntactic accessibility. The influential hierarchies were based on
(a) semantic role, where

Benefactive > Recipient > Patient > Instrumental > Locative

(b) person/animacy, where

1st > 2nd > 3rd person human > 3rd person animate > inanimate, and

(c) specificity, where

definite > indefinite

The link between specificity and discourse is direct and obvious. The use of a definite vs. indefinite noun depends on the speaker's assumptions about his listener's ability to identify a referent at a particular point in a particular discourse. The argument linking specificity to transitivity thus goes from general linguistic knowledge about the basis for use of definite vs. indefinite forms to observations that the definite/indefinite distinction accounts for differences in morphosyntactic marking and syntactic accessibility. This marking and syntactic accessibility is posited to be a distinguishing characteristic of direct object which is in turn associated with transitivity. The nature of the argument then is an inferential one which starts from general linguistic knowledge about the definite/indefinite distinction.

The link between person/animacy and discourse is choice and duration of discourse topic. The ordering on the person/animacy hierarchy, at least at the upper levels, corresponds to the discourse frequency of the categories of 1st and 2nd person vs. others, of human vs. non-human, and so forth. The fact that this same ordering
describes differences in syntactic accessibility has led to proposals of a discourse-induced syntax. Since this same syntactic accessibility is posited to be a distinguishing feature of direct object, and direct object is part of the definition of transitivity, discourse is linked to transitivity. The nature of the argument then starts with perception of a common factor (the person/animacy hierarchy) in two different areas of language (discourse topic and syntactic accessibility). It then moves to posit a direction of influence (from discourse to syntax). A line of independent inferential reasoning then links syntactic accessibility to direct object and transitivity.

The link between semantic role and discourse is an assumed process of syntacticization. Certain of the person/animacy and definiteness categories just discussed have been observed to generally have high frequencies of cooccurrence with specific semantic categories. On the basis of this broad-based cooccurrence information, specific historical occurrences are assumed: semantic role becomes syntacticized as a hierarchy governing syntactic accessibility. Syntactic accessibility is then linked to direct object and transitivity as before. The nature of the argument thus starts with a widely observed discourse cooccurrence (certain semantic categories with person, animacy, and definiteness) which is posited to lead to a specific historical process in certain cases (syntacticization). The resulting hierarchy of syntactic accessibility leads into the same line of inferential reasoning as do the previous two hierarchies.
Note that the three arguments just summarized are all highly inferential. Each is characterized by a chain of four inferences: (1) the inference which abstracts the relevant descriptive parameter from the data, that is, the inference allowing note that definiteness, person/animacy, and semantic role are relevant to observed differences in the syntactic behavior of sentences, (2) the inference which links the abstracted linguistic parameters to discourse, (3) that which links discourse to syntax, and (4) that which associates syntactic accessibility and categories like direct object.

Of these inferences the first, abstraction of generalities from the data, is very widely accepted. It is, in fact, the basis upon which linguistics as a discipline of study rests. It is the assumption that linguistic data are regular, not random, and that it is possible to discover and describe the regularities which occur. The remaining inferences, however, are not nearly so generally accepted. They are, in fact, highly disputed or disputable assumptions. For this reason the indirect nature of these arguments which link direct object to discourse is a weakness. Almost every step in the chain of inference is open to debate.

1.42 The Hopper and Thompson (1980 argument)

Let us now turn to the final argument linking transitivity and discourse, that of H & T. Here the approach is direct, contrasting with the arguments just described. Transitivity is examined without reference to a theoretical construct such as the direct object
relation. This is done through the morphology of transitivity. Similarly, discourse is studied directly through reference to texts. Inference from sentences elicited without discourse context is not required. The structure of this argument therefore avoids some of the inferential difficulties of the previous arguments. The structure of the argument, in fact, takes a different form altogether.

The first step in the H & T argument is the abstraction of certain linguistic parameters from cross-linguistic consistencies in the use of transitivity morphology. This is an inference of the sort necessary to all linguistic analysis that we described earlier. Next H & T examine these linguistic parameters for their association with the discourse constructs of foreground vs. background. This is a search for correlation, and in fact a correlation is found. H & T note that the same linguistic parameters which can be isolated on the basis of transitivity morphology also occur consistently with a disproportionate difference in background vs. foreground material in discourse. In the final step H & T conclude that the foreground/background distinction is the basis for the universal coherence and prominence of the transitivity features they have isolated. That is, they attempt a functional explanation for a posited linguistic universal: the transitivity features cohere universally because they universally signal foreground vs. background in discourse. This proposal is actually a hypothesis rather than a conclusion. Logically, it is the end point of an inference from correlation to causation, an argument structure which always requires further evidence.
1.5 **Conclusion**

In this study we will continue to examine transitivity as a multi-faceted concept incorporating a variety of linguistic parameters. We will also look for relationships between this concept and discourse function. Our study will use an approach of the more direct sort outlined above. That is, rather than starting with the theory of transitivity we start with its morphology. Rather than inferring use in discourse, we study actual texts. Although our approach is similar to that of H & T in directness, it is complementary in its scope. Their attempt was to identify and explain a linguistic universal. The approach was thus cross-linguistic; the functional explanation was broad in its outlines. Our study concentrates on a single transitivity marker in a single language family: the applied affix in Niger-Kordofanian, particularly in Bantu and in a single Bantu language, Cinyanja. This marker appears in several branches of Niger-Kordofanian and throughout the Bantu family. In Cinyanja it has uses related to most of the parameters of transitivity listed by H & T. The present work thus adds a historical perspective to the inferential and correlational evidence advanced thus far. In concentrating on a single morpheme, it allows a more acute examination of the basis for the link between transitivity morphology and the linguistic parameters noted by H & T.
NOTES

1. Kimenyi (1976) has recently been published as Kimenyi (1980). The Kimenyi page numbers given in this study are for the 1976 reference.

2. For analyses of such sentences done within two different approaches to language, see Hinnebusch and Kirsner (1980) vs. Scotton (1981). Hinnebusch and Kirsner (1980) adopt a form/content framework. Scotton argues that such nouns belong to an 'extensive case.'

3. Although the verbless sentences in (29) can accept object marking whereas those in (28) cannot, arguing that differences in transitivity are present and must be attributed to something beyond the verb, we nevertheless note that the verbless object marking in (29) differs from the more usual object marking in (30) in two ways. First, with respect to position, the object markers in (29) follow the preposition na 'with' whereas the more usual object markers precede na. Second, with respect to form, the final -o of the object markers in (29) is not found with usual object markers such as those in (30).

4. Hopper and Thompson frequently support their transitivity hypothesis with evidence from ergative languages. Here and elsewhere, ergative sentences are considered to show more transitivity than antipassive constructions or the non-ergative clause type.
CHAPTER II

THE APPLIED AFFIX—AN OVERVIEW

2.0 Introduction

The basic notion of an applicative or applied marker is that it is an affix attached to the verb which allows some non-subject argument to be added to the verb. An applied marker occurs with NPs in more than one semantic relation. This is at least partly a question of terminology since a verbal affix which marks only one semantic relation is normally referenced via that relation. For example, a verbal affix which marks recipient NPs is called a dative marker; one which marks patient NPs is an accusative marker; benefactive NPs, a benefactive marker, and so forth. It is only when a verbal affix occurs with two or more distinct semantic relations that it is traditionally referred to as "applied."

In this study we use the term 'applied affix' in this traditional sense. We also use the term 'applied object' to refer to the object NP marked by the applied affix. And finally, in our historical and comparative work, a verb affix is sometimes described as 'applied' in a particular language (family) because it is cognate with applied affixes in other languages. In some cases, the affix's purely language-internal functioning would not lead to this label.

Footnotes for Chapter II begin on p. 121.
Because an applied affix allows the addition of more than one semantic relation, it does not have specific semantic content. Instead, it indicates that the (nonsubject) arguments of the verb have been increased. Or stated differently, an applied marker allows its verb to take an additional object. This increase may be from zero to one, in which case the intransitive verb becomes transitive. It may be from one to two, as when a recipient or benefactive NP is added to an already transitive verb with a patient object. Additional possibilities, adding more objects, also occur.

2.01 Use of the applied affix in Bantu for object-marking

In Bantu, the end-point of our discussion, the use of the applied affix most widely cited in the descriptive grammars is the marking of benefactive object NPs. That is, the applied affix allows the addition of a benefactive object NP to a transitive or intransitive verb which could not otherwise appear with one; in many Bantu languages, an applied affix is the only way to mark such benefactive object NPs. The applied affix appears in this function in (1) and (2) below in Chichewa, a dialect of Cinyanja, a Bantu language spoken in Malawi and eastern Zambia. (Cinyanja is the language of our text examination of the applied marker in Chapter IV.) In (1b) the applied affix -ir- allows the addition of the benefactive NP āndá 'children' to the otherwise objectless verb -bvin- 'dance' shown in (1a). In (2b) the applied affix -ir- allows the addition of the benefactive
    John₁ be₁ past dance FV
    'John danced.'

        John₁ be₁ past dance applied FV children
        'John danced for the children.'

NP áná 'children' as a second object. The verb -phik- 'cook' already appears with one object nkhúku 'chicken' in (2a). Note that in (2b) the applied object áná 'children' is the object immediately following.

(2) a. Catherine a- ná- phik- a n-khúku.
    Catherine₁ she₁ past cook FV chicken
    'Catherine cooked a chicken.'

        b. Catherine a- ná- phik- ir- a á-ná
        Catherine₁ she₁ past cook applied FV children
        n-khúku.
        chicken.
        'Catherine cooked the children a chicken.'

the verb; it precedes nkhúku 'chicken.' This word order priority is characteristic of benefactive applied objects throughout Bantu and sometimes corresponds to 'precedence' in other syntactic areas as well. For example, the applied object may take precedence over the original object in preference for verb agreement and accessibility to passive, not shown here. Such priorities led Doke (1938) in his pioneering work on Bantu syntax, to make a distinction between 'primary' and 'subsidiary' objects. Other writers have referred to them as 'proximate' and 'distal.' Whatever the terminology, the distinction is between two unmarked predicate NPs, one of which has more syntactic prominence than the other.
The applied affix in Bantu also appears in some languages with locative and/or instrumental NPs, although its appearance with these semantic relations is not as uniform as its appearance with benefactive. The lack of uniformity takes several different forms. First, although it is rare to find a Bantu language in which the applied affix does not appear with benefactive NPs, it is somewhat more common to find languages within which no locative or instrumental uses are cited. This lack of citation occurs for either of two reasons: (1) either the applied marker does not appear with these semantic relations, or (2) the applied marker appears with them less prominently.

This question of prominence highlights the second area of difference between benefactive and other semantic relations. Benefactive NPs, across Bantu, are usually marked exclusively with the applied affix. That is, there is no other way of marking benefactives. Consequently, it is not a matter of choice as to whether the applied affix will appear. Instrumental and locative NPs, on the other hand, have other more specific semantic markers: instrumental NPs may be marked with an instrumental preposition; locative NPs usually appear with one of the locative noun class markers. The presence of these additional semantic markers always essentially gives the language a choice as to whether, in general, in any context, or on any specific occasion, it will use (a) the applied affix plus the more explicit semantic marker, (b) exclusively the applied affix, or (c) exclusively the more explicit semantic marker.
This element of choice brings us to our third major area of difference. The rule for the appearance of the applied affix with benefactive NPs is very simple and constant across Bantu language. The rules for the appearance of the applied affix with instrumental and locative NPs are much more complex and variable. In Bantu a benefactive NP basically always requires an applied affix on the verb. The rules for the appearance of the applied marker with locative and instrumental NPs are more complicated.

For locative NPs the conditions for appearance of the applied affix may require reference to whether the verb is a verb of motion, whether a boundary is crossed, whether the motion is to vs. from, and so forth. In most Bantu languages the conditions are sufficiently complex that they never have been fully described. It is nevertheless apparent, however, that the rules for the appearance of the applied affix with locative NPs are not the same from one language to the next. Furthermore, they do not necessarily bear a close correspondence to one another. That is, it is not a case in which some languages simply have more, or more restrictive, conditions than others. In such a case, the range of examples in one language would simply be a subset of those in another. Here instead the conditions sometimes appear to be in direct opposition to one another and at other times seem to have no relationship at all. Because language–internal conditions have not been fully determined, and because clear subset relations do not hold, it is not possible, at least at present, to state the cross-linguistic relationships in the use of the applied affix with
locatives. It is clear, however, that the relationships are not simple or direct. (For an account which highlights some of the more confusing facts, see Dammann (1961); for one which attempts to see greater uniformity, see Kühler-Meyer (1966).)

For instrumental NPs, all Bantu languages have an instrumental preposition which may appear with or instead of verbal marking. When verbal marking appears, the applied affix is only one of two possible choices; some languages use a causative verbal affix instead. Assuming, however, that an applied affix can, in fact, appear with instrumental NPs in the language in question (assuming, that is, that a causative marker is not used in this language instead), the conditions for its appearance are usually complex. The rule may need to refer to what other object NPs are present in the sentence and whether the instrumental NP is fronted. Once the rule for a given language is determined, however, its relationship to the rules in other languages is usually rather clear. Some sort of subset relationship generally obtains.

To summarize, the rules for the appearance of the applied affix with benefactive are simple and more or less identical across Bantu; those for instrumental are more complex and are not identical, though the rules can be related, from one language to another. Both benefactive and instrumental NPs contrast with locatives in that for many languages the complex rules for the appearance of the applied affix with locative have never been worked out. In addition, cross-language
comparisons of the rules suggest that no simple or direct relationship obtains among them.

2.02 Comparable markers in North American Indian languages

The topic of this chapter is a description of the applied affix in the Niger-Kordofanian languages of Africa, leading to a more detailed discussion of its functions in Bantu in Chapter III.¹ Niger-Kordofanian is not the only language family, nor is Africa the only linguistic area where such affixes occur, however. They also appear, for instance, in North America among some American Indian languages. The applied affixes in American Indian languages are interesting for both their differences and also for certain striking similarities to the applied affix of Niger-Kordofanian Africa.

Within Niger-Kordofanian, it is in general appropriate to speak of 'an applied affix,' since the morpheme which marks benefactive NPs (and which may perform additional functions as well) is cognate from one language to the next. This is not true in American Indian languages. In North America such affixes appear with quite different shapes in languages which are not known to be related. In seems, therefore, that there are a number of different applied affixes rather than a single affix with widespread appearance. Two unrelated American Indian languages in which applied affixes occur are Southern Paiute (Sapir, 1930:143-45), a Shoshonean language, and Tolkaapaya (Hardy, 1979:23-25), a dialect of Yavapai. In Southern Paiute the applied marker is -ŋi-; it acts as a transitivizer, marks dative or
indirective relations (often benefactive), and also appears in lexicalizations. In its transitiveizing function the marker generally occurs with an instrumental prefix in the verb. The primary use of this marker in Shoshonean languages, is for dative or indirective, and Sapir (1930:144) considers its transitiveizing function to be a development from the dative/indirective/benefactive use.

In Tolkapaya the applicative suffix -(w)o marks causatives and benefactive. A causative can also be marked by several affixes which may cooccur with the applicative morpheme, but are sufficient in themselves to derive a causative verb. When -(w)o adds a second (benefactive) object to an already transitive verb, the grammatical roles shift from those in the one-object sentence. "The benefactive object (recipient) becomes the direct object; the patient becomes an oblique object" (Hardy, 1979:24).

The 'applied' markers, African and North American, have certain striking similarities. The most interesting is the consistent prominence assigned to the benefactive/indirective relation. This prominence appears in several ways. First, the benefactive relation is the only one which is common to all three affixes (Niger-Kordofanian cum Bantu, Southern Paiute, and Tolkapaya). It is the one semantic role which is present throughout. Second, only the benefactive role is exclusively marked by the applied affix. The other semantic roles all sometimes have additional markers specifying their semantic relationships. Third, in each case the more specific semantic marking for the other semantic relations is sometimes used to mark the
NP without or instead of the applied affix, and not always in addition to it. Thus, within each language only the benefactive relation appears consistently with the applied affix. Fourth, in at least two of three cases (Sapir's data are not presented in a form in which it is possible to tell) the benefactive NP introduced by the applied affix has some syntactic precedence, at least in terms of word order, over the patient object. This characteristic is not cited for any of the other semantic relations. And finally, historically, in at least two of the three cases (the point is not discussed for Tolkapaya), benefactive marking appears to have been the original use. The evidence on this point has not yet been presented for Niger-Kordofanian cum Bantu, and opposing points of view have been taken by other authors. The facts are quite clear, however, as will be seen in the unfolding of this chapter.

The existence of such markers in other language families also bears on another point. Study of the applied affix in Niger-Kordofanian and Bantu takes on multifaceted interest. Even if the affix appeared nowhere else, its functioning would obviously be of interest to the Africanist, to linguists working comparatively within Niger-Kordofanian, and to linguists and language students studying specific languages within the language family. The fact that comparable affixes also appear in other language families adds additional and different dimensions of interest. Descriptively, it raises the question of typology and of bases for similarities and differences among 'applied morphemes. Theoretically, it increases the requirement
to accommodate the descriptive facts consistently surrounding such morphemes. In this study we consider the implications of one of these affixes, that which appears in Niger-Kordofanian (most prolifi-
cally in Bantu) for the H & T theory of transitivity.

2.03 Additional uses of the applied affix in Bantu

So far we have discussed only the uses of the applied marker which clearly relate to the general definition of an 'applied': a verbal affix which can add nonsubject arguments to the verb. The 'applied' morpheme can also appear in Bantu with a number of addi-
tional functions. (These are treated in depth in Chapter III.)

For example:

- In some languages the applied affix appears in deverbative nouns which express place, manner, or time.

- In other or the same languages it may appear on the subordi-
nate verb in certain kinds of clauses: 'why' clauses and questions, 'how' clauses, or temporal clauses.

- With reflexives, the applied affix frequently assumes a special meaning, indicating that an action was done by oneself, or without influence from another source.

- In some languages the applied affix is said to appear for (contrastive) emphasis.

- The applied affix sometimes appears in conjunction with cer-
tain words which may have a broadly adverbial classification: 'on purpose, intentionally,' 'first,' 'therefore,' 'together,' 'in vain.'
- The double or single applied is sometimes cited as indicating repetition, intensity, excessiveness, finality, or completeness.

This dizzying array of uses for the applied (only some of those encountered repeatedly have been listed) is presented in most grammars without comment. The morpheme which is labelled 'applied' in certain contexts (for obvious reasons) also appears in other contexts (which do not obviously relate to the reason for its original labelling). In these additional contexts the label 'applied' basically indicates recurrence of the same morpheme. It is a descriptive convenience and does not indicate any theoretical perspective which unites the uses.

2.04 Organization among remaining chapters

In this chapter and the next we will trace the development of the applied affix from its earliest use exclusively as a semantic marker for benefactive NPs in Kordofanian to its present status as a marker which appears in a variety of contexts in some Bantu languages. Briefly, our historical overview suggests that the applied affix, from its original use as a semantic marker for benefactive NPs, has spread, through semantic generalization, to goal locatives and to the indication of purpose. Recipient NPs may also have been included here. Throughout Niger-Kordofanian up until Bantu, the spread of its function does not go much beyond this. Within Bantu, however, to be discussed in Chapter III, its use expands dramatically. Some of its expansion can be explained by further semantic generalization; thus the affix spreads from marking locative object NPs to first
marking adverbs of time and later adverbs of manner. Other areas
of expansion can be accounted for by spread of semantic functions
from primary to secondary syntactic environments. For example, use
of the affix on the main verb to mark locative objects, a primary
syntactic environment, is the basis for subsequent appearance of the
affix in deverbative Ns of place, a secondary environment. Simi-
larly, use of the affix to mark adverbial objects is the basis for
its later appearance on the subordinate verb of 'how' clauses. Such
widely recognized bases for spread of function do not appear to be
adequate for all of the additional contexts, however, and in some
cases it appears that reference to other possibilities is required.
Such possibilities are discussed in connection with our text examina-
tion of the applied affix in Cinyanja in Chapter IV.

The purpose of our historical trace in this chapter and the
next is twofold. First, it gives order to a problem, the many uses
of the applied affix in Bantu, which is overwhelming when approached
directly in one of the central Bantu languages where its appearance
is most prolific. Second, the historical trace in Chapters II and
III provides a broad comparative framework for Chapter IV with its
narrow and intensive text study.

2.1 Proposed origins of the applied affix

In this study we maintain that the earliest determinable form
of the Niger-Kordofanian applied marker is that of a verbal affix;
its earliest determinable meaning is benefactive. In adopting this
view we take a position in a controversy which, while not necessarily
critical to our central theme, requires some comment simply because
of its existence. Our view that the 'original' form of the applied
marker was that of a verbal affix and that its 'original' meaning was
benefactive is not the one which appears most widely in the litera-
ture. Although we stand in basic agreement with Voeltz (1977:59–60)
whose reconstructions represent the currently accepted view, this
opinion is in opposition to the historically greater number of authors
who have proposed either an original locative use (Kühler-Meyer, 1966:
132; Endemann, 1876:64; van Eeden, 1956:666–67) or an original verbal
origin for the suffix (Givón, 1971a:394–95, 1971b:149, 1975:64;
Endemann, 1876:61; Dammann, 1961:167).

2.11 Givón's argument for the verbal origin of the applied affix

The most sophisticated argument for the verbal origin of the
applied affix appears in Givón (1971b), where the argument is made
for the entire system of Bantu verbal extensions, of which the applied
affix is one. Briefly, the Bantu verbal extensions are morphemes,
usually with the phonological shape -VC, which follow the Bantu verb
stem and which add semantic or syntactic information to the sentence.
In his four-volume work Comparative Bantu (1967–71), Guthrie recon-
structs for Proto-Bantu the system of verbal extensions shown in (3)

(3) a. AN reciprocal
    b. EC causative
c. ED directive [our 'applied']

d. EK neuter

e. (O) passive

f. OD/OK reversive-active/reversive-neuter

Meessen (1967:92) provides the uses shown in (4) for his own comparable reconstructions.

(4) a. -an- reciprocal: -bón-an- 'see each other' [from -bón- 'see']

b. -i- (and -ic- ?) causative: -dim-i- 'make (someone) cultivate' [from -dim- 'cultivate']

c. -id- applicative: -dim-id- 'cultivate for' [from -dim- 'cultivate']

d. -ik- neuter: -bón-ik- (-bónek-) 'be in sight' [from -bón- 'see']

e. -ú- passive: dim-ú 'be cultivated' [from -dim- 'cultivate']

f. -ud-/-uk- tr. reversive/intr. reversive

    -gid-ud- 'break avoidance' (-gid- 'abstain')
    dib-uk- 'become unstopped' (-dib- 'stop')

Givón's argument for the verbal origin of these suffixes runs as follows: (For a more extensive discussion of all parts of Givón's argumentation, see Voeltz, 1977:14-22.)

(1) With the exception of the perfective suffix -ile, tense/aspect morphemes in Bantu are prefixes on the verb. In many Bantu languages these tense markers are demonstrably cognate with independent verbs in the same or other Bantu languages. The morphologization of independent verbs as tense/aspect morphemes is a relatively
recent process in Bantu which continues to the present day. The morphologization of independent lexical items as dependent morphemes of one sort or another is a process documented very widely.

(2) The semantic relation of the Bantu verbal extensions to their verbs, particularly causative, passive, and stative [the 'neuter' of (3) and (4)], is that of a higher verb to a complement verb.

(3) The canonic \textit{VC} shape of the Bantu verbal extensions can be related to the canonic \textit{CVC-} shape of Bantu verb radicals by a simplification process which (a) disallows consonant sequences and (b) preserves the shape of the verb stem. (The same process explains the canonic \textit{CV-} shape of tense/aspect prefixes, known to be historically related to independent verbs.)

(4) In languages closely related to Bantu the semantic and syntactic functions performed by verbal extensions in Bantu are here performed by serial verbs.

(5) By a series of arguments Bantu, which is currently SVO, used to be SOV. Consequently, the V-Complement order which today gives rise to the morphologization of independent verbs as tense markers \textit{preceding} the verb, would at that time have been Complement-V, corresponding to the order expected in an SOV language. This Complement-V order would have given rise to the morphologization of independent verbs as affixes \textit{following} the verb, the present position of the Bantu verbal extensions.

Givón's rather attractive set of arguments for the verbal origin of the Bantu verbal extensions, including the applied affix,
does not posit specific verbs or semantic origins for the affixes. The hypotheses of verbal and locative origin can, in fact, be separated since the one is a hypothesis about original form and the other about original meaning. Of those who propose both a verbal and locative origin, Endemann (1876:61,64) suggests that the applied affix is related to the Bantu verb 'flow, stream,' which Guthrie (Vol. 2, 1971:22) reconstructs as -gεd-. Those who favor a locative origin (Kühler-Meyer, 1966:132; van Eeden, 1956:666–67) propose that the benefactive or recipient function of the applied affix can be seen as the semantic spread of a locative marker which indicates direction or goal.

2.12 Voeltz's alternative reconstruction

These arguments for the verbal and/or locative origin of the applied affix were all made either before an accurate genetic placement of Bantu within the larger context of African languages was available, or without systematic regard for this information. Briefly, in 1963 Greenberg published The Languages of Africa which Welmers (1973:1) refers to as "the most important, most comprehensive, and most widely accepted genetic classification of the languages of Africa." In Languages, using a mass comparison of language vocabularies, which includes bound morphemes with grammatical function as well as independent lexical items, Greenberg exhaustively classifies all of the languages of Africa into four major language families: Afroasiatic, Nilo-Saharan, Niger-Kordofanian, and Khoisan, globally
outlined on the map on page 81. Although a few proposals of inter-
relationship among these four language families have been made, and
Greenberg himself recognized the possibility of a remote relation-
ship within two or more of these families, such proposals have
remained highly speculative and without widespread acceptance.

Of these four language families, our focus is on Niger-
Kordofanian, which includes Bantu as one of its most recently devel-
oped sub-members. According to current scholarship the major branches
of Niger-Kordofanian are (1) Kordofanian, (2) Mande, (3) West Atlantic,
(4) Adamawa-Eastern, (5) Gur, and (6) Benue-Kwa, globally outlined on
the map on page 82. Of these six language families, Kordofanian and
Mande are the earliest offshoots, followed later by West Atlantic.
Adamawa-Eastern and Gur then follow. The most recent major branch
is Benue-Kwa, of which Bantu is ultimately a member (Greenberg, 1963;

Using this information Voeltz (1977:59-60) has reconstructed
the presence of an applied affix, as well as several other verbal
extensions (causative, contactive, and reciprocal), for Niger-
Kordofanian. Voeltz’s cited correspondences/reflexes for the applied
affix, starting with Bantu and moving progressively genetically fur-
ther afield are:

Bantu *ED [apparently Guthrie’s reconstruction of ‘direc-
tive,’ cf. (3c) earlier in this chapter], Mbuí l [which
has exclusively frequentative meaning; Mbuí is a Benue-
Kwa language], Bamoun r2 [Benue-Kwa], Wute l [Benue-Kwa],
Nkom l [Benue-Kwa], Tikar l [Benue-Kwa; this affix has
exclusively causative meaning], Mambila l [Benue-Kwa],

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Fig. 1. The four major language families of Africa.
(taken from Greenberg, 1966)
Fig. 2. The six branches of Niger-Kordofanian.
(taken from Greenberg, 1966)
Duka ε [Benue-Kwa], Tafi le [Benue-Kwa], Grebo di [Benue-Kwa; this affix has exclusively instrumental meaning], Igbo rV [Benue-Kwa], Urhobo re [Benue-Kwa], Dagara l [Gur; this affix has exclusively causative meaning], Ndungu la [Adamawa-Eastern; this affix has exclusively stative meaning], Ma le [Adamawa-Eastern; this affix has exclusively stative meaning], Dongo ni [Adamawa-Eastern], Mba le [Adamawa-Eastern; this affix has exclusively stative meaning], Ngbaka di [Adamawa-Eastern], Tula e [Adamawa-Eastern], Banda nde [Adamawa-Eastern], West Atlantic *ED [a reconstruction from Doneux (1975:107)], Temne ër [West Atlantic], Bulom il [West Atlantic], Fula ir [West Atlantic], Koalib adi [Kordofanian], Heiban odi [Kordofanian], Masekin ine [Kordofanian], Otoro ine [Kordofanian].

The functions of the applied affix are reconstructed as benefactive and directive (p. 62) for Niger-Congo, the five branches of Niger-Kordofanian exclusive of Kordofanian, and possibly for Niger-Kordofanian (the branches inclusive of Kordofanian).

2.13 Criticism of Voeltz

Voeltz's reconstruction of the system of verbal extensions for Niger-Kordofanian represents the most systematic work to date on this problem. However, although Voeltz avoids the highly speculative approaches of some of his predecessors, the usefulness of his material is curtailed on another count: his reconstructions focus "first on the similarity of form and only secondly on the similarity of meaning" (p. 51). This unfortunate lack of balance means that logically his material may (a) include forms which should be excluded, specifically those whose phonological shape is suggestive but which have inappropriate meanings, and may (b) exclude forms which should be included, those whose phonological shape has changed but whose meaning still corresponds. In fact the first problem, inclusion of
semanatically deviant forms, seems to have been much the more pervasive. The reason for its prominence is clear. In addition to the applied affix, Niger-Kordofanian had several other verbal affixes with roughly comparable phonological shape, that is, front vowel plus dental consonant. An approach which gives only secondary attention to meaning is obviously liable to confusion among the reflexes of these affixes.

The primary source of error seems to have been the two Niger-Kordofanian causative affixes. Voeltz reconstructs the meaning of Ci 'causative₁', where C is a voiceless palatal affricate, as "help do, cause to do . . . the form also had a FREQUENTATIVE meaning, do often, an INTENSIVE meaning, do thoroughly, ?expertly, and a PLURALITY of action/actor meaning, do to many, many do . . ." (p. 61). There is no postulated difference in meaning between Ci 'causative₁' and Ti 'causative₂'. Given this information, it seems likely that a greater emphasis on meaning would have resulted in the exclusion from among the reflexes of the applied of Mbuì ₁ 'frequentative,' Tikar ₁ 'causative,' and Dagara ₁ 'causative.' Voeltz's secondary focus on meaning also results in the inclusion of other unlikely reflexes, specifically the Adamawa-Eastern citations Ndunga le, Ma le, and Mba le, where the affix has exclusively stative meaning.

The primary example in Voeltz of an inappropriate exclusion is his omission for West Atlantic of the Fula benefactive extension -an-. Instead he cites -ir-, the instrumental form, presumably because of its greater phonological congruence with other reflexes of the
applied. For similar reasons, no doubt, he omits Grebo -e 'causative, dative, passive' from among his reflexes for the applied and cites the Grebo -di 'instrumental' form instead.

It is congruent with Voeltz's secondary focus on meaning that he does not note forms which share only part of his benefactive/directive reconstructed function for the applied. Similarly he does not note forms which function primarily in some other capacity. This of course means that he includes without comment forms whose association with the reconstructed applied function may be quite tenuous. This is true of Mambila 1, for example, described in Meyer (1939: 39-40), the source also used by Voeltz.

Dieses Suffix is am Verb auch im Mambila vorhanden, doch konnte ich einen Bedeutungsunterschied zwischen dem Verb mit und ohne -l nur noch in einem Fall feststellen, nämlich zwischen

W. ndá (ndá) Mb. ndá gehen [ W. = Wårwar dialect of Mambila und W. ndál (ndál) Mb. ndál kommen Mb. = Mbanga dialect]


Einige Beispiele für Verben, die das Suffix -l annehmen:

W. yā — yāl Mb. ša — šāl nehmen, halten, besitzen
W. bē — bēl Mb. bē — bēl anfertigen, herstellen
W. nā — nāl Mb. na — nāl regnen
W. mā — māl Mb. fā — fāl trinken
W. yā — yāl (yāl) Mb. yā — yāl essen
W. tūa — tūal (Mb. tūo) sprechen, sagen
(W. tšēr) Mb. tšā — tšāl schlafen
W. hā — hāl (Mb. yā) geben
Dass die Formen ohne und mit -l heute tatsächlich
unterschiedslos, und ohne dass das -l eine Funktion
ausübt, nebeneinander gebräucht werden, mögen
folgende Beispiele zeigen:

W. ḥâ me bátâ! (Mb. yî me kotár!) gib mir eine Nadel!
W. ḥâl me gô al! (Mb. yî me gô l!) gib mir den Speer!
W. wo yáll keá-wa? Mb. wo yâl keá-bô? wann hast du gegessen?
W. wo yâll kāy- wa? Mb. wo yâll kē-bô? wo hast du gegessen?
W. nabvôl yâll mím-à-sen téé Mb. nabvô šâl míem-â-sen télii
die Frau besitzt ihr kleines Haus
W. me ya mím-à-ma kêMb. me šà miém-nûl hôm ich besitze
mein gutes Haus.

Although Mambila -l could conceivably be a reflex of the applied
affix, it seems more likely that it is one of the many, many direc-
tive forms found in Niger-Kordofanian, including Benue-Kwa, most of
which are obviously separate from the reflex for the applied affix.
This view of non-cognacy is strengthened by the fact that, insofar
as a meaning for this suffix can be determined, it indicates motion
toward the speaker or subject. The directive functions of the applied
affix, however, elsewhere never take the speaker or subject as their
reference point but are rather oriented around a (goal) locative
object.

In spite of these shortcomings in Voeltz's work, however, we
regard his basic conclusion, the existence of verbal extensions in
Niger-Kordofanian, among them the applied affix, as correct. Our
acceptance is based on the evidence from Kordofanian, the reconstruc-
tion for West Atlantic, and some of the evidence from Benue-Kwa,
which is indisputable. Because of the shortcomings, and also because
of our own more specific interests, we find it necessary to provide
our own account of the history of the applied affix. Our account

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will not take the form of a reconstruction, which Voeltz has already
done. Instead we will describe the appearances of the applied affix
in each language family, proceeding through the branches of Niger-
Kordofanian in the order of their separation from the parent tongue.
A list of the reflexes of the Niger-Kordofanian applied affix which
we will discuss appears in the chart on page 88. Our descriptions
focus on function, its accrual and change.

2.2 Niger-Kordofanian cognates of the Bantu applied affix

2.2.1 Strategy for identification of cognates

Before beginning on our language (family) by language (family)
task, a few remarks justifying our identification of cognates for
discussion are in order. Ideally, identification of cognates is
based on phonological reconstruction within each subgroup and langu-
age family. Such reconstruction begins with the phonological invent-
tories of closely related languages and sets up specific correspon-
dences in different phonological environments. A phonological
inventory for the subgroup is then constructed. This subgroup infor-
mation is compared with that for closely related subgroups; phonologi-
cal inventories and correspondences are set up for the larger group,
and so forth. Reconstruction of forms and conclusive identification
of cognates for major language groupings eventually result. This
painsstaking process is not the one which was used here for several
reasons: First, such a process is not completely possible, given
our present descriptions of Niger-Kordofanian languages and our
TABLE 1

REFLEXES OF THE APPLIED AFFIX IN NIGER-KORDOFANIAN

<table>
<thead>
<tr>
<th>Branch of Niger-Kordofanian</th>
<th>Sub-Group</th>
<th>Language</th>
<th>Form of Applied</th>
<th>Function of Applied</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kordofanian</td>
<td>Koalib</td>
<td>Koalib</td>
<td>-(f)cc</td>
<td>benefactive</td>
<td>(Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Helban</td>
<td>Helban</td>
<td>-(f)jo</td>
<td>benefactive</td>
<td>(Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>Otoro</td>
<td>-(f)jo</td>
<td>benefactive</td>
<td>(Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Tagali</td>
<td>Tumale</td>
<td>-(a)kk -(a)kn</td>
<td>benefactive, goal</td>
<td>(Stevenson, 1956:37-38)</td>
</tr>
<tr>
<td></td>
<td>Talodi</td>
<td>Masakin</td>
<td>-(a)kk</td>
<td>benefactive</td>
<td>(Stevenson, 1956:37-38)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Talodi</td>
<td>-(a)kk</td>
<td>benefactive</td>
<td>(Stevenson, 1956:37-38)</td>
</tr>
<tr>
<td></td>
<td>Tumutum</td>
<td>Krongo</td>
<td>-(a)kk -(a)kn</td>
<td>benefactive, comparative</td>
<td>(Stevenson, 1956:57-58)</td>
</tr>
<tr>
<td></td>
<td>Katla</td>
<td>Katla</td>
<td>-(a)kk</td>
<td>benefactive</td>
<td>(Stevenson, 1956:57-58)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-(a)kk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Atlantic *-ed</td>
<td>Manjaku</td>
<td>-ur-</td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wolof</td>
<td>-ul-</td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fula</td>
<td>-an-</td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
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<tr>
<td></td>
<td>Ndut</td>
<td>-en-</td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fon1</td>
<td>-en-</td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ja</td>
<td>-ed-</td>
<td>more subject agency(?)</td>
<td>(Doneux, 1975:107)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jaud</td>
<td></td>
<td>benefactive</td>
<td>(Doneux, 1975:107)</td>
<td></td>
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<tr>
<td></td>
<td>Buy</td>
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<td>Lehar</td>
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<td></td>
<td>Diola-Pogny</td>
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<tr>
<td>Adamsa-Eastern</td>
<td>Mbum</td>
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<tr>
<td>Gur</td>
<td>Yom</td>
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<td></td>
<td>Hoore</td>
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<tr>
<td>Benue-Kwa</td>
<td>Kru</td>
<td>Grebo</td>
<td>-e,-e,-e,-e,-e,-e</td>
<td>benefactive</td>
<td>(Innes, 1966:33,56)</td>
</tr>
<tr>
<td></td>
<td>E. Kwa</td>
<td>Igbo</td>
<td>-e,-e,-e,-e,-e,-e</td>
<td>benefactive</td>
<td>(Welmers, 1970:52; 1968:121)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plateau</td>
<td>-e</td>
<td>benefactive</td>
<td>(Bendor-Samuel, Skitch, &amp; Cressman, 1973:73-74)</td>
</tr>
<tr>
<td></td>
<td>Bantu</td>
<td>Bantu</td>
<td>-*ld</td>
<td>benefactive</td>
<td>(Heeussen, 1967:92)</td>
</tr>
<tr>
<td></td>
<td>Tabaid</td>
<td>Tabaid</td>
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<tr>
<td></td>
<td>Tikar</td>
<td>Tikar</td>
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</tbody>
</table>
understanding of their genetic subgrouping. Second, such reconstruction would have taken us far afield of our eventual goal, which is a discussion of transitivity. But finally and most importantly, the process is not really required, given the nature of our goal and the functional stability of the morpheme through repeated branches of Niger-Kordofanian.

Our actual procedure for the identification of cognates was as follows: (Refer to Table 1 on p. 88 for a global look at all of the forms we will discuss.) First obvious cognates of the Bantu applied affix, based on known reconstructions, were identified. The West Atlantic forms for the applied affix were identified in this way. Then additional obvious cognates in relatively closely related language families were identified, based on similarity of form and function. This led to the identification of the Kordofanian forms. Next, reflexes of a causative extension were separated from those of the applied extension (see Table 2 on p. 90) based on the presence of contrasting causative and applied forms within the verbal extension systems in Kordofanian, West Atlantic, and Benue-Kwa. Subsequently, even in language families such as Gur where no applied vs. causative contrast was found, verb extensions with an exclusively causative function were always considered to be reflexes of the causative rather than the applied.

We then began to look for phonological as well as functional tests for cognacy. The phonological test was a comparison in phonological form between (a) the presumed reflex of the applied affix,
<table>
<thead>
<tr>
<th>Branch of Niger-Kordofanian</th>
<th>Sub Group</th>
<th>Language</th>
<th>Form of Causative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kordofanian</td>
<td>Koalib</td>
<td>Koalib</td>
<td>([-\epsilon,-l])) * (Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Heiban</td>
<td>-eyo,-eyc</td>
<td>(Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>-l,-lyo</td>
<td>(Stevenson, 1956:29)</td>
</tr>
<tr>
<td></td>
<td>Togoli</td>
<td>Tumale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tullodi</td>
<td>Musakin</td>
<td>-i</td>
</tr>
<tr>
<td></td>
<td>Talodi</td>
<td>-r,-rkl</td>
<td>(Stevenson, 1956:37-38)</td>
</tr>
<tr>
<td></td>
<td>Tumtum</td>
<td>Krongo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patsha</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Katla</td>
<td>Katla</td>
<td>([-\text{t}akak})</td>
</tr>
<tr>
<td>West Atlantic -an</td>
<td>Manjaku</td>
<td></td>
<td>(-\text{an})</td>
</tr>
<tr>
<td></td>
<td>Wolof</td>
<td></td>
<td>(-(\text{i})n)</td>
</tr>
<tr>
<td></td>
<td>Fula</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Ndut</td>
<td></td>
<td>(-\text{tn})</td>
</tr>
<tr>
<td></td>
<td>Po\dh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ja</td>
<td></td>
<td>(-\text{an})</td>
</tr>
<tr>
<td></td>
<td>Jaa</td>
<td></td>
<td>(-\text{an})</td>
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<tr>
<td></td>
<td>Boy</td>
<td></td>
<td>(-\text{in})</td>
</tr>
<tr>
<td></td>
<td>Lekhar</td>
<td></td>
<td>(-\text{in})</td>
</tr>
<tr>
<td></td>
<td>Diola-Pogny</td>
<td></td>
<td>(-\text{tn})</td>
</tr>
<tr>
<td>Adamawa-Eastern</td>
<td>Bumub</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gur</td>
<td>Yom</td>
<td></td>
<td>(-1,-\text{fil},-d,-Xe})</td>
</tr>
<tr>
<td></td>
<td>Nkoro</td>
<td></td>
<td>(-d) (lexicalized)</td>
</tr>
<tr>
<td></td>
<td>([-a) (lexicalized)]</td>
<td>(Canu, 1976:181)</td>
<td></td>
</tr>
<tr>
<td>Benue-Kwa</td>
<td>Kru</td>
<td>Grebo</td>
<td>(-\epsilon,-\epsilon,-\epsilon,-\epsilon)</td>
</tr>
<tr>
<td></td>
<td>E. Kwa</td>
<td>Igbo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plateau</td>
<td>Duka</td>
<td>(-\text{te}) (lexicalized)</td>
</tr>
<tr>
<td></td>
<td>Bantu</td>
<td>Mambila</td>
<td></td>
</tr>
<tr>
<td></td>
<td>?Bantuoid</td>
<td>Tikar</td>
<td>([-\text{z}],\text{I})</td>
</tr>
<tr>
<td></td>
<td>Bantu</td>
<td></td>
<td>(\text{*-l,-l-[c-]})</td>
</tr>
</tbody>
</table>

* Bracketed forms are not necessarily considered cognate with the remaining forms.
and (b) some other verb suffix known to have a comparable phonologi-
cal shape in parts of Niger-Kordofanian. Two verb suffixes lent
themselves to such a comparison: (1) one of the causative suffixes
which reconstructs for Niger-Kordofanian with a phonological shape
comparable to that of the applied, and (2) the perfective suffix,
which appears in Bantu as -ile. (The causative forms which were used
to anchor our judgments about the applied appear in Table 2 on p. 90;
the perfective forms, in Table 3, on p. 92.) The assumption was that
comparable phonological changes among the three suffixes from one
branch of Niger-Kordofanian to the next confirmed genetic relatedness
within the reflexes of each. Our primary interest, of course, was
confirmation of the reflexes of the applied. Confirmation of the
reflexes for the other two forms was simply a fallout of the proce-
dure.

Finally, at the end of this line of reasoning, we noted that we
essentially had only benefactive functions listed for the applied
affix. This is in spite of the fact that a different function, the
directional function, has been argued as the original one by Endemann
(1876:61,64), Kähler-Meyer (1966:132) and van Eeden (1956:666-67), as
we noted earlier, and that directional functions have been recon-
structed by Guthrie (1967-71, Vol. 2:9; Vol. 4:218) for Bantu and by
Voeltz (1977:59-60) for Niger-Kordofanian. To check for this func-
tion, we listed all of the directional morphemes encountered in the
languages examined for further consideration. (These directional
forms appear in Table 4 on p. 93.)
<table>
<thead>
<tr>
<th>Branch of Niger-Kordofanian Sub-Group</th>
<th>Language</th>
<th>Form of Perfect Marker</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kordofanian</td>
<td>Koaalib</td>
<td>[-e,-e,-i] *</td>
<td>(Stevenson, 1956:49)</td>
</tr>
<tr>
<td>Talodi</td>
<td>Hankaín</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td>Tumali</td>
<td>Otoro</td>
<td>[-i]</td>
<td>(Stevenson, 1956:194-95)</td>
</tr>
<tr>
<td>Katla</td>
<td></td>
<td>[-i]</td>
<td></td>
</tr>
<tr>
<td>West Atlantic</td>
<td>Manjaku</td>
<td>-no</td>
<td>(U.S. Foreign Service Institute, 1965:78)</td>
</tr>
<tr>
<td></td>
<td>Wolof</td>
<td></td>
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<td></td>
<td>Fula</td>
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<td>Ndut</td>
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<td>Foré</td>
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<td></td>
<td>Ja</td>
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<td></td>
<td>Jahn</td>
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<td></td>
<td>Buy</td>
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<tr>
<td></td>
<td>Lehar</td>
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<tr>
<td></td>
<td>Diola-Fognay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adamawa-Eastern Gur</td>
<td>Mbum</td>
<td>-tá</td>
<td>(Iagege, 1970:226)</td>
</tr>
<tr>
<td></td>
<td>Yom</td>
<td>-n</td>
<td>(Beacham, 1968:142, 185)</td>
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<tr>
<td></td>
<td></td>
<td>-l,-dɔ,-xɔ1,-tɔ</td>
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<tr>
<td></td>
<td>Moore</td>
<td>[-dɔ, na 'yesterday']</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>[-dɔ, na 'before yesterday']</td>
<td>(Innes, 1966:20)</td>
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<tr>
<td></td>
<td></td>
<td>-V</td>
<td>(Welmers, 1970:51)</td>
</tr>
<tr>
<td>Benue-Kwa</td>
<td>Kru</td>
<td>Grebo</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Igbo</td>
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<tr>
<td></td>
<td>Plateau</td>
<td>Duka</td>
<td></td>
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<tr>
<td></td>
<td>Bantoid</td>
<td>Hausilla</td>
<td>-f(-e)[kën] or -f(-e)[gê] (Meyer, 1939:44-46) (form depends on dialect)</td>
</tr>
<tr>
<td></td>
<td>?Bantoid</td>
<td>Tikar</td>
<td>-é</td>
</tr>
<tr>
<td></td>
<td>Bantu</td>
<td>-i or -de</td>
<td>(Meeussen, 1967:111)</td>
</tr>
</tbody>
</table>

*Bracketed forms are not necessarily considered cognate with the remaining forms.
<table>
<thead>
<tr>
<th>Branch of Niger-Kordofanian</th>
<th>Sub-Group</th>
<th>Language</th>
<th>Form and Function of Directional Markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kordofanian</td>
<td>Koalib</td>
<td>-a 'toward speaker,' -ə 'away from speaker' (Stevenson, 1956:29)</td>
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</tr>
<tr>
<td></td>
<td>Hoibun</td>
<td>-a 'toward speaker,' -ə 'away from speaker' (Stevenson, 1956:29)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>-a 'toward speaker,' -ə 'away from speaker' (Stevenson, 1956:29)</td>
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<tr>
<td></td>
<td>Tegali</td>
<td>not found in regular use, but cf. aw 'come'; au, awu 'go' (Stevenson, 1956:37-38)</td>
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<tr>
<td></td>
<td>Talodi</td>
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<tr>
<td></td>
<td>Tumtum</td>
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<tr>
<td></td>
<td>Katla</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Atlantic</td>
<td>Manjaku</td>
<td>-oy 'displacive' (U.S. Foreign Service Institute, 1965:212-13)</td>
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</tr>
<tr>
<td></td>
<td>Wolof</td>
<td></td>
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<td>Fula</td>
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<td>Buy</td>
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<td></td>
<td>Lehar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diola-Fogny</td>
<td>-ulə, -ul-ə 'toward the speaker, from' (Sapir, 1965:51)</td>
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</tr>
<tr>
<td></td>
<td>Yom</td>
<td>-ə-li 'movement toward speaker' (Beacham, 1968:131)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moore</td>
<td>-ə-li 'movement away, at some distance from speaker' (Beacham, 1968:127-28)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kru</td>
<td>-dc 'here'; di-de 'there'; də- 'there' (Innes, 1966:56-57)</td>
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<tr>
<td></td>
<td>Grebo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E. Kwa</td>
<td>-gə 'go', -ə 'pass by', -tə 'action toward speaker/subject' (Weimers, 1970:57)</td>
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<tr>
<td></td>
<td>Igbo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plateau</td>
<td>-ən 'towards speaker' (Bendor-Samuel et al., 1973:10)</td>
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<tr>
<td></td>
<td>Duka</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Bantoid</td>
<td>-l 'motion toward speaker (when meaning can be determined) tə 'origin' (Hagege, 1969:32-33)</td>
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<tr>
<td></td>
<td>Mambila</td>
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</tr>
<tr>
<td></td>
<td>Tikar</td>
<td>-l 'goal, -ə7 [where 7 is a guttural] origin' (Hagege, 1969:32-33)</td>
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</tr>
</tbody>
</table>
Now that the global line of reasoning for the identification of cognates has been described, let us consider a bit more closely the evidence provided by the causative, perfective, and directional forms each in turn. We will then proceed to our language (family) by language (family) description of the functions of the applied affix.

2.211 The causative affix

As we noted earlier, two causative affixes can be reconstructed for Niger-Kordofanian. At least one of these is rather similar in form to the applied affix. This similarity in form allows a phonological test of cognacy within applied forms across language families. The test works as follows. If a language (family) has two affixes which are similar in form to each other, here one with causative meaning and the other with some aspect of applied function, the test requires two semantically comparable affixes in a second language (family). If, language-internally, the two new affixes, causative and applied, are again phonologically similar to each other, then the suggestion is that the two original affixes have undergone common changes to again produce similar forms in the new, but related, language (family). Each affix in the new language family is validly related to its semantic counterpart in the language family previously considered. That is, the second applied affix is cognate with the first applied affix; the second causative affix, with the first.

An awareness of the similarity in form of the two affixes, but difference in meaning, also allows their reflexes to be kept separate.
If we compare the phonological shape of the causative vs. the applied extensions (compare corresponding forms from the charts on pp. 88 and 90), we can see that, starting with West Atlantic, the reflexes cited for the two affixes are similar in form (where a comparison can be made). If we look now at the absolute phonological shape of the affixes, we can see a nasal → nonnasal change between West Atlantic and Benue–Kwa. This change occurs in all three of the extensions, applied, causative, and perfective, cited as maintaining similar form. (The perfective forms are on p. 92.) To judge from the evidence of the perfective suffix, the change occurred between West Atlantic and Adamawa–Eastern.

We do not consider all of the causative forms listed on p. 90 to be necessarily cognate with each other, although most of them are. Specifically, the Kordofanian causative forms are probably not cognate with most of the other forms cited. Similarly, the other forms enclosed in brackets are of doubtful cognacy with the unbracketed forms for one reason or another. Note that the causative affixes usually reconstructed for Bantu are among these bracketed forms.

No causative affix similar in form to the applied affix has ever been reconstructed for Bantu. This is probably because most reconstructions for Bantu consider only Bantu–internal evidence. However, with the Bantu–external evidence from the chart on p. 90, coupled with the following Bantu–internal evidence, such a reconstruction seems justified.
Within Bantu, the northwestern part of the Bantu domain is commonly accepted as the source point for the subsequent Bantu migration, which spread to encompass most of the southern half of Africa. Languages in this northwestern region, therefore, are of particular interest in historical discussions. In this geographical region certain Bantu languages have an -1- 'causative.' This is true, for example, in Yaunde/Ewondo (Redden, 1979:104; Angenot, 1977:28-29; Nekes, 1913:51-53, para. 70, 72) and also in Bulu (Alexandre, 1966: 70-71), both spoken in Cameroon. Schadeberg (1977:3) has noted an -1- 'causative' in other Cameroonian languages: Nkosi, Duala, Noho/Benga, and Ngumba.

Within most of Bantu there is no productive -1- 'causative' marker. Evidence of its earlier presence can be found, however, in lexicalizations and coalescences with other verbal extensions, where the former -1- 'causative' serves as a transitivityizer. Examples of lexicalizations are the contrasting transitive/causative vs. intransitive forms in (5) below, taken from Cinyanja.

(5) Transitive vs. Intransitive
(Scott and Hetherwick, 1929)
- du-1- 'to cut (through)' vs. -du-k- 'to be cut'
- tyo-1- 'break' vs. -tyo-k- 'be broken'
- tong'o-1- 'cause to protrude' vs. -tong'o-k- 'protrude'
- gamu-1- 'cause to fail' vs. -gamu-k- 'fall in/down, as the side of a pit'
- lamu-1- 'command' vs. -lamu-k- 'of cases, to be settled'

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Transitive

- lefu-i- 'carry someone'
- nyamu-i- 'carry'
- patu-l- 'to take some out and put on one side'

Intransitive

vs. - lefu-k- 'be tired out'
vs. - nyamu-k- 'rise up'
vs. - patu-k- 'go to the side of the road to let another pass'

An example of a coalescence is the contrast between the transitive and intransitive forms reconstructed for the Bantu reversive extension, -ul- vs. -uk-. (See (3f) and (4f), this chapter, for more exact reconstructions.)

Given this evidence, it seems likely that causative and applied extensions of similar phonological shape did, in fact, exist for Proto-Bantu, although no Bantu causative extension has previously been reconstructed with this form. Such a reconstruction, in addition to being accurate, makes the phonological parallels between the contrasting causative and applied extensions relatively complete for both West Atlantic and Benue-Kwa. It also relates the argument of phonological parallelism, supporting the cognacy of forms, more immediately to Bantu.

2.212 Perfective

Although no perfective suffix, similar in form to the applied affix, has ever been reconstructed for Niger-Kordofanian or any of its major branches, evidence for such a reconstruction, at least up through West Atlantic, exists. The existence of such a perfective form, like the existence of a causative extension similar in form to the applied
affix, allows a phonological check on the cognacy of all of the forms with their respective reconstructions. Because the full reconstruction of the perfective form has never been done, our discussion will start with Bantu, where a reconstruction can be cited, and move progressively further afield.

In Bantu the phonological shape of the applied affix and its status as a verbal suffix are rather closely paralleled by the perfective marker. This marker, reconstructed as -\textit{id}e for Proto-Bantu (Meeussen, 1967:111), appears to be an earlier development than the other Bantu tense/aspect morphemes, which for the most part are highly variable from language to language and appear to have emerged subsequent to the separation of the various branches of Proto-Bantu. It further differs from other tense/aspect morphemes in its status as verbal suffix rather than verbal prefix, giving it a position comparable to that of the verbal extensions, among them the applied. The consonant of the perfective marker -\textit{id}e is the same as that of the applied; its initial vowel is higher. (For a reconstruction of the perfective suffix which posits an initial consonant preceding the high front vowel, see Mould (1972:107-25), and Voeltz (1977:79-82).) Both authors use their alternative reconstructions to argue for a verbal origin of the -\textit{id}e suffix. Their arguments suggest a more recent origin than some of the cognate forms we cite.)

An examination of the perfective suffixes listed for Benue-Kwa in the chart on p. 92 shows possible cognates with Bantu *-\textit{id}e in Tikar and Mambila. (For Mambila, only the identical first vowel of
the two dialectal variants is considered.) A more conclusive cognate appears for Igbo. The Igbo cognate is further confirmed by its phonological similarity to the reflex of the applied affix in Igbo. (The Igbo applied reflex is, of course, further confirmed by this similarity also.) In Gur, Yom shows a likely cognate in its perfective suffix -\_\_\_-n. The relatedness of this suffix is supported by its phonological shape, its position on the verb, and within Yom, by its phonological similarity to the causative suffix -\_\_\_. Similar considerations support the relatedness of the Fula perfective suffix -no, where language-internal support comes not only from the -(\_\_\_)n reflex of the causative extension, but also from the -an- reflex for the applied. The -ra perfective suffix in Mbum (Adamawa-Eastern) may be an additional example. The relatedness of the Kordofanian perfective forms is, at best, only moderately convincing.

Together the reflexes of the three suffixes, causative, perfective, and applied, provide a network of mutually supporting phonological and functional evidence which strongly suggests genetic relationship among the (unbracketed) reflexes listed for each. The same cannot be said for the forms listed under the heading 'directional' in the chart on p. 93, which will be discussed next.

2.2.13 The directional affixes

In general, the various affixes listed in the directional column are not all necessarily related either to each other or to the applied affix in Bantu. On the contrary, the affixes show the greatest
diversity in both form and usage. This suggests, of course, that they are separate developments within the various language groups, innovations subsequent to separation. One exception to this general picture of noncognacy appears. This is a set of directional affixes which may be mutually cognate with each other, but which are probably not cognate with the applied affix in Bantu. The affixes are Yom -n 'movement toward speaker' (Beacham, 1968:151), Igbo -tâ 'action toward speaker or subject' (Welmers, 1970:57), Duka -ēn 'towards speaker' (Bendor-Samuel et al., 1973:10), and Mambila -l 'motion toward speaker (when meaning can be determined)' (Meyer, 1939:39-40). It is possible that Diola-Fogny -ul-ul- 'toward the speaker, from' (Sapir, 1965: 51) also belongs in this list.

It is doubtful that these affixes should be related to the applied affix in any of its functions in Bantu. It is clear that at least in some cases the affixes are not in the same line of cognacy as are the benefactive forms on p. 88. The distinctness of the two is shown by their contrast in languages such as Igbo (Yr 'benefactive' vs. tâ 'action toward speaker or subject') and Duka (-e 'benefactive' vs. -ēn 'toward speaker'). Their distinctness is further supported by the fact that, in general, the two sets of affixes appear in different positions on the agglutinated verb. The benefactive markers usually precede any tense suffixes. The directional markers, on the other hand, do not maintain the same position on the agglutinated verb from one language to the next. Their changes in position do show a trend, however, which is toward an increasingly close
connection to the verb as one moves through successive branches of Niger-Kordofanian. In Diola-Fony (West Atlantic) the -ul-ul-u 'towards speaker' directional marker "stands apart from all other derivative markers. It need not be suffixed to the verb theme, but may instead be separated from it by an inflectional marker (Sapir, 1965:53)." In Yom (Gur) the -n 'movement toward speaker' suffix occurs in the third and final position for derivational suffixes. All derivational suffixes apparently precede the inflectional suffixes, including the perfect marker -n/-l (Beacham, 1968:182-88). In Igbo the -t6 'action towards speaker or subject' suffix functions as part of the verb base (Welmers, 1970:55-59). Consequently, it presumably precedes both the perfect marker and the benefactive marker on the agglutinated verb. And finally, in Duka the -õn 'towards speaker' similarly precedes both the causative and benefactive suffixes as well as the following tense suffixes. In Mambila, no ordering information was available.

So far we have noted that the 'movement toward speaker' directional suffixes are distinct from cognates of the applied suffix by virtue of (a) contrast between the two in certain verb suffix systems, and (b) their different positions on the agglutinated verb. The suffixes are also distinct from the Bantu applied marker in their function. Although these suffixes are directional suffixes, and although the applied marker in Bantu is sometimes termed to have a directional function, here the similarity ends. The orientations of the two are quite different. These suffixes all take the speaker or
subject as their reference point in determining direction; the applied
affix in Bantu, on the other hand, takes as its reference point some
locative NP in the predicate.

2.22 History of function of the applied affix

Now that we have justified our inclusions and exclusions of
cognates for the applied affix in Niger-Kordofanian, let us proceed
with our history of its function. Our description will proceed
through the various branches of Niger-Kordofanian, taking them in the
order of their separation from the parent tongue. The specific forms
we will discuss are those listed on page 88.

2.221 Kordofanian

Parallels between verbal extensions in the Kordofanian langu-
ages and those found in other branches of Niger-Kordofanian were
noticed long before any genetic relationship among the branches was
postulated. For example, Meinhof (1915-16:189), quite presciently, com-
pares the Tumale (Kordofanian) verbal extensions to those of Fula
(West Atlantic) and Duala (Bantu, Benue-Kwa). He cites the Tumale
applied affix -ani/-ini as his first example:

Diese Suffixe erinnern an das Bantu, mehr noch das Ful;
z.B. -ani, -ini applicativ. vg. Duala -ne 'mit jemand,
für jemand etwas tun,' Ful -ana, -ena, -ina applicativ. 11

Although parallels among the verbal extension systems of Kordofanian,
West Atlantic and Benue-Kwa had been noted early on, this information
was not cited in Greenberg (1963) as part of the evidence for their
genetic relationship. Instead, Greenberg cited comparisons of basic vocabulary and noun class markers.

Greenberg divides the Kordofanian languages into five groups: Koalib, Tegali, Talodi, Tumtum, and Katla, "of which the fourth (Tumtum) shows considerable divergency from the remainder" (Greenberg, 1966:149). Verbal suffixes comparable in nature to the Bantu verbal extensions have been found in languages from each of these groups. This is in spite of the fact that work on these languages is extremely scant. Or to state the matter more directly, verbal extensions in Kordofanian are an obvious and prominent part of the language group's morphology.

Stevenson (1955-56), who has done the only recent work on Kordofanian, cites the extensions shown on pp. 104-105 in his grammatical survey of the Kordofanian languages. Of these suffixes, that listed by Stevenson as 'applied' is not, in fact, the one which is cognate with the applied marker we are discussing. It is a marker which, in accordance with the general linguistic use of the term 'applied,' serves a somewhat nonspecific semantic function. Examples of its use are shown in (6).

(6) a. Koalib branch

<table>
<thead>
<tr>
<th>Koalib</th>
<th>agir-i vs. agir-aţi 'break off' (Stevenson, 1956:29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heiban</td>
<td>iy-o vs. iy-ği/iy-a 'drink from'</td>
</tr>
<tr>
<td>Otoro</td>
<td>akir-ğăi,-a,-aşă 'break off'</td>
</tr>
</tbody>
</table>
### TABLE 5
VERBAL EXTENSIONS IN THE KORDOFANIAN LANGUAGES

<table>
<thead>
<tr>
<th>Language Group</th>
<th>Language</th>
<th>Applied</th>
<th>Dative</th>
<th>Causative</th>
<th>Verb Fastifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koalib</td>
<td>Koalib</td>
<td>-qÇî</td>
<td>-(i)cc</td>
<td>-ç, -f</td>
<td>(p. 29)*</td>
</tr>
<tr>
<td></td>
<td>Heiban</td>
<td>-qÇî,-Çî</td>
<td>-(i)Jo</td>
<td>-eyÇ, eyÇ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>-o za,-Çî,-Ça</td>
<td>-(i)Jo</td>
<td>-f, -lyo</td>
<td></td>
</tr>
<tr>
<td>Tegall</td>
<td>Tumale</td>
<td>-ani,-ini</td>
<td></td>
<td></td>
<td>(p. 49)*</td>
</tr>
<tr>
<td>Talodi</td>
<td>Haskerin</td>
<td>-tàÇ,-Çà</td>
<td>-wit</td>
<td>-i</td>
<td>(pp. 37-38)*</td>
</tr>
<tr>
<td></td>
<td>Talodi</td>
<td></td>
<td>-wok</td>
<td>-Çk,-Çk</td>
<td></td>
</tr>
<tr>
<td>Tumtum</td>
<td>Krongo</td>
<td>-(a)ya,-(a)ya</td>
<td>-(a)ya,-(a)ya</td>
<td>-(a)ya,-(a)ya</td>
<td>(pp. 57-58)*</td>
</tr>
<tr>
<td></td>
<td>Katcha</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katla</td>
<td>Katla</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Continuative/ Frequentative**

| Koalib         | Koalib       | Reduplication of verb stem | -a | -Ç | (p. 29)*        |
|                | Heiban       | all                        | -a | -Ç |                 |
|                | Otoro        | -a                         | -Ç |      |                 |
| Tegall         | Tumale       |                            |     |      | (p. 49)*        |
| Talodi         | Haskerin     | Reduplication of 1st or 2nd |     |      | (pp. 37-38)*    |
|                | Talodi       | syl, -ÇgÇ,-ÇgÇ,-ÇÇ,-ÇÇ,ÇÇ,ÇÇ,ÇÇ,-ÇÇ | cf. awÇ 'come', awÇawÇ 'go' (Husakin only) |
| Tumtum         | Krongo       | Vowel prefix               |     |      | (pp. 57-58)*    |
|                | Katcha       | Vowel variation, reduplication |     |      |                 |
| Katla          | Katla        | Vowel prefix               | -Ça|      | (p. 194)*       |

*References from Stevenson, 1956.*
<table>
<thead>
<tr>
<th>Language Group</th>
<th>Language</th>
<th>Reciprocal</th>
<th>Associative</th>
<th>Comparative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koalib</td>
<td>Koalib</td>
<td>-gu,-gi</td>
<td>-giz,-gizi</td>
<td>-unu,-oni</td>
</tr>
<tr>
<td></td>
<td>Heiban</td>
<td>-yo,-ye</td>
<td>-jiyo,-jiye</td>
<td>-unu,-oni,-una</td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>-(aq)ia,(c/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tugali</td>
<td>Tumale</td>
<td>-ara</td>
<td>-ata</td>
<td></td>
</tr>
<tr>
<td>Talodi</td>
<td>Masakin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kachta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuntum</td>
<td>Krongo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kachta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katla</td>
<td>Katla</td>
<td>Reflexive-</td>
<td>Passive</td>
<td>Static</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Passive</td>
<td></td>
<td>'by'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koalib</td>
<td>Koalib</td>
<td>-nc,-ni</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heiban</td>
<td>-nu,-ni</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Otoro</td>
<td>-nu,-ni,-no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tugali</td>
<td>Tumale</td>
<td></td>
<td></td>
<td>-aja,-anja</td>
</tr>
<tr>
<td>Talodi</td>
<td>Masakin</td>
<td>-(a)ak,(a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Talodi</td>
<td>-sk,-ok</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuntum</td>
<td>Krongo</td>
<td>-ag(a(n(y(i(a(n(a(c(a(c(n(c|</td>
<td>-ja</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kachta</td>
<td>-(a)d(a(n(c(a|</td>
<td>-anja</td>
<td></td>
</tr>
<tr>
<td>Katla</td>
<td>Katla</td>
<td>-ta,-to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*References from Stevenson, 1956.*
b. Talodi branch  
(Stevenson, 1956:38)

Masakin  
\[\text{masakin monpi 'steal'} \quad \text{vs. monpi-te 'steal from'}\]
\[\text{koo 'blow'} \quad \text{vs. kuu-te 'blow a fire'}\]
\[\text{to\-g-\-e 'shut door'} \quad \text{vs. to\-g-\-e-te 'shut box'}\]

"Many verbs (e.g., mat\-e 'cut', pat\-e 'dig') have this suffix, although not relatable to a parent form."

The marker with which we are concerned is that listed as 'dative.'

The 'dative' label could equally well be replaced by the term 'benefactive' to judge from most of the examples cited, shown in (7).

(7) a. Koalib branch  
(Stevenson, 1956:29)

Koalib  
\[\text{pi-\-\-gi/pi 'beat'} \quad \text{vs. pi-ce, pi-ci 'beat for'}\]
\[\text{b\-\-e 'pour'} \quad \text{vs. bel-ice/bel-ici 'pour for'}\]

Heiban  
\[\text{pi-\-\-gi/pi 'beat'} \quad \text{vs. p\-y-jo 'beat for'}\]
\[\text{\-\-\-g-o 'slaughter'} \quad \text{vs. \-\-\-g-\-i 'slaughter for'}\]

Otoro  
\[\text{pi-\-\-gi/pi-\-\-jo 'beat'} \quad \text{vs. pi-jo 'beat for'}\]
\[\text{kur-u 'hoe'} \quad \text{vs. kur-\-i 'hoe for'}\]

b. Tegali branch  
(Stevenson, 1956:49)

Tumale  
\[-\text{kor-\-\-k 'steal'} \quad \text{vs. \-\-kor-am, \-\-kor-ini 'steal for another'}\]

c. Talodi branch  
(Stevenson, 1956:37)

Masakin  
\[-\text{rog-\-e 'eat'} \quad \text{vs. rog-\-ine 'eat for'}\]
\[\text{y-\-\-k 'drink'} \quad \text{vs. y-\-\-ine 'drink for'}\]

Talodi  
\[-\text{rog-\-o 'eat'} \quad \text{vs. rog-\-\-\-nok 'eat for'}\]
\[\text{ig-\-u 'drink'} \quad \text{vs. ig-\-\-\-nok 'drink for'}\]

d. Tumtum branch  
(Stevenson, 1956:57)

Krongo  
\[\text{\-\-\-\-ji 'sow'} \quad \text{vs. \-\-\-\-jini-\-\-g 'sow for'}\]
\[\text{\-\-\-\-\- \-\- 'buy'} \quad \text{vs. \-\-\-\-\- jini-\-\-g 'buy for'}\]
\[\text{uwi 'sing'} \quad \text{vs. uwi-ga 'sing for'}\]

Katcha  
\[\text{\-\-\-\-ji 'sow'} \quad \text{vs. og\-\-\-\-\-a 'sow for'}\]
\[\text{ana 'buy'} \quad \text{vs. an-a 'buy for'}\]
\[\text{uwe 'sing'} \quad \text{vs. uwe-\-\-a 'sing for'}\]
The only exception is a few examples from Tutschek (1848), quoted first by Meinhof and again by Stevenson (1956:49), which indicate that in Tumale the semantic range of the affix may have expanded slightly: -selub-ak and -selub-ani 'to cross'; -limeni 'will, wish.' These examples suggest notions of goal and purpose, respectively.

The number, form, and semantic range of the verbal extensions in Kordofanian allow us to draw certain conclusions about the likely functions of the dative marker here. First, the presence of the label 'applied,' attached to another verbal suffix, indicates the author's awareness of this term and of its usual use. The fact that he did not apply this term to the morpheme labelled 'dative,' supplemented by the uniform nature of his dative examples, suggests that the dative morpheme in fact does not have the range of uses customarily associated with an applied marker here. That is, it is semantically specific and does not serve to mark NPs in a variety of functions. The citations for other forms in the inventory of verbal extensions tend to lead to this same conclusion. For example, the presence of other forms for continuative/frequentative, directional, and intensity of action indicates observation of these contexts. Failure to mention the dative marker suggests that it does not appear here. The situation in Kordofanian thus seems to differ markedly from that of Bantu. The marker which in Bantu appears in quite a variety of contexts (cf. the functions of the applied marker in Bantu listed on pp. 65-70 and 73-74) seems to have started off with only a single function, the marking of benefactive NPs. Although in one Kordofanian language,
Tumale, it marks benefactive plus perhaps goal and purpose, in the remaining languages, only benefactive examples are cited. (The fact that goal and purpose examples are cited for the one language but not for the others suggests an awareness of this context as a potential function. Under these circumstances failure to cite comparable examples in the remaining languages is more suggestive of absence than it might be otherwise.) Thus, Stevenson's (1955-56) material suggests an exclusively benefactive function for proto-Kordofanian, with perhaps some generalization for the marker along universal semantic lines in Tumale. The reconstructable function for the marker, however, is benefaction.

Before proceeding further, we wish to make some comment about the nature of the evidence and reasoning used to reach this, and subsequent conclusions. Not all areas of Niger-Kordofanian have been equally thoroughly or recently investigated, and sources vary greatly in their quality and depth. In our compilation of the history of the function of the applied affix, we used descriptive studies as our source material. These studies were not usually either comparatively or historically oriented. Reconstructive material was available only for West Atlantic. Because our study is historically and comparatively oriented, and also because it is much more modern than many of the works cited, our conclusions about the data sometimes differ from those of the original authors.

In addition to providing our own analyses, however, we were also sometimes attempting to go beyond the material which the source
grammars provided. Specifically, we were attempting to determine the absence as well as the presence of functions, although our source materials were oriented only towards the latter. To make such suggestions, therefore, we have to refer to circumstantial or indirect evidence, as above. Logically, the absence of examples only allows of the possibility that the function is, in fact, not present. It does not guarantee it. Practically speaking however, consistent absence increases the likelihood. Indirect evidence of the sort given above is the closest we can come to proof.

2.222 Mande

It is unclear as to which language family, Mande or Kordofanian, is the earliest offshoot of Niger-Kordofanian. For reasons that have more to do with the history of linguistics than with the history of language, the Kordofanian languages are often regarded as the earlier branch. The opposite order is, however, a possibility (Welmers, 1973:17).

Unlike the Kordofanian languages, the Mande languages are typologically not similar to Bantu since, among other things, they do not have noun classes, concord, or obvious verbal extensions, to mention some of the aspects of grammar considered most typical of Bantu. Although the Mande languages have verb suffixes, these morphemes do not have the semantic import of Bantu verbal extensions; they also differ in form, since many consist only of tone. Because the Mande languages cannot presently be used to provide information
on early functions of the applied affix, we will not consider them
further here.

2.223 West Atlantic

Outside of Bantu and Voeltz's reconstructions for Niger-Congo
(all of the branches of Niger-Kordofanian exclusive of Kordofanian),
West Atlantic is the only branch of Niger-Kordofanian for which recon-
structions of verbal extensions, including the applied affix, are
actually available. Doneux (1975:106-107) reconstructs the system
of verbal extensions in (8) for West Atlantic. His reflexes and
examples of function for the applied affix are given in (9).

(8)  -it 'reversive'
    -an 'causative'
    -ad 'reciprocal'
    placeholders (may be back? or ?) 'neuter-passive' [a passive form without agent]
    -ed 'applicative'

(9)  manjaku -är-
    -weel 'he bought'; a-weel-är(in) 'he bought (for me)'
    wolof -ël-
    jënd 'buy'; jënd-ël 'buy for'
    ful -an-
    huu 'work'; huu-an 'work for someone'
    ndut -ën-
    hed 'pray'; hed-ën 'pray for...'
    foni -ër-
    juk 'see'; juk-ër 'regard, look at'
    ja -ed-
    seb 'harvest'; seb-ed 'harvest for'

Semantically, the verbal extensions reconstructed here for
West Atlantic are identical to those reconstructed for Bantu by
Guthrie (1971) and Meeussen (1967). The tendency, therefore, to relate the semantically comparable forms in the two language families is very strong. If this is done, the West Atlantic cognate for the Bantu -id/-ed- applied form is *-ed. The phonological similarity between these two forms obviously strongly supports the initial cognacy judgment based on meaning.

The range of function of the applied marker in West Atlantic, to judge from the examples cited in Doneux (1975:107) and shown in (9) above, seems to be basically the same as it was in Kordofanian: the marking of benefactive NPs. The one exception to this is the example which Doneux gives for the Foñi -er- applicative form: juk 'see' vs. juk-er 'regard, look at,' suggesting increased agency. On the basis of the total evidence, it seems clear that a benefactive function must be reconstructed for the applied affix in West Atlantic and proto-Niger-Kordofanian. Reconstruction of additional functions for either is at best highly speculative.

2.224 **Adamawa-Eastern**

Although Voeltz (1977) found applied extensions in a number of Adamawa-Eastern languages (cf. pp. 80 and 83, this chapter) we, with our greater emphasis on function, found none. The reason for this difference of opinion is clear from the following quote (Voeltz, 1977:42):

> We present here data on two languages, Zande and Yakoma, which seem to be totally typical of Adamawa-Eastern languages with verb extensions: In both cases a number of extensions can be recognized, but only in isolated cases
is it possible to assign a meaning to the individual extension. We would surmise that the extensions are being rapidly lost in these languages.

Because Voeltz's criteria for the isolation of verb extensions were primarily phonological, he identified occurrences of the applied affix on the basis of such evidence. Because we place greater emphasis on meaning, we cannot. Regardless of whether vestiges of the Niger-Kordofanian applied affix are in fact present in Adamawa-Eastern, and we do not deny that this is a possibility, it is clear that information on the function of the applied affix cannot be obtained from such forms. For this reason, we will not further consider data from Adamawa-Eastern.

2.225 Gur

The Gur languages, like the Adamawa-Eastern languages, provide us with no clear information on the function of the applied affix. Although Gur languages sometimes have verbal extensions, some of which can be assigned specific semantic functions (causative, frequentative-plural, experitive, reversive, stative/inchoative), the applied affix is not among these. Relics of the applied affix are probably present among the verb extensions which can still be isolated by form but which no longer have a specific semantic content. Such relics cannot, however, add to our history of function.

2.226 Benue-Kwa

As we noted earlier, the major branch of Niger-Kordofanian which is now called Benue-Kwa was first considered by Greenberg
(1966:6-41) to be two separate branches: Kwa, in the western part of the Benue-Kwa domain, and Benue-Congo, by far the larger portion geographically. The two branches were subsequently merged because issues of genetic distance within and between languages in the two branches did not support a fundamental division between them (Welmers, 1968; Bennett and Sterk, 1977). Here, we discuss genetic relationships within Benue-Kwa not in terms of specific language families, but rather in terms of Bantu vs. non-Bantu. Languages outside Bantu will be discussed in this chapter. The functions of the applied affix within Bantu will be reserved for the next.

Within Benue-Kwa, but outside Bantu, reflexes of the Niger-Kordofanian applied affix do not appear widely. Similarly, although reflexes of other verbal extensions can be found, their presence also is not immediately obvious. The reason for this paucity where abundance might be expected is the widespread replacement within Benue-Kwa of the Niger-Kordofanian system of verbal extensions by a relatively recent phenomenon of verb serialization. (For a discussion of some factors influencing the replacement, see Voeltz (1977:72-78).) To the extent that the replacement has occurred, verbal extensions are hard to find. Reflexes of the applied affix were found, however, in three Benue-Kwa languages well outside the Bantu domain: in Grebo, a Kru language, spoken in the far western portion of the original Kwa domain; in Igbo, an Eastern Kwa language, spoken in Nigeria; and in Duka, a Plateau language, also spoken in Nigeria. Of these
three languages, Grebo is considered to be the most distantly related to Bantu; Duka, the most closely related. As might be expected in an atmosphere in which verbal extensions are widely disappearing, the applied affixes in these languages are not acquiring additional functions. Instead, they continue to appear primarily as markers for benefactive NPs.

2.2261 Grebo

Grebo has the system of verb suffixes shown in (10).

(10) -e-wè-du-è-sè 'causative, dative, passive'

-dèw-dèw-nàw-ne 'instrumental'

-dèw-ne 'reciprocal'

-dè 'here'
    (Innes, 1960:171; 1966:57)

-dèw-dè 'there (of a wide unspecified area)'
    (Innes, 1960:171; 1966:57)

-o 'there (of a particular location)'
    (Innes, 1960:171; 1966:58)

It also has suffixed past tense markers of the form -da-wàna 'before yesterday (Innes, 1966:20) and -da-wàna 'yesterday' (Innes, 1966:20).

(Cf. the perfective forms on p. 92.)

At first glance these forms might suggest that we have at last encountered the instrumental and locative uses of the Niger-Kordofanian applied affix. This view is supported by the basic phonological shape, and the similarity in shape, of the instrumental
(reciprocal), and locative forms; it is also supported by the consonant correspondences between the 'applied' and past tense forms. No doubt for these or similar reasons the -diw-de-mi-ne 'instrumental' form was selected by Voeltz (cf. p. 83, this chapter) as the Grebo cognate of the Bantu and Niger-Kordofanian applied affix.

However, these arguments are all based on phonological form. Note that a number of nonphonological considerations point to a different analysis. This analysis identifies -we-ri-mi-gi 'causative, dative, passive' as the correct cognate. This is the cognate which we propose here. Let us consider some of the arguments for it.

First, the dative/benefactive function, the only one we have seen consistently associated with the Niger-Kordofanian applied affix, appears here, not in conjunction with the locative, instrumental, and reciprocal meanings described for the other affixes. Second, two considerations, one related to phonological shape and the other to position on the verb, argue that, both synchronically and historically, the locative forms should be separated from the instrumental and reciprocal forms. Phonologically, the locative suffixes have different vowels and also a different consonant alternation from the other two suffixes. Positionally, they appear at a different point on the agglutinated verb: they are later, following tense suffixes rather than preceding them. This position differs from the usual one for cognates of the applied affix. In fact, these Grebo locative affixes appear to belong among the directional forms.

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discussed earlier which, at most, display cognacy only with other directional forms, but not with the applied affix in Bantu.

Once the locative uses for the Grebo 'applied' affix have been separated out and eliminated, the remaining instrumental and reciprocal uses do not constitute a particularly good argument for cognacy. Reciprocal meaning is not associated with the applied affix elsewhere; instrumental uses do not function as they do here. More likely cognates for these forms are other reciprocal and instrumental forms. Such forms are identical in meaning and display strong phonological similarity also. Under this alternative alignment of cognacy the Grebo -de-ne 'reciprocal' form is related to the reciprocal extension which appears in Kordofanian as -dy,-di (Koalib), -yo,-ye (Heiban), -(ag)i3-s/a (Otoro), and -3ra (Masakin); which reconstructs as *-ad for West Atlantic, and as *-an for Bantu (cf. (3a) and (4a), this chapter). The Grebo instrumental form -di-de-ni-ne is relatable to the Bantu instrumental preposition which reconstructs as na (Meeussen, 1967:115; Guthrie, 1970, Vol. 4:243, 245).

Once the instrumental, reciprocal, and locative verb suffixes in Grebo are determined not to be cognate with the Bantu applied form, the only remaining possibility for cognacy is the 'causative, dative, passive' verbal extension -e-e-e. This form includes the dative/benefactive meaning customarily associated with the applied affix and appears in the correct position on the verb. There is also a similarity, in fact an identity, between the benefactive and causative forms. On the other hand, the additional passive
meaning of the form is not expected. That is, it is not the usual thing in Niger-Kordofanian for benefactive, causative, and passive affixes to have a similar phonological shape. In fact, in general passive forms do not reconstruct particularly well in Niger-Kordofanian, and there is no usual phonological shape predicted for them.

It is possible that in Grebo several historically different verbal suffixes have phonologically merged to give the appearance of a single 'causative, dative, passive' form. If this is true, that is if the Grebo ꧇ˀˀ˲ˀ˲form is historically separable into individual causative, dative, and passive morphemes, the dative form had only one function to judge from the examples cited, shown in (11), the marking of benefactive NPs. (The numbers beneath the examples in (11) indicate tone.)

(11) neduieda Đô bla 'I pounded rice for Do' (Innes, 1960:170)
     1 113 2 1 4

    neduieda Đô bla 'I caused rice to be pounded for Do'
     1 113 2 1 4
     (Innes, 1960:171; 1966:57)

    ne duie Đô bla 'I have pounded rice for Do'
     (Innes, 1962:102)

    duie Đô bla 'pound rice for Do'
     (Innes, 1966:33,56)

    jweđa ne Đô ne 'He broke it for Do'
     2 23 2 4 1 2
     (Innes, 1960:170)

    weđ ne Đô 'break it for Do'
     (Innes, 1956:56)

    ˀ bie ne Đô ne 'he has beaten it for Do'
     2 23 4 1 2
     (Innes, 1962:102)

    ˀ gbđe ne Đô ne 'he has set it for Do'
     2 43 4 1 2
     (Innes, 1962:102)
2.2262 Igbo

The inflectional affixes which occur on Igbo verbs are not, for the most part, particularly reminiscent of any which appear in Bantu. Where function is the same, form is decidedly different. In most cases even meaning parallels are absent. There are, however, two exceptions to this generally bleak cognate picture: the benefactive and perfective forms.

The phonological shape of the benefactive marker in Igbo consists of /r/ plus (a repetition of) the preceding vowel, with non-low tone (Welmers, 1970:52). It marks benefactive and recipient NPs, as shown in the examples in (12).

(12) Ọ nà arọry mà ṣọry 'He's working for me'
(Welmers and Welmers, 1968:122-23)

á gà m akọry unà ákykọ 'I'm going to tell you (pl.) a story'

ọ nághi èsiri ányi nri 'She's not cooking for us.'

á nyàra m fıkúriri ha asụsụ Igbo, ma hà amụtàghị ụnọ ọma 'I tried to teach them Igbo, but they didn't learn very well'

The phonological shape of the perfective marker is very similar to that of the benefactive marker: low tone replacing stem tone, plus a suffix consisting of /r/ plus the preceding vowel, with low tone (Welmers, 1970:51). Although this marker can refer to the
present for verbs describing a situation, "for many verbs, the con-
struction . . . is translated by an English 'past,' and the Igbo con-
struction has commonly been given the same name" (Welmers and Welmers, 1968:76).

2.2263 Duka

Our Duka data, shown in (13), is taken from Bendor-Samuel et al.
(1973:73-74). The Duka benefactive suffix, basically -ẹ, marks bene-
active NPs, as shown in (13a, b, c, and d). It also appears to mark
(persons as) goal or purpose NPs, as shown in (13e, f and g). The fact

(13) a. hànta me ká ríi yọ bring-for me that thing
where hànta comprises hà 'to come,' -ẹn 'towards speaker,' -ẹ 'causative,' -ẹ 'for' (Bendor-Samuel
et al., 1973:10)

b. wà hóó me o-ják you will kill-for me horse (glosses compiled by me)

c. hóó húnne ká má tọ kill-for people that word
'Put a stop to that matter for the people'

d. wà ṣẹ me yọ ẹm-hóó he is me it killing-for
'He is killing it for me'

e. hóó
'go for someone'

f. někẹ
'go for someone'

g. hẹ- ès- èn- ẹ go time before direction towards speaker for
'go for someone before another event and come back'

that, in each case, the goal is a human being is probably not coinci-
cidental. It is one of the most likely bases for a semantic spread
from the one function to the other. Note that when the applied verb has two objects, the benefactive NP is the first of the two.

2.2264 Summary

To summarize, our descriptions of Grebo, Igbo, and Duka indicate that within Benue-Kwa, but outside Bantu, the functions of the applied affix are basically identical with those found in other branches of Niger-Kordofanian. The affix is always used to mark benefactive NPs, there is a slight tendency toward semantic spread (in Duka) to mark highly semantically related NPs. These are the only uses encountered; a benefactive function is the only one which can confidently be reconstructed.

Throughout this chapter we have seen a picture of great functional stability for this marker. In the next chapter, where we deal with the affix in Bantu, this picture will change. There, although the affix continues to mark benefactive NPs, it also gains a great many additional functions.
NOTES

1. A definition of Niger-Kordofanian, and of Bantu's relationship to it, appears on pp. 79-80.

2. For definition of the terms 'benefactive' and 'indirective,' see Chapter III, p. 155.

3. Givón excepts only the reciprocal extension -an- (see (3) and (4) on pp. 76-77) from his argument.

4. Guthrie's use of parentheses here indicates that this verbal extension cannot be as assuredly attributed to proto-Bantu as can the others. It may be a slightly later development.

5. The vowel differences between the Guthrie and Meeussen reconstructions result from differences in notation between the two authors and do not indicate discrepancies between their reconstructions.

6. An earlier version of this work appeared in 1955 as Studies in African Linguistic Classification, which in turn was a photo offset of eight articles which appeared in the Southwestern Journal of Anthropology in 1949, 1950, and 1954. The work was republished in 1966 by Mouton and Co. Page numbers cited in this dissertation refer to the 1966 publication.

7. The names of the first five of these families, as well as that of Niger-Kordofanian itself, follows Greenberg (1963). The term Benue-Kwa, coined by Larry Hyman, combines the Kwa and Benue-Congo families of Greenberg (1963) on the basis of evidence in Welmers (1968), supported in Bennett and Sterk (1977), which indicates that there should be no division between the languages assigned to these two groups. Note that the two hyphenated names, Niger-Kordofanian and Benue-Kwa, do not reflect the current view in the sense that such hyphenated names are usually reserved for a language family with two (and only two) major branches, whose individual names are linked with a hyphen to designate the earlier language which spawned both. Although current scholarship does not necessarily consider the basic split in Niger-Kordofanian to be between Kordofanian and everything else, or support a division between Kwa and Benue-Congo, we here continue to use the names Niger-Kordofanian and Benue-Kwa for readers' convenience.
8. No clear order of separation from the parent language has been determined for Kordofanian vs. Mande or for Gur vs. Adamawa-Eastern.

9. This suffix is also present on the verb in Mambila, but I could ascertain a difference in meaning between the verb with and without -l in only one case, namely between

\[ W. \text{ ndā́ (ndā́) Mb. ndā́ go} \quad [W. = \text{Wárwar dialect of Mambila}; \]

and \[ W. \text{ ndā́l (ndā́l)} \quad \text{Mb. ndā́l come Mb. = Mbanga dialect} \]

Likewise, 'come here' is said in the Mb. ndā́l, but in the W. ndā́l, which in both dialects also means 'bring here.' 'Be here' in the sense of 'to have arrived' is said in the W. and Mb. bā́l. 'Arrive' is W. Mb. bā́l, 'break off, go away' W. yu (yūl) Mb. yo.

Some examples of verbs which take the suffix -l:

\[
\begin{align*}
W. \text{ ya} & \quad \text{Mb. ša} & \quad \text{万事} & \quad \text{take, hold, possess} \\
W. \text{ bē} & \quad \text{Mb. bē} & \quad \text{bḗl} & \quad \text{make, manufacture} \\
W. \text{ nā́} & \quad \text{Mb. nā́} & \quad \text{nā́l} & \quad \text{rain} \\
W. \text{ mā́} & \quad \text{Mb. fā́} & \quad \text{fā́l} & \quad \text{drink} \\
W. \text{ yā́} & \quad \text{Mb. yā́} & \quad \text{yā́l} & \quad \text{eat} \\
W. \text{ tū́} & \quad \text{Mb. tū́} & \quad \text{tū́l} & \quad \text{speak, say} \\
(W. \text{ tšḗ}) & \quad \text{Mb. tšā́} & \quad \text{tšā́l} & \quad \text{sleep} \\
W. \text{ hā́} & \quad \text{Mb. yī́} & \quad \text{give}
\end{align*}
\]

The following examples show that the forms without and with -l today are actually used indiscriminately, side by side, and without the -l exercising any function:

\[
\begin{align*}
W. \text{ hā́ me bā́́tā́}! & \quad \text{(Mb. yī́ me kotā́r!)} \quad \text{give me a needle!} \\
W. \text{ hā́l} & \quad \text{Mb. yī́ l} \quad \text{give me the spear!} \\
W. \text{ wṓ yā́l kḗ-wa? Mb. wṓ yā́l kḗ-bā́? when did you eat?} \\
W. \text{ wṓ yā́l kā́-wā́? Mb. wṓ yā́l kā́-bā́? where did you eat?} \\
W. \text{ nābṓl yā́l mḗm-ā́-sen té̱́e Mb. nābḗ šā́l mḗm-ā́-sen tḗlī́f} \\
\text{the woman possesses her little house} \\
W. \text{ me ya mḗm-ā́-ma kḗ Mb. me šā́ mḗm-ŋṓ hṓ́m} \\
\text{I possess my good house}
\end{align*}
\]

10. Redden labels his -l- 'causative' as 'applied.'

11. These suffixes are similar to the Bantu, still more to the Fula; for example -ani, -ini applicative, compare Duala -ne 'do something for or with someone,' Fula -ana, -ena, -ina applicative.

12. In Krongo this marker is also used to form comparatives.
13. Welmers refers to this marker as 'factative.'
CHAPTER III

THE APPLIED AFFIX IN BANTU

3.1 Classification systems for Bantu

In Chapter II we described the functional stability of the applied affix as a marker for benefactive NPs through successive branches of Niger-Kordofanian (Kordofanian, Mande, West Atlantic, Adamawa-Eastern, Gur, and Benue-Kwa). The genetic framework which organized our observations was that of Greenberg (1966). In the present chapter we will describe the functional spread of the marker within Bantu. For this task we require work in genetic subclassification much finer than that which Greenberg provides. Consequently, in this chapter we will switch to two alternative classificatory frameworks: (1) the classification of the Bantu languages by Guthrie (1948, 1967-71) and (2) the genetic organization by Heine (1972). The shift from the genetic organization of the last chapter to that of the present requires a few transition comments since Greenberg’s genetic framework is not directly relatable to that of Heine and Guthrie.

The basic problem is the fact that neither the Bantu of Greenberg nor any of its genetic subgroups precisely corresponds to

Footnotes for Chapter III begin on p. 204.
the Bantu of Guthrie (and Heine). (Heine uses Guthrie's limits on Bantu as the outside boundary for his genetic examination.) This non-correspondence results partly from the difference in their directions of approach. Greenberg's work approaches Bantu from a broad genetic perspective. Guthrie, on the other hand, started with a group of obviously closely related languages and their geographical neighbors. More basically, however, the two take fundamentally different approaches to their definition of a language group. Greenberg's criteria for the definition of Bantu (Williamson, 1971:250-51) relate to innovations in noun class markers; Guthrie's criteria (Guthrie, 1948:11-12) are typological and lexical. Of the two approaches, it is that of Greenberg which coincides with current practice.

On a philosophical level, Greenberg's and Guthrie's classifications of Bantu cannot be reconciled. However, if one compares results rather than logic or methods, more can be said. Basically, Greenberg's Bantu incorporates more subgroups, languages further away linguistically from the Bantu core than does Guthrie's. (For this reason Greenberg's Bantu is sometimes termed 'wide' Bantu, contrasting with Guthrie's which is termed 'narrow'.) In fact Guthrie's 'narrow' Bantu, insofar as it is a correct genetic group, is most likely a branch or sub-branch of Greenberg's Bantu. However, although narrow Bantu may not be even a major branch of wide Bantu, it is by far the larger portion geographically. Furthermore, in terms of scholarship it has been the object of an extremely disproportionate amount of the descriptive work.
For our own study the theoretical differences between Greenberg and Guthrie are a side issue. The practical differences between them, on the other hand, could logically be more important. That is, the precise structure of the genetic relationship between wide Bantu and narrow Bantu could conceivably have import for our description of the applied affix's accrual of function. Even here, however, it turns out that in fact nothing hinges on this matter. This is because outside of narrow Bantu, no Bantu reflexes of the applied affix were found. This may perhaps partly be attributed to the paucity of descriptive material. A more basic reason, however, is a continuation of the processes which have eliminated reflexes of the applied affix elsewhere in Benue-Kwa: (1) verb structure simplification which eliminates verb extensions, and (2) replacement of verb extensions by serial verbs (cf., p. , Chapter II). Our failure to find Bantu reflexes of the applied affix outside narrow Bantu means that, practically speaking, our use of the term 'Bantu' throughout the rest of this study refers to Guthrie's narrow Bantu. This usage does not reflect rejection of any part of Greenberg's work but rather marks the realities of where reflexes of our object of study, the applied affix, were found.

Within (narrow) Bantu reflexes of the applied affix are very widespread. Here the task is no longer one of speculating on the basis of scant material but is rather one of organizing abundance. As we mentioned earlier, two classification schema will organize our findings: (1) Guthrie's classification of the Bantu languages
(1948, 1967-71) and (2) Heine's genetic organization (1972). Of these two Guthrie's is historically as well as logically the first. It lays the groundwork for Heine's revision which follows. For readers who are unfamiliar with the details of either of these classifications, the next two sections provide working information important for the rest of the chapter. Others may wish to proceed directly to the discussion of the applied affix which follows on p. 141.

3.11 Guthrie's two-part referential classification

Guthrie's is a two-part referential classification which bases its categories on geographic area and, wherever possible, on observations of close genetic relationship.\(^1\) The Bantu domain is divided into 16 geographical areas, each designated by one of the letters A, B, C, D, E, F, G, H, K, L, M, N, P, R, S, or Z. The schematized map on p. 128, taken from Guthrie (1967-71), shows the locations of the first 15 of these areas, each outlined by a double solid line. (The Z-area, not shown on the map, is in Nigeria.) Within each geographical area, languages are grouped according to a two-digit numbering system in which closely related languages, where known, are assigned the same first digit. Where such close genetic grouping does not emerge, the same first digit may simply be a convenient group. Such groups are shown on the map outlined with a single solid line. Within each group dotted lines indicate language boundaries.
Fig. 3. Schematized map of Guthrie's two-part referential classification of the Bantu languages (taken from Guthrie, 1967-71, Vol. 1, 127).
Fig. 4. Geographical distribution of Heine's sample of languages.
Fig. 5. Geographical distribution of Heine's groups 1-7.
Fig. 6. Geographical distribution of Heine's groups 8-10.
Fig. 7. Geographical distribution of Heine's groups 11.1-11.8.
Fig. 8. Geographical distribution of Heine's group 11.9.
Fig. 9. Geographical distribution of Heine's group II.
Fig. 10. Geographical distribution of languages examined for functions of applied affix.
For example, of the languages listed below, all are spoken in roughly the same geographical area, the N-area. The N-area contains four (genetic) groups: the Manda group (N.10), the Tumbuka group

N.10 Manda group

N.11 Manda [Tanzania]
N.12 Ngoni [Tanzania]
N.13 Matengo [Tanzania]
N.14 Mpoto [Tanzania]
N.15 Tonga [Malawi]

N.20 Tumbuka group [Malawi]
N.21 Tumbuka

N.30 Nyanja group

N.31a Nyanja [Malawi]
N.31b Cewa [Malawi, Zambia]
N.31c Maŋ'anja [Malawi]

N.40 Senga-Sena group

N.41 Nsenga [Zambia]
N.42 Kunda [Moçambique, Zimbabwe, Zambia]
N.43 Nyungwe [Moçambique]
N.44 Sena [Moçambique]
N.45 Rue [Moçambique]
N.46 Podzo [Moçambique]

(N.20), the Nyanja group (N.30), and the Senga-Sena group (N.40). Of these four groups one, the Tumbuka group (N.20), consists of only

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one language, Tumbuka (N.21). Another, the Nyanja group (N.30), also
consists of only one language, Nyanja (N.31), but here this language
has been further differentiated into three closely related dialects:
Nyanja (N.31a), Cewa (N.31b), and Maj'anja (N.31c). Note that the
boundaries between such closely related dialects are not indicated on
the map. This use of a final lower-case letter indicates very close
genetic relationship, possibly mutual intelligibility, among the
languages involved. The relationship here is presumably closer than
it is among the languages within each of the remaining two groups in
the N-area, Manda (N.10) and Senga-Sena (N.40), which consist of five
and six languages, respectively. Note that the languages of a group
such as Senga-Sena (N.40) are not all necessarily geographically con-
tiguous. A language such as Kunda (N.42) may furthermore be spoken
at separate geographical locations.

Guthrie's identification codes for the Bantu languages are very
widely referred to. These codes, coupled with the map on p. 128,
allow Bantu languages to be located with reference to each other and
to the rest of the Bantu domain. The codes also provide some indica-
tion of potential genetic subgrouping. Guthrie's classification of
the Bantu languages is exhaustive for the geographical area it covers.

3.12 Heine's genetic organization

Heine's (1972) genetic organization of the Bantu languages,
which appears in full in Appendix A, is one of the best analyses
currently available for genetic subclassification within narrow Bantu.
Heine uses lexicostatistical methods to group a fairly broad geographical sample of Guthrie's Bantu languages (cf., map on p. 129) into major groups and sub-groups. The eleven major parallel groups which Heine isolates on the basis of lexicostatistics he later re-groups on the basis of geography to outline a skeletal history of the migrations of the Bantu-speaking people. It is this history which can be used as the basis for genetic subclassification.

Heine's history posits three waves of Bantu migration. In the first wave two groups separately leave the main group of Bantu-speaking people, represented today by Heine's language groups 1-7, residing in the northwestern corner of the Bantu domain (cf., map on p. 130). One of these groups moved east and is represented today by Heine's groups 8-10 (cf., map on p. 131). The other, Heine's group 11, moved south.

In the second wave of Bantu migration, members of group 11 fanned out in nine subgroups to cover what is today roughly the western half of the Bantu domain. Eight of these subgroups took part in no further major movements so that the area they presently cover (cf., map on p. 132) represents roughly the expanse of this migration. One subgroup, however, the ninth, did participate in one further movement. This was the third wave of Bantu migration, and it spread to cover basically all of the eastern half of the Bantu domain (cf., map on p. 133).

On the basis of Heine's work it can be assumed that at least five proto-languages, schematized in Figure 11 on p. 139, are
relevant to historical discussions of Bantu: (1) proto-Bantu—
internal reconstructions for this group are forms or functions which
appear in languages from at least two of the three nodes (2, 3, and 4)
 immediately below it (cf., map on p. 129); (2) northwestern Bantu—
internal reconstructions here are forms/functions which appear in
languages from at least two of Heine's first seven groups (cf., map
on p. 130); (3) north-central Bantu—internal reconstructions must
be taken from languages in at least two of Heine's groups 8, 9, and 10 (cf., map on p. 131); (4) group 11—internal reconstructions come from languages in at least two of the nine subgroups immediately below it (cf., map on p. 134), and (5) eastern Bantu—internally reconstructed forms or functions must appear in a range of the 26 subgroups from the ninth subgroup of Heine's group 11 (cf., map on p. 133). The usual kinds of external evidence also obviously bear on final reconstructions.

Although Heine's genetic organization of Bantu is some of the best work on major subclassification within Bantu to date, certain problems in its use for historical discussions must be mentioned. The classification is not exhaustive. It rests on a sample of strategically selected languages. Because the membership of subgroups is not fully determined, the classification cannot be easily used to assess geographic vs. genetic bases for spread. For reasons inherent to the structure of Bantu, languages in Heine's groups 1-10 (cf., Appendix A) are not nearly so numerous as are those in group 11. Five of the first ten groups are composed of only one language. Because languages in Heine's groups 1-10 have not received nearly the descriptive attention of languages from group 11, reconstructions can sometimes become precarious or impossible for northwestern Bantu [(2) of Figure 11, p. 139] and north-central Bantu [(3) of Figure 11, p. 139]. Problems with reconstructions for these groups can lead to problems with reconstructions for proto-Bantu [(1) of Figure 11, p. 139]. And,
finally, because the geographical areas around Heine's group 1-7 and 8-10 languages are linguistically so heterogeneous, neighboring Bantu languages (with more descriptive material available) can be used (in addition to the languages Heine specifically classifies) for reconstruction of the proto-languages only with great care. Because Heine's classification is based on lexicostatistics rather than linguistic isoglosses, informal determination of group membership of additional languages is not quickly accomplished.

3.2 History of function of the applied affix

Our description of the history of the applied affix is based on languages from Heine's groups 1, 2, 4, and 11. Within group 11, languages were used from subgroups 11.1, 11.2, 11.3, 11.6, 11.7, 11.8, and 11.9. Within subgroup 11.9, languages from 13 of the 26 minor groupings were examined. The complete list of languages appears in the table on p. 144. The map on p. 135 shows their geographical distribution.

Regrettably, we were unable to obtain information on functions of the applied affix in any of the languages from Heine's group 8-10. However, because Heine indicates a three-pronged node for the break-up of proto-Bantu (cf., Figure 11, p. 139), it was still possible to reconstruct proto-functions using languages from the other two nodes (1-7 and 11).

In general, we attempted to use only languages that Heine had specifically classified, but exceptions were made in a few cases.
Because information on the applied affix in languages from Heine's groups 1-7 was so scant, we added Tunen, for which a thorough modern treatment (Dugast, 1971) is available. In addition, because the information was scant before, and because that for Tunen was complete, this language, coupled with external evidence, figures heavily in our reconstructed functions for northwestern Bantu. However, Tunen's (A.44) location, its absence of verb-final -a, and the fact that its use of the applied affix conformed with that which could be expected for membership in groups 1-7, make it unlikely that our assignment could be incorrect. Our substitution of Basa (A.43a) for Mbene (A.43a) in this same 1-7 branch is simply a matter of language name. Within group 11.9, our additions of Lamba (M.54), Luba (L.31 or 33), Mashi (K.34), Luyia (K.31), Chimwini (G.41), and Safwa (M.25) are non-controversial, and the languages illustrate points about the applied affix that we wish to discuss. Chichewa (Cewa)(N.31b) is used to illustrate points about Nyanja (N.30), of which it is a dialectal variant (cf., pp. 136-137 and fn. 2, this chapter).

In this chapter our discussion of the accrual of function of the applied affix in Bantu presupposes two frameworks for organizing our Bantu data: (1) a genetic organization for Bantu, which has already been discussed, and (2) an organization by 'function' for examples of the applied affix. The functions we used to organize our Bantu data are listed on pp. 145-47. These functions are reflective not of any particular theoretical framework, independently developed, but were rather isolated from the total data before us. They were
selected because (a) they are frequently mentioned and exemplified in the grammars, (b) they are (primarily) restricted to specific genetic groups, and thus help to reconstruct the functional history of the affix, or (c) they are particularly relevant to our discussion of transitivity.

Given our genetic and functional frameworks, our history of the accrual of function next requires information on the specific languages in which the various functions can be found. This information is displayed in the tables on pp. 148-154. In these tables entries are abbreviated as follows:

\[ \begin{align*}
A &= \text{applied affix} \\
AA &= \text{doubled applied affix}^3 \\
DN &= \text{deverbative noun} \\
( ) &= \text{an entry which is questionable for one reason or another}
\end{align*} \]

References for the entries are found in Appendix B.

The organization of these tables, and that of the text and examples which follow, is designed to show historical developments within semantic areas. This means that our list of functions on pp. 145-147 is organized differently from the columns in our tables and the order of our expository text. To facilitate the reader's search for discussion of particular topics, cross-referencing from topics to tables and text is provided. Note that our tables and following texts show historical developments only within individual semantic areas. A cross-area historical overview is sketched briefly at the end of the chapter.
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### TABLE 7

INDEX OF FUNCTIONS OF THE APPLIED AFFIX

I. Functions Associated with Semantic NP Relations

<table>
<thead>
<tr>
<th>Semantic Relation</th>
<th>Function</th>
</tr>
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</table>
| Indirective [cf. Table 8, p. 148, col. 1-4; text pp. 155-57] | Verbal marker for object NPs
benefactive [cf. p. 148, col. 1; (1) on p. 155]
malefactive [cf p. 148, col. 2; (2) on p. 155]
recipient [cf p. 148, col. 3; (3) on p. 156]
possessive [cf. p. 148, col. 4; (5) on p. 157] |
| Motive [cf, Table 8, p. 148, col. 5-9; text pp. 158-60] | Verbal marker for object NPs
purpose [cf. p. 148, col. 5; (6) on p. 158]
cause [cf p. 148, col. 6; (7a) on p. 158]
In special constructions
on verb of 'why' question [cf. p. 148, col. 7; (8a) on p. 159]
on verb of 'why' clause [cf. p. 148, col. 8; (8b) on p. 159]
on verb of purpose modifier, as in 'an instrument for cutting' [cf. p. 148, col. 9; (9a) on p. 159]
In deverbative Ns
cause [cf. p. 148, col. 6; (7b) on p. 158]
instrument [cf. p. 148, col. 9; (9b) on p. 159] |
| Locative [cf. Table 9, p. 149, col. 1-9 and p. 150, col. 1-10; text pp. 160-73] | Verbal marker for object NPs
to/toward
with verb of motion [cf. p. 149, col. 1; (10) on p. 161]
with non-motion verb [cf. p. 149, col. 2; (11) on p. 161]
from
with verb of motion [cf. p. 149, col. 4; (13) on p. 162]
with non-motion verb [cf. p. 149, col. 5; (14) on p. 162] |
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<td>at [cf. p. 149, col. 7; (16), pp. 162-63]</td>
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<td>near [cf. p. 150, col. 1; text p. 169]</td>
<td>on [cf. p. 150, col. 2; text p. 169]</td>
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<td>through [cf. p. 150, col. 3; text p. 169]</td>
<td>over [cf. p. 150, col. 4; text p. 169]</td>
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<td>in front of [cf. p. 150, col. 5; text p. 169]</td>
<td>To alter significance of verb</td>
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<td>to indicate goalless motion [cf. p. 149, col. 3; (12) on pp. 161-62]</td>
<td>to indicate motion or direction [cf. p. 149, col. 9; (18) on pp. 163-64]</td>
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<tr>
<td>With sit, lie, etc. [cf. p. 150, col. 6; text p. 169]</td>
<td>In deverbative Ns</td>
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<td>place [cf. p. 149, col. 8; (17) on p. 163]</td>
<td>Discourse implications [cf. p. 150, col. 7-10; (21)-(24) on pp. 170-72]</td>
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</tbody>
</table>

**Time** [cf. Table 10, p. 151, col. 1-3; text pp. 173-78]

- Verbal marker for object NP
- Adverb of time [cf. p. 151, col. 1; (25) on p. 173]
- In deverbative Ns
- Time [cf. p. 151, col. 2; (26) on p. 174]
- Also on verb in time clause [cf. p. 151, col. 3; (27) on p. 174]
- Discourse implications [cf. text pp. 177-78]

**Manner** [cf. Table 10, p. 151, col. 4-7; text pp. 173-78]

- Verbal marker for object NP
- Adverb of manner [cf. p. 151, col. 4; (28) on p. 174]
- In Deverbative N
- Method, manner [cf. p. 151, col. 5; (29) on p. 175], also on verb in 'how' clause or question [cf. p. 151, cols. 6-7; (30) on p. 175]
- Discourse implications [(31) on p. 178]
TABLE 7 (continued)

II. Used with Specific Words or Morphemes

'reflexive' [cf. Table 11, p. 152, cols. 1-3; text pp. 184-87]

'first' [cf. Table 11, p. 152, col. 4; (41) on p. 187]

'therefore' [cf. Table 11, p. 152, col. 5; (42) on p. 187]

'in vain' [cf. Table 11, p. 152, col. 6; (43) on p. 187]

'for nothing' [cf. Table 11, p. 152, col. 7; (44) on p. 188]

'anyhow' [cf. Table 11, p. 152, col. 8; (45) on p. 188]

'together' [cf. Table 11, p. 152, col. 9; (46) on p. 188]

III. Used to Indicate More of Action of Verb

Attached to verb to indicate intensiveness, excessiveness repetition, duration, completion [cf. Table 12, p. 153; (47) on p. 189]
TABLE 8

DISTRIBUTION OF FUNCTIONS OF THE APPLIED AFFIX:
INDIRECTIVE, MOTIVE

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| *For key to abbreviations, see p. 143.
**TABLE 9**

**DISTRIBUTION OF FUNCTIONS OF THE APPLIED AFFIX: LOCATIVE**

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- Tunen
- Bangi
- Mongo
- Teko
- Yhere
- Kikongo
- Cuma
- Lunda
- Lwena
- Kimbundu
- Herero
- Lega
- Sesha
- Lambo
- Luba
- Mashi
- Luvya
- Rukana
- Nkore
- Haya
- Ganda
- Nyamwezi
- Kikuyu
- Swahili
- Chinswini
- Shambaz
- Yao
- Safwa
- Nyanja
- Shona
- Tenda
- S. Sotho
- Tswana
- Ndebele

*For key to abbreviations, see p. 143*
TABLE 9 (continued)

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**TABLE 13**

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<td>Venda</td>
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<td>S. Sotho</td>
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<td>Tswana</td>
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<td>Ndebele</td>
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*For key to abbreviations, see p. 143.*
3.21 Functions associated with objects

3.211 Indirective (cf. Table 8, p. 148, cols. 1-4)

The indirective function of the applied affix encompasses the
benefactive ('to the benefit of,' 'on behalf of,' 'instead of'),
malefactive ('to the detriment of'), and recipient semantic relations.
It includes ethical as well as syntactic or lexically required dat-
ives. It also includes some possessors. Indirective NPs are implicit-
ly [+animate] and usually [+human]. The unifying concept for this
category is that of a [+animate] object NP which indirectly receives
or is concerned with the action of the verb.

The benefactive, malefactive, and recipient semantic functions
of the applied affix appear throughout Bantu and should be recon-
structed for proto-Bantu. The examples in (1)-(3) below, taken from
Basa (Schürle, 1912:67-68) are typical of their functions.

Benefactive (Ben)

(1) a. for the benefit of

lamb a niembel me
'cook' 'he cooked for me'

b. on behalf of, instead of

pod a mpolod beh basona
'speak' 'he spoke in the name of all of us, he
spoke for us (good for us)'

(2) Malefactive (Mal)

ñub a unbéne me
'be angry' 'he is angry with me'
(3) **Recipient (Recip)**

om ēmle mè kàd
'send' 'send me a letter!'

The use of the applied affix with possessors is much more restricted in its distribution; it may in fact clearly appear only in Kinyarwanda and surrounding languages. A claim of possessive function for the affix also appears in Lomongo (the 'Mongo' of Table 6, p. 144). The Lomongo examples, however, some of which appear in (4), probably represent only an early stage in the use of the affix for possessors.

(4) a. -bóm- bǒmbomela bibwa
    (Hulstaert, 1965:260-61)
    'one has killed to me (my) domestic animals'

b. -kéf-
    ŋkéfélè mpokè
    'glance at my pot'

c. -wá
    bón'òa fáomoto ̀ombwèla
    'the child of my aunt is dead to me: I have lost the child of my aunt'

The peripheral status of these examples arises from the fact that, although the relevant NP in each case has a role in the sentence as a possessor, it is also much more closely concerned with the action of the verb than the possessive relationship generally requires.

In Kinyarwanda the shift in the basis for appearance of the affix has gone much further. Here the only remnant of the earlier use of the applied affix is the confinement of examples to [+human] NPs. The three Kinyarwanda examples in (5) show the usual Bantu possessive construction in the 1-sentences. The 2-sentences show the applied affix.

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(5) possession (Poss)  (Kimenyi, 1976:100)

a-1. Umuhuŋgu a- ra- som- a  igitabo cy'  úmukoôbw
    boy  he  pres  read  asp  book  of  girl
    'The boy is reading the book of the girl.'

a-2. Umuhuŋgu a- ra- som- er- a  umukoôbw a  igitabo
    boy  he  pres  read  ben6  asp  girl  book
    'The boy is reading the girl's book.'

b-1. Umugóre a- r- icar- a  kuú ntebe  ý'  úmugabo
    woman  she  pres  sit  asp  on  chair  of  man
    'The woman is sitting on the chair of the man.'

b-2. Umugóre a- r- icar- ir- a  umugabo  kuú ntebe
    woman  she  pres  sit  ben6  asp  man  on  chair
    'The woman is sitting on the man's chair.'

c-1. Umukoôbw a- ri muu nzu  ý'  úmuhuŋg u
    girl  she  be  in  house  of  boy
    'The girl is in the house of the boy.'

c-2. Umukoôbw a- be- er- eye  umuhuŋg u  muu nzu
    girl  she  be  ben6  asp  boy  in  house
    'The girl is in the boy's house.'

Our data on indirective shows a spread of the applied affix from
benefactive NPs to malefactive and recipients. The basis for this
spread is semantic generalization from the concept of benefaction to
that of animate NPs indirectly affected by the action of the verb.
Included within this concept are certain NPs which incidentally stand
in the possessive relationship. In Kinyarwanda, in a later develop-
ment, this possessive relationship develops into a separate basis for
appearance of the affix. A holdover from the origin of this use how-
ever is the apparent restriction to [+human] NPs.

In short, in the material we have just described the applied
affix shows (a) semantic generalization, and (b) secondary spread to
an incidental syntactic environment.

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3.212 **Motive** (cf. Table 8, p. 148, cols. 5-9)

The motive function of the applied affix includes the marking of purpose/goal NPs (the NP which an action was performed to obtain or accomplish) and cause NPs (one which precipitated the action of the verb). The appearance of the affix on the verb of 'why' questions and clauses is a logical concomitant of these uses. A highly specific and semantically related environment is the appearance of the affix on verbal modifiers which indicate the purpose of the head N (as in 'an instrument for cutting'). Deverbative nouns which incorporate this use of the applied affix essentially denote instruments. The examples in (6) - (9) are representative of the applied affix in these uses.

(6) **purpose/goal** (Purps)

ngunatumina makanya
'I have sent for tobacco.' (Lwena--White, 1949:38)

(7) **cause** (Tunen--Dugast, 1971:233)

a. m'ndo\(^1\) s\(m\)\(ə\)t\(e\)\(^2\) a k\(w\)īn\(^3\) m\(ā\)nny\(^4\) ot\(ā\)t\(^5\)

'a\(^2\) man\(^1\) died\(^3\) (because of)\(^3\) having waited for\(^5\)
his wife\(^4\)' (-\(ω\)\(θ\)...\(w\)īn)

b. **deverbative noun** (DN) (related verb)

(Tunen--Dugast, 1971:266)

ulalen
'the reason for crying, for uttering a cry'

-bány
'to hate'

nèkwayen
'the reason for getting angry'

-klây
'be naughty, be angry'
(8) a. *why question (Why Quest)  (Venda—Ziervogel, 1961:224)
    ni mu tōdela mini?
    (why do you want him?) or (what do you want him for?)

b. *why' clause (Why Claus)  (Kongo—Bentley, 1887:601)
    Diau ngyendele
    'That is why I went'

(9) purpose modifier (Purps Modfr)  (Bemba—Sambeek, 1955:86)

a. ndeya ndenukule fyani fya kupangile cisote
   'I'll go and pull up some grass to make a hat'

b. deverbative noun (DN)  (related verb)
   (Tunen—Dugast, 1971:266,277)
   hǐnigini
   'means of escaping mis-fortune' or 'healing medicine'
   -nig
   'save, heal'

   hēngofè
   'the hook or that which serves as bolt for shutting a door'
   -kōf, -kōfè
   'shut a door' with a hook or bolt

   nēbymbonè
   'the receptacle in which one causes dry food to soften'
   -bymben
   'to soften' (trans)

Of these uses, the marking of purpose/goal NPs is semantically very closely related to benefactive. In many sentences, for example, a benefactive reading is obtained with a [+human] object NP, whereas a purpose reading appears with a [-animate] one, as in 'He cultivated the field for his brother' (ben) vs. 'He cultivated the field for money' (purpose). It is presumably this kind of link which is the basis for spread of the applied affix from benefactive to this additional area of function. Semantic generalization to other NPs and
contexts related to motive follow naturally. There is some suggestion that use of the affix in (a) modifiers indicating the purpose of the head N, and in (b) 'why' clauses may be later than the other uses, but this is not certain. Cross-linguistically such later spread would in general be expected because of the secondary syntactic status of these environments. The more central three uses (purpose NPs, cause NPs, in 'why' questions) should be reconstructed for proto-Bantu.

3.213 Locative

3.2131 Lexical and syntactic uses (cf. Table 9, pp. 149-50, especially p. 149 for the material discussed immediately below)

By far the most widely described locative use of the applied affix is in the verb of motion + goal locative context (cf. col. 1, to/toward: + V of Motion). The affix also appears in a number of other locative or motion contexts, however. It may appear with a directional or goal NP when no verb of motion is involved (To/toward: -V of Motion). It may also appear on verbs of motion which are specifically not oriented toward a goal (Motion - Goal). In addition to the 'to' or 'toward' uses, the affix appears, albeit much less widely cited, in 'from' contexts. The choice of verbs here is quite restricted: the verbs of motion are primarily 'leave' or 'come'; non-motion verbs are 'eat' or 'drink.' The affix appears also with 'in' and 'at' locatives; it is used to derive place nouns from related verbs (deverbative noun or DN); and it is occasionally cited in the
function of changing a nondirectional verb into a directional one (Directional V). Representative examples of the applied affix in these functions appear in (10)–(18) below.

(10) *To/toward: + V of Motion*

unextended verb

\[ ukwāuku inika \]
'to cross the river'

applied verb

\[ ukwāucila pesiliya \]
'to cross to the other side'

(11) *To/toward: - V of Motion*

unextended verb

\[ -tgeta \]
'stick'

applied verb

\[ -tgetera \]
'stick to'

(12) *Motion - Goal*

a. unextended verb

\[ wala \]
'go'

applied verb

\[ walea \]
'take a stroll'

b. unextended verb

\[ ddā \]
'row'


(13) From: + V of Motion

unextended verb

a. nlo meni
   'he came to me'

Basa--Schürle, 1912:67

applied verb

a. nlol Bikok
   'he came from Bikok'

(14) From: - V of Motion

a. applied verb (unextended form not shown)

kúdi-lá fá díloŋa
   'eat from a plate'

Luba-Burssens, 1946:73

b. applied verb (unextended form not shown)

kúnuiná mú díkófó
   'drink from a glass'

(15) in

a. applied verb (unextended form not shown)

goapêela mòpitsêng
   'to cook in a pot'

Tswana--Cole, 1955:201, 203

b. applied verb (unextended form not shown)

Etaláwêla mòmosimêng
   'It will die in the burrow'

(16) at

a. unextended verb

-ľém
   'clear (terrain)'

Tunen--Dugast, 1971:232-33
applied verb
- lémen
'clear (terrain) at such a place'

b. unextended verb
- lún
'forge'

applied verb
lúnín
'forge at such a place'

(17) deverbative noun (DN)
(related verb)(Luganda--Ashton et al., 1954:376)

a. ebbajiro 'carpenter's shed'
    oku-bajja 'to adze'
b. eggwaatio 'peeling place'
    oku-watta 'to peel'
c. eddwaliro 'hospital'
    oku-iwala 'to be ill'
d. eddwaniro 'arena'
    oku-lwana 'to fight'
e. effumbiro 'kitchen'
    oku-fumba 'to cook'

(18) Directional V

a. unextended verb
   nákà
   'grow (increase)'

   applied verb
   nákà̀
   'grow up'

b. unextended verb
   -end-
   'walk, march'

   applied verb
   -endelel'
   'advance'

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c. *unextended verb*

- *panda*
  
  'climb'  
  
  *(Swahili—Ashton, 1947:219)*

*applied verb*

Walipopandia ile mibuyu...

'When they climbed up the baobab trees...'

d. *unextended verb*

- *ba*
  
  'to be (present)'  
  
  *(Safwa—Voorhoeve, 1966: 6.1.6.4)*

*applied verb*

- *beel-
  
  'to approach'

The above mentioned and illustrated uses of the applied affix all appear in both northwestern Bantu and in Heine's branch 11 (cf. Table 9, p. 149). One possibility therefore is that they should all be reconstructed for proto-Bantu. Certain considerations argue against this as the complete solution, however. First, there is a significant disparity between the number of languages for which 'to' locatives are cited vs. the numbers for which the other locative uses are cited. This difference would be unlikely if all of the locative uses were both equally common (across languages) and equally regular (within languages). The differences in frequency of citation therefore suggest overall differences in use in the proto-language. Second, occurrence of the applied affix with similar locatives is not consistent across Bantu languages. Some of the kinds of inconsistencies which arise are illustrated in (19) below.
(19) a. unextended verb in Basa

\[ a \text{ nkwo bē} \]
\[ 'he fell in the hole( into)' \]

but

applied verb in Lomongo

\[ ̱súwéláki nd'ffoku \]
\[ 'I have sunk into the hole' \]

and

lakó atasiké sekí ̱sosúwela ndá lifoku jā lokombo
\[ 'if he has not arrived, he must have fallen into a hunting pit' \]

b. unextended verb in Bemba

wafuma kwī?
\[ 'where have you come from?' \]

but

applied verb in Basa

\[ a \text{ nlo Bikok} \]
\[ 'he came from Bikok' \]

c. unextended verb in Basa

\[ a \text{ nlo menī} \]
\[ 'he came to me' \]

but

applied verb in Kinyamwezi

izīla
\[ 'come to someone' \]

d. unextended verb in Chichewa

mbuži zikuthamanga ku sukulu
\[ 'goats they-pres-run at school' \]
\[ 'the goats are running at the school' \]

but
applied verb in Haya  
(Trithart, 1977:96)

kat' á- ka- tambuk- (il)' ómu- kyaalo
Kato he P3 walk (APP) in village
'Kato walked within the village'
(less acceptable without APP)

e. In Basa, unextended verb  
(Schürle, 1912:83)

ńke wom we
'whither goes he? into his garden'

and applied verb

a ńkil wom we
'where goes he? in his garden (around), i.e., he strolls around in his garden'

but

In Tswana, applied verb  
(Cole, 1955:203)

Batabogēla kae?
'Whither are they running?'

and unextended verb

Bataboga kae?
'Where are they running?'

f. unextended verb in Runyankore  
(Morris and Kirwan, 1957: 117)

Akaza omu kajagiro
'He went to the market'

but

applied verb in Swahili  
(Port, 1981:78)

a-me-end-ea Nairobi
S(he)-Compl-go-1E Nairobi
'he has gone to/toward Nairobi'

g. unextended verb in Lamba  
(Doke, 1936:189)

ukupita pamusi
'to pass through the village'

but
applied verb in Chinyanja (Harding, 1966:95)

pít-il
'go by or through'

And finally, even within single Bantu languages, apparent inconsistencies in the use of the applied affix with various locatives appear. The examples in (20) illustrate some of the problems for even language-internal description of environments.

(20) a. *Basa* (Schürle, 1912:67)

applied verb

nyo 'nkwel me
'the snake fell on (onto) me'

applied verb

a ŋkwel be
'he fell at the hole (at the edge)'

unextended verb

a ŋkwo be
'he fell in the hole (into)'


applied verb

Naashomera omu musiri
'He is reading in the garden'

unextended verb

Naateeka aha muriro
'He is cooking on the fire'

unextended verb

Akaza omu kajagiro
'He went to the market'

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c. Chichewa (personal information)

unextended verb

a- na- thamang- a ku sukulu
he past run FV at school
'he ran at school'

applied verb

a- na- thamang- ir- a ku sukulu
he past run applied FV at school
'he ran to/towards school'

unextended verb

a- na- pit- a ku sukulu
he past go FV at school
'he went to school'

When this additional information is considered, a straight reconstruction of all of the locative uses described thus far for proto-Bantu seems less appropriate, in spite of the occasional appearance of each in all of the major genetic branches and geographical areas. Instead, the balance between commonality and diversity suggests a less static reconstruction and requires consideration of a proto-language which was itself in a state of flux and change at the time of the dispersal. Under such a dynamic approach to reconstruction, the widespread use of the applied affix for the locative notion of 'to' or 'toward' throughout Bantu indicates this as the first and most firmly established of the locative uses in proto-Bantu; the remaining locative uses came later and were less well established at the time of the dispersal. This historical view has the advantage that it explains the similarities without being weakened by the
differences; under it the consistencies among the daughter languages reflect consistencies in the proto-language and vice versa.

3.2132 Uses connected with discourse environment

Exclusively within branch 11 (cf. Table 9, p. 150, for the material discussed immediately below), the applied affix occasionally enjoys a semantic spread to include meanings such as 'near, in the vicinity of,' 'on,' 'through,' 'over,' and 'in front of.' It also acquires specialized uses with the verbs 'sit,' 'sleep,' 'lean,' and 'lie.' More interesting from our point of view, however, is the fact that it is exclusively within branch 11 that the applied affix begins to be cited in papers and descriptive grammars in contexts which are all consistent with one of the locative functions we have already described. In addition, the contexts carry the implication, implicit or explicit, that the appearance of the affix is also connected with some discourse environment (cf. cols. 7-10, discourse implications).

3.21321 Pre-verb locatives (Preverb Loc)

The usual word order in Bantu is SVO; consequently, the usual position for a locative NP is after the verb. Outside of branch 11, locative examples with the applied affix uniformly reflect this fact. Within branch 11, however, grammars begin to cite applied locatives in pre-verb position as well. The syntactic contexts for the pre-verb position are varied: sometimes the locative NP simply appears sentence-initially rather than post-verbally, its usual position. That is, citation of a marked word order, in addition to the more
usual one, is the structure. Other examples show locatives followed by some modifying structure which includes a verb. In other examples the locative NP is the apparent subject of the sentence.

The precise significance of the examples with the pre-verb locatives is impossible to determine from the grammars. There are no specific statements within branch 11 that the applied affix appears only or always with such locatives; there are no specific statements outside branch 11 that it never appears in such contexts. The facts are merely that the descriptive grammars sometimes include such examples within branch 11 and they do not elsewhere. Since the actual structures under discussion can be found all over Bantu, it would seem that the applied affix is at least more noticeable in these environments in branch 11.

The potential link between these environments and discourse factors is pre-verb position. Pragmatically, in a SVO language the pre-verb position is associated with the topic function. Since 'topic,' a discourse concept, can be used to unify the various pre-verb environments which appear, the implication is that in branch 11, the appearance of the applied affix with locatives is increasingly associated with this discourse context.

3.21322 Implicit contrast (Implicit Contrst)

Within branch 11 examples also begin to appear in which the applied affix marks an implicit contrast between the locative actually mentioned and other probable or possible locations. The examples
in (21) are representative. The factors which influence appearance
of the applied affix here are both internal to the sentence (the pre-
sence of the locative NP) and external to it (the presence of the
incompletely stated contrast and its significance). With the applied
affix the speaker is registering information additional to the inform-
ation explicitly provided. This additional information is related
to the global context of the sentence.

(21) a. -simb-
aotosimbela nd' Okála
'he came just to Bokala and returned without coming
to our house (at Bamanya)(it is assumed that the
two places are not far from one another)'

b. kat' á-bon-el' ómu-kyaalo (Haya—Trithart, 1977:96)
'Kato sees if and only if he is inside the village.'

3.21323 New information (New Info)

In Kinyarwanda, a language of Heine's group 11.9, the applied
affix has been specifically stated to mark locates as new information:

The semantic difference between [(22a) and (22b)] with the
suffix -ir- is that in the former everything is new infor-
mation whereas in the latter everything is old information
except the locative NP. The -ir- suffix is always used
in sentences that answer wh-questions that ask where the
action took place. (Kimenyi, 1976:21)

(22) a. Umuhuúngu y- a- boon- ye umukoóba mu muhaânda
boy he pst see asp girl in street
'The boy saw the girl in the street'

b. Umuhuúngu y- a- bon- e- ye umukoóbwa mu muhaânda
boy he pst see ben asp girl in street
'The boy saw the girl in the street'

The evidence cited above is the extent of the justification that
Kimenyi provides for his claim of new information. This evidence
cannot be considered conclusive, and it is possible that other factors
influence appearance of the affix as well. What is apparent, however, is that the factors are neither lexical nor syntactic and must relate to discourse context.

3.21324 Dramatic import (Dramatic Import)

In Swahili, another language of Heine's group 11.9, the applied affix appears to occur with locative NPs which have a certain dramatic import. Contrasting pairs of sentences such as those in (23a) and (23b) illustrate the point here, where the applied verb in (23b) appears with the more emotionally laden locative NP.

(23) a. a-li-kufa bahari-ni    (Port, 1981:78-80)
    S(he)-Past-die sea-Loc
    'he died at sea'

    b. babake a-li-f-ia mikono-ni mwake
    his-father S(he)-Past-die-1E arms-Loc his
    'his father died in his arms'

In (24) the same kind of consideration appears to govern the appearance

(24) simba wa-li-m-l-ia karibu na kambi
    lions S(they)-Past-0(him)-eat-1E nearby to camp
    'the lions ate him near the camp'

of the applied affix since

Under normal circumstances the applied form of la 'eat' would not be used just to introduce the place of eating. This is a special case, however, because people were listening to the lions crunch the bones of a comrade. (Port, 1981:80)

Without further information, it is not possible to specify the precise significance of the applied affix in these sentences. It seems, however, that it makes some comment on the significance of the semantic information provided. In doing so, it takes on a discourse function. 8
To conclude, the spread of the applied affix from benefactive to locative NPs most likely began with the semantic link between recipient NPs and 'to' locatives. A generalization to other locatives followed. The variable use of the applied affix, particularly with the latter locatives in proto-Bantu spawned conflicting and variable use in the daughter languages. Within branch 11 the variable use has, in some cases, evidently become associated with discourse context, and in this way the applied marker itself at times takes on discourse functions.

3.214 **Adverbial: time and manner** (cf. Table 10, p. 151, cols. 1-7)

The applied affix is cited as appearing on the main verb of clauses with an adverb specifying time or manner (Time Advrb, col. 1; Mannr Advrb, col. 4); in deverbative nouns of time and manner (DN, col. 2; DN, col. 5); and on the verbs of certain time and 'how' clauses (Time Claus, col. 3; How Claus, col. 7). The examples in (25) - (30) illustrate these uses.

(25) **Time Advrb**  
(Tunen---Dugast, 1971:223)  
\[
\begin{align*}
\text{mè}^1 \text{nà}^2 \text{wey}^3 \text{nìbìn}^2 \text{ɔ ìbìb}^4 \\
\text{text. 'I met him on the wing', 'I found him in the process of flying': the idea of 'in the process of' localizing the action in time'}
\end{align*}
\]
(26) DN

a. -fik- 'arrive'

\[
\begin{align*}
\text{chi- fik- ir- e} & \quad \text{ch- a- che} \\
\text{Cl.7 arrive applied final vowel} & \quad \text{Cl.7 of 3rd sing.} \\
\text{since-arrival} & \quad \text{his}_1 \\
\text{ku Malawi} & \quad \text{nuo s- a- na- pit- e} \quad \text{'nso} \\
\text{at}_j & \quad \text{Malawi here}_j \quad \text{neg he past go past again} \\
\text{ku dz-iko kw-a-o} & \\
\text{to}_k & \quad \text{country his}_k \\
\end{align*}
\]

'Since his arrival in Malawi here he has not gone back to his country'

b. -gon- 'sleep'

\[
\begin{align*}
\text{a- li chi- gon- er- e} & \\
\text{he be Cl.7 sleep applied final vowel} & \\
\text{'he is still sleeping'} &
\end{align*}
\]

(27) Time Claus

\[
\begin{align*}
\text{si-\ n- zi igihe a- z\=a- garuk- (ir-)} & \quad \text{a} \\
\text{neg I know time he fut-rel come back ben6 asp} & \\
\text{''I don't know when he will come back''} &
\end{align*}
\]

(28) Mannr Advrb

unextended verb

\[
\begin{align*}
\text{ya- z- a ni virenge} & \\
\text{he went A on foot} & \\
\text{'he went on foot'} &
\end{align*}
\]

applied verb

\[
\begin{align*}
\text{ya- z- ir- a virenge} & \\
\text{he went Man A foot} & \\
\text{'he went on foot'} &
\end{align*}
\]
(29) DN

\begin{tabular}{l l l}
\textit{noun} & \textit{applied verb} & \textit{unextended verb} \\
\hline
a. imilimino & \textit{limina} & \textit{lima} \\
\hspace{1cm} 'method of cultivation' & & \\
b. imipetelo & \textit{petela} & \textit{peta} \\
\hspace{1cm} 'method of folding' & & \\
c. imikacilo & \textit{kacila} & \textit{kaka} \\
\hspace{1cm} 'method of tying' & & \\
d. imisileiko & \textit{sekela} & \textit{seka} \\
\hspace{1cm} 'method of laughing' & & \\
\end{tabular}

(Lamba—Doke, 1938:101)

(30) How Claus

\textit{e musango abaice ba kuno bakulilamo} \\
\hspace{1cm} 'that is how the children here grow up' \\

(Bemba—Sambeek, 1955:86)

The adverbial functions of the applied affix are probably an extension first to time adverbs and later to manner adverbs from its earlier appearance with locatives. This suggestion is essentially a claim in three parts: (1) that the locative uses pre-date the time and manner uses; (2) that the time uses pre-date the manner uses; and (3) that there are special links of commonality or similarity among all three uses. We will consider the evidence for each of these in turn.

Recall that the locative functions of the applied affix were not uniformly well established in proto-Bantu. The to/toward uses can rather easily be reconstructed for proto-Bantu. The remaining locative uses, however, were considered to be less well established in the proto-language because they are cited (a) in many fewer of
the daughter languages, and (b) with examples which are mutually contradictory both across Bantu and within single Bantu languages.

The examples of the applied affix with adverbs continue the patterning trends of the later locatives, but more extremely so. For example, they are cited in an even smaller number of languages. Similarly, they are even less consistent than the later appearing locatives in their use. This is shown in the kinds of comparisons that can be made for each. For locatives, inconsistent or opposing examples can be isolated, because usage in many Bantu languages is organized around comparable factors. With the adverbs, the examples in each language are sufficiently different as to not be directly comparable. What appears is a list, not oppositions. (Following this observation, note that (25)-(30) do exemplify their particular adverbial uses, but they are representative of them only in a very broadly interpreted way.) And finally, the adverbial uses, like the locative uses, are inconsistent language-internally. For example in Bobangi (Whitehead, 1899:52) "the usage of the derivatives of place, manner, and time is much confused, some using one form with the other interchangeably." Comparable situations in other languages could be cited. The sum of this evidence is to indicate that the adverbial uses of the applied affix certainly post-date the 'to/to-ward' locative uses; they probably post-date the remaining locative uses reconstructed for proto-Bantu as well.

Of the two adverbial uses, genetic distribution (cf. Table 10, p. 151) suggests that time predates manner. Logically, this is also
the route and order that would be expected because of the parallel relationship between location in space and location in time. Cross-linguistically the same markers are used within many languages for both.

Of the special links of commonality or similarity among all three uses (locative, adverbs of time, and adverbs of manner), some of these have already been mentioned in our discussion of their relative chronology. To this we should add the tendency in many Bantu languages to use the 'locative' morphology, i.e., the locative noun class markers reconstructed as pa, ko, and mo (Guthrie, 1971, Vol. 2: 9-10) in the formation of all three. Also, in each of the three semantic areas a widely cited function for the applied affix is the creation of deverbative nouns. This function also occasionally appears with indirective and motive uses, but apparently much less prolifically.

And finally, a similarity of particular interest to our discussion is the apparent link with discourse factors sometimes noted for adverbial appearances of the applied affix. In descriptive grammars this is usually presented as a matter of "emphasis." In Basa, for example, the same sentence can appear with or without an applied affix on the verb in the time clause. The difference between the two uses is described with reference to emphasis (Schürle, 1912: 84). Similarly, in Kongo, "adverbs and adverbial clauses, when specially emphasized, require the applied form" (Bentley, 1887:628).
The example provided, shown in (31), also includes fronting of the adverb to sentence-initial position.

(31) Ku kiese kiese kayendela
    'He went very gladly';
    lit. with gladness gladness he went with

And in a more general vein, in Luganda "the choice between the simple and applied form [in a time clause] must be sought in the context" (Ashton et al., 1954:331).

To summarize, the appearance of the applied affix with time and manner adverbs is an extension of its appearances with locative. The chronology of these general uses is (1) locative, (2) time, and (3) manner. There is evidence that some adverbial appearances of the applied affix, like some of its appearances with the parent locative function, are related to discourse factors.

3.215 Instrumental (cf. Table 10, p. 151, col. 8)

The applied affix sometimes appears with instrument NPs (NPs denoting an instrument used in performing the action of the verb). This use of the applied affix, illustrated in (32), is probably an offshoot of its use with manner adverbs. Semantically and structurally, instruments and manner adverbs have much in common: both answer the question 'how'; both can occur only with action verbs;

(32) instrument (Inst)               (Bamba--Sambeek, 1955:36)
    mposele libwe kukuboko kwa kulyo
    'I threw the stone with my right hand'
both are usually rather loosely attached as arguments of their verbs; both are [-animate], and so forth. In many languages the same morphology is used in the formation of each. In English, it is the preposition \textit{with} which performs this task, shown in (33). In Bantu, it is reflexes of proto-Bantu \textit{na} 'with' and of the locative noun class

(33) a. He cut the bread \textit{with} a knife \hspace{1cm} (instrument)

b. He cut the bread \textit{with} great \hspace{1cm} (adverb of manner anticipation.

markers \textit{pa}, \textit{kp}, and \textit{mo} (reconstructions from Guthrie, 1971, Vol. 2: 9-10). Considering the general tendency for adverbs of manner and instruments to carry overlapping morphology, plus the clear evidence that this is the fact in Bantu, the additional spread of the applied affix from the one to the other is not surprising.

The use of the applied affix with instruments probably appears only in Heine's branch 11 and may have originated in group 11.9 (cf. Table 10, p. 151, col. 8). (Under this latter view, the questionable examples are dismissed and the presence of the function in Kikongo is the result of geographical spread.) An 11.9 point of innovation would order the instrumental function of the applied affix after both of the adverbial functions (time and manner) chronologically. Aside from the distributions of the various functions, other evidence which argues for a comparable chronology and point of origin is as follows.

First, within individual Bantu languages the instrumental function of the applied affix looks new. Instrumental NPs always have
some other form of marking available. In some languages and in some
cases the applied affix may replace this alternative marking, but
often it cannot, and sometimes both appear simultaneously. Since the
alternative markings are historically older and more widely cited,
this situation is suggestive of rather recent inroads by the applied
affix into the domain of instruments.

Second, across Bantu languages if the applied affix does have
a function with instrumentals, the description of the function is
fairly uniform. This suggests origin within a fairly recent subgroup,
subsequent to the locatives, adverbs of time, and adverbs of manner
which show more diversity. In addition, although lexicalizations,
usually the product of time, reflect other functions of the applied
affix relatively commonly in all Bantu languages, lexicalizations
reflecting the instrumental function are almost totally absent. This
too suggests relatively recent innovation for the function.

And finally, a relatively late point of innovation for instru-
mentals would help to explain some otherwise rather puzzling associ-
ations between the instrumental function in Bantu and discourse vari-
ables. The puzzling associations appear in two areas. First,
throughout Bantu the applied affix tends to be cited with instrumental
NPs which, for one reason or another, precede the applied verb. Since
Bantu is in general SVO, this is not the usual position for the
instrumental relation. The syntactic reasons for the early position
are quite varied. The usual word order of the sentence may simply
have been altered to place the instrumental NP in sentence-initial position (Kongo—Bentley, 1887:628, 630; Chimwini—Kisseberth and Abasheikh, 1977:196, 202–04; Chichewa—Lilongwe Language Centre, 1969: 107); the instrumental NP may be the head of a relative clause (Chimwini—Kisseberth and Abasheikh, 1977:198–99); it may be the subject of a passive sentence (Chimwini—Kisseberth and Abasheikh, 1977: 202–203, 206); it may have been previously mentioned in the discourse (but not in the actual sentence with the applied affix)(Chichewa—Watkins, 1937:76). Although this list of environments is not particularly unified syntactically, in a discourse framework a single factor is common to all: the instrumental NP always functions as topic.

This general fact about applied instrumental citations in Bantu foreshadows the second area of association between the instrumental function and discourse context. In Chimwini, the instrumental applied form is possible only when the instrumental NP is discourse topic. Here the evidence is not all tied to pre-verb position but appears in other areas as well: (1) an instrument in an applied construction can be topicalized, but other nonsubject NPs cannot be; (2) one cannot question the instrument if the instrumental applied verb is used. One can, however, question other NPs in the sentence; (3) if the relative verb is an instrumental applied verb, only the instrument may be relativized; and (4) there is no neutral stress pattern for sentences containing an instrumental applied verb (Kisseberth and Abasheikh, 1977:196–202).
Note that the discourse parameter which unifies both the cross-Bantu contexts and the variety of Chimwini examples is the same in each case, that of discourse topic. The general applicability of this discourse function to all of the puzzling material with instrumentals of course strengthens the arguments for its appropriateness as an explanatory factor in each individual case. It is a general solution.

Now, why should the instrumental function of the applied affix in Bantu have these associations with the discourse context of topic? One reason might be its time and semantic field of origin. We suggested earlier that the instrumental function of the applied affix is an extension of its use with manner adverbs. We have also offered arguments for a relatively recent point of innovation. One possibility therefore is that the discourse associations of the manner function, relatively late though they may have been, preceded the instrumental function and were incorporated into it when it began. The association between the discourse context of topic and the appearance of the applied affix with instrumental NPs may subsequently have been strengthened in some languages in its own right. It started, however, as part of the original instrumental use.

Although this hypothesis is highly speculative, some evidence does support it. First, a hypothesis of this sort is consistent with the general tendency we have seen for discourse functions of the applied affix to be associated with a single semantic field and its extensions (locative > time > manner > instrument). It is part of a
general tendency for discourse function to be passed on as part and parcel of extension of the affix to a new semantic field. Second, in general, a language such as Chimwini, where there is apparently no evidence for instrumental applied forms in non-topic contexts, and where the topic functions have become relatively syntacticized, weighs in against an exclusively non-topic historical source. And finally two kinds of evidence, one synchronic, the other longitudinal, in another 11.9 Bantu language, Chichewa, are suggestive of an initial historical association for the instrumental function of the applied affix with the discourse function of topic. Synchronically, proverbs in Chichewa, such as that in (34), cite the instrumental applied form with a sentence-initial (topicalized) instrument. I know of no counterbalancing proverbs with an applied instrumental NP in post-verb (non-topic) position. Insofar as proverbs tend to reflect

(34) mw-ezi s- a- tung ir- a mkanda
moon neg they string applied FV bead
'The moon, they do not string beads with'

(Lilongwe Language Centre, 1969:107)

historically earlier usage, therefore, Chichewa proverbs argue for an early topic function for the applied instrumental form. Longitudinally, although recent linguistic works on Chichewa cite instrumental applied forms with post-verb instrumental NPs (Trihart, 1977:7, 16, 38, 41-42; Mchombo, 1978:151, 168; Trithart, 1979:8-9), the excellent early grammar by Watkins (1937:76) cites the instrumental applied form only in the discourse context of previous mention.
To conclude, the instrumental use of the applied affix is relatively recent, most likely an offshoot of the affix's appearance with manner adverbs. The instrumental function of the applied affix seems to have been associated with the discourse parameter of topic since its inception.

3.22 The applied affix with a reflexive pronoun (A + Reflxv)
(cf. Table 11, p. 152, cols. 1-3)

The reflexive pronoun, reconstructed for proto-Bantu as -dé- 'reflexive' (Guthrie, 1971, Vol. 2:10), is in most Bantu languages a prefix to the verb stem. The reflexive pronoun occupies the same 'slot' or position in the agglutinated Bantu verb as the object prefix pronouns or agreement markers, but unlike these markers it is invariable for person and number. It basically conveys the idea of 'self' as shown in (35).

(35) a. Ni- li- ki- fich- a
   I tns it hide FV
   'I hid it'

   b. Ni- li- ji    fich- a (Swahili—Ashton, 1944:43)
   I tns reflexive hide FV
   'I hid myself'

When the applied affix occurs with the reflexive pronoun, it may, of course, indicate benefaction, as shown in (36). This is a completely regular benefactive use of the affix, discussed earlier under indirective (cf. Table 8, p. 148, col. 1 and (1) on p. 155). Although citations for this use were found only within group 11.9, it is likely that the function occurs more widely.
(36) Ben

Banê baikapêêla nama
'They were cooking meat for themselves'

In addition the applied affix occurs with the reflexive pronoun in an extension of its motive (motive) function, also discussed earlier (cf. Table 8, p. 148, cols. 4-6, and pp. 158-60). Here, the most straightforward examples indicate that the action was performed for the purpose of the subject, as shown in (37a), or of the subject's own volition, shown in (37b); in addition, the absence of an outside cause with this construction is sometimes used to conclude the absence of any cause, shown in (38).

(37) a. Tiri kuzionera pamhuno sefodya
'We are seeing clearly for ourselves on the nose like snuff—viz. We are seeing clearly for ourselves'

(Kongo—Bentley, 1887:682)

b. Oku kwakwijiwa i boxi kayiyendela kuna nix andi
'At last he went of his own accord to his country'

(Bemba—Sambeek, 1955:90)

(38) a. aleililila fye
'He is weeping for no reason at all'

(Iwena—White, 1949:38)

b. keshi nge kuliyindaminako, oloze muli
nakuliyindamisa
'You are not just failing, but actually causing your own failure'

Within subgroup 11.9 the two morphemes, applied and reflexive, are used for discourse functions (Discrs). Here the two morphemes
can be used to separate the subject of the sentence from other participants in the action of the verb, spotlighting it. In general, the examples of this function, illustrated in (39), are quite uniform. The use corresponds to the English 'as for, . . .' construction ('As for me/myself, I am getting tired.'), reflecting an association with topic.

(39) Discrs

a. Nif ngingwinogeta! (Kikuyu--Barlow, 1951:122)
   'I (for my part) am getting tired!'
   (Swahili--Ashton, 1947:221)

b. Watu wa-li-ji- pat-i- a ishirini
   people they tns self get app indic twenty
   'The people by themselves (i.e., without counting other things) numbered twenty'

In Kinyarwanda the discourse function has an apparently unique twist. Here the reflexive pronoun plus applied affix "indicates the subjective attitude of the speaker about the action being undertaken by the subject. The constructions in . . . [(42)] . . . would be used if the subject were expected to do something else" (Kimenyi, 1976:57-58).

(40) Discrs

a. Umugabo a- r- fi- ryaam- i- ye
   man he pres refl sleep ben6 asp
   'The man is sleeping'

b. Umuhungu a- r- fy- iig- ir- a
   boy he pres refl study ben6 asp
   'The boy is studying'

In sentences like (40) the original meanings of the two morphemes, 'for' and 'self,' have been completely lost. The construction has
become a device for implicit contrast, as with locatives.

To conclude, within branch 11 the applied affix begins to receive special mention in connection with the reflexive pronoun. In general the examples are special cases of functions discussed earlier. Within subgroup 11.9 the construction begins to take on discourse functions. These functions surround the areas of 'topic' and 'implicit contrast' first noted for locatives.

3.23 The applied affix with words with certain meanings: *first*, therefore, *in vain*, *for nothing*, *anyhow*, *together* (cf. Table 11, p. 152, cols. 4-9)

Within branch 11, and almost exclusively within subgroup 11.9, certain lexemes in some languages begin to be cited in conjunction with an applied verb. These lexemes are not the same, or even necessarily obviously related, from one language to the next. Their meanings, however, are consistent: 'first,' 'therefore,' 'in vain,' 'for nothing,' 'anyhow,' 'together.' The sentences in (41) – (46) are illustrative.

(41) **first**

*e ekulu* (Kongo—Bentley, 1887:604)

'first, in the first case'

(requires the applied form in its verb)

(42) **therefore**

*Niyko yaagyendeire* (Nkore—Morris and Kirwan, 1957:118)

'Therefore he went'

(43) **in vain**

*abombele cabe* (Bemba—Sambeek, 1955:86)

'he has worked in vain'

187
(44) for nothing  
(Luganda—Ashton et al., 1954:332)  
Tuteganidde bwereere  
'We have taken (all this) trouble for nothing'

(45) anyhow  
(Nkore—Morris and Kirwan, 1957:118)  
Naakorera eryo  
'He is just working anyhow'

(46) together  
(Bemba—Sambeek, 1955:86)  
a. indalama shabo ba- bik- il- a pamo  
money_1 their_1, j they_ j put app indic together  
'they always put their money together'

(b. Baatunkira kumu  
'They arrived together (a dead heat)'

(Luganda—Ashton et al., 1954:334)

3.24 More of action of verb (cf. Table 12, p. 153)

Throughout Bantu the applied affix is occasionally associated with a variety of meanings which basically revolve around the idea that more of the action of the verb is present than is indicated by the unextended form. Thus, the applied verb may indicate intensiveness, excessiveness, repetition, or duration. It may indicate that the action is performed a lot, with effort (as against opposition), or to completion. Particularly within subgroup 11.9 either (a) the applied verb acquires special additional words or morphemes which clarify its 'more of the action' function or (b) a double applied form occurs. The meanings which these new forms indicate are probably found with applied verbs throughout Bantu, but without the special
additional morphology. Subgroup 11.9 is distinguished only by possible form, not functional innovations. The examples in (47a, b, and c) illustrate respectively an unelaborated applied verb, an applied verb with some additional trappings, and a double applied form with this 'more of the action' meaning.

(47) more of action of verb

a. -\textswash-- (Lomongo--Hulstaert, 1965:263)
   \texttt{bot\textjag\textswashwa}
   'the medicine has penetrated well'

b. ailembela limo na limo (Bemba--Sambeek, 1955:86)
   'he has written it once for all'

c. Tek\textjanga filiya, \textjima ! (Lamba--Doke, 1938:210)
   'Don't stand like that, stand straight up!'

The important this function is that it adds a new element to our discussion of transitivity. Up to this point all of the functions of the applied affix which we have described can be related, directly or indirectly, to verb arguments. The interrelated uses of the applied affix described in this section are not obviously related to either. Instead, they result from an indication of greater quantity which basically pertains exclusively to the action of the verb. This function of the applied affix is chronologically subsequent clearly only to the benefactive function. Its first appearance is approximately contemporary with the spread of the affix to mark a wider range of NPs: indirective, motive, locative, and time. Its differentiation and acquisition of special morphology occurs later, as other functions are also proceeding on to secondary developments.
3.25  **Miscellaneous** (cf. Table 13, p. 154)

Some semantic uses of the applied affix occur in a sufficiently small number of languages and/or are sufficiently rare in the languages where they do occur that little can be said about them or concluded from them. Such uses are listed briefly in this section.

3.251  **About**

The applied affix denoting 'about' ('on the subject of') appears in (48). The applied affix is only one of several Bantu possibilities for denoting this kind of relationship.

(48)  **About**

-bùn-

\[ \text{wòñélé boloi áfòy'óngana nd'âfska} \]

'call an assembly about him, so that he won't come to deny later'

3.252  **Accompaniment**

The more commonly cited Bantu form for accompaniment is some reflex of proto-Bantu nà 'and,' 'with' (reconstruction from Guthrie, 1971, Vol. 2:10). In some languages, however, accompaniment can apparently also be indicated by the applied affix. The examples in (49) show both possibilities in Luyia.

(49)  **Accompaniment**

a. ya- l- a inyama na buchima (Gary, 1977:90)
she ate A meat with porridge
'She ate meat and/or with porridge'

b. ya- l- ir- a buchima inyama
she ate Acp A porridge meat
'She ate porridge and/or with meat'
3.253 DN: result

In Tunen the applied affix is cited in a number of deverbative nouns (from several noun classes) which indicate the result or product of the related verb. Examples are given in (50). Tunen is the only language with such examples encountered.

<table>
<thead>
<tr>
<th>(50)</th>
<th>DN: result</th>
<th>(related verb) (Dugast, 1971: 271, 273, 274, 277)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hêafenê</td>
<td>'part that one receives of a division'</td>
<td>-âfen, -âf 'to share'</td>
</tr>
<tr>
<td>bhânên</td>
<td>'present'</td>
<td>-hân</td>
</tr>
<tr>
<td>bêfakasen</td>
<td>'gestures'</td>
<td>-fâkas</td>
</tr>
<tr>
<td>êsalonên</td>
<td>'emptied pod'</td>
<td>-sálon</td>
</tr>
</tbody>
</table>

3.254 DN: state

The examples from the three languages here are not totally comparable. In each, however, the applied affix appears in nouns derived from a variety of verbs, and the nouns indicate states or conditions. It is not clear how this function could be related to any theory of transitivity.

<table>
<thead>
<tr>
<th>(51)</th>
<th>DN: state</th>
<th>(related applied verb)</th>
<th>(related unextended verb) (Lamba—Doke, 1938:101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>indîlo</td>
<td>'opportunity to eat'</td>
<td>lîla</td>
<td>lya</td>
</tr>
</tbody>
</table>
(related applied verb)  (related unextended verb)

incitilo  citila  cita
'ability to act'

ifyendelo  endela  enda
'strength to walk'

imfumino  fumina  fuma
'egress'

3.26 Lexicalizations

3.261 Frozen forms

A discussion of uses of the applied affix in Bantu would be incomplete without some mention of lexicalizations. Most descriptive grammars of Bantu mention at least a few verbs which, because of their form, appear to include the applied affix. The analysis which seems obvious on the basis of form, however, is problematic for some other reason. Often there is no unextended verb in the language to which the applied verb can be related. Sometimes there are only one, two, or possibly a handful of verbs in the language where the applied affix can have the presumed function.

Lexicalizations of the applied affix are extremely common in Bantu, as would be expected on the basis of the historical duration of the affix. The process is one in which an unextended verb (such as 'say') with a meaning frequently associated with one of the applied functions (here, indirective) appears with the applied affix such a high proportion of the time that eventually the base form disappears
and only the applied form is used, even in sentences where no indirective NP is present (as in 'The chief said that he would go'). The examples in (52)-(55) show lexicalization of what were presumably earlier indirective, motive, locative, and more of the action applied forms. None of these verbs has an unextended form in the language cited.

(52) **indirective**

émèa 'to agree to' (Duala--Ittmann, 1939:133)

-mānen 'to command' (Tunen--Dugast, 1971:255)

-tēfēl- 'to speak' (Lomongo--Hulstaert, 1965:266)

-kopel 'to lend' (Safwa--Voorhoeve, 1966:6.1.6.4)

(53) **motive**

a. **purpose**

'kwen 'to beg' (Tunen--Dugast, 1971:255)

-khulupira 'hope for' (Chichewa--Scott and Hetherwick, 1929:206)

b. **cause**

-šlāmwaŋ 'be astonished' (Tunen--Dugast, 1971:255)

(54) **locative**

įngà 'to enter' (Duala--Ittmann, 1939:133)

-úlel 'to climb' (Lomongo--Hulstaert, 1965:266)
(55) more of action of verb

-kongel- (Lomongo--Hulstaert, 1965:266)
'look for avidly'

-onjel- (Safwa--Voorhoeve, 1966:6.1.6.4)
'add'

Evidence that the lexicalization process is an ongoing one comes from languages where unextended, applied, and/or double applied forms of some verbs all have the same meaning. A few examples appear in (56).

(56) a. unextended form

wâ (Duala--Ittmann, 1939:136)
'to come out of from...

applied form 4

wêà, perf. wêdì
jongó df wêdì l' éyi'dì
'the spear came thence out of the bush (whir)!

b. unextended form applied form (Lomongo--Hulstaert, 1965:290)

-samb- -samb-el
'to unite' 'to unite'

c. unextended form double applied form

-gon- -goneelel- (Safwa--Voorhoeve, 1966:6.1.6.5)
'to sleep' 'to sleep'

d. unextended form

*--khulup-- (Chichewa)
(not extant)

applied form

--khulupira (Scott and Hetherwick, 1929:206)
'hope for'
double applied form

-khulupirira (Zambesi Mission, 1964:160)
'hope' (transitive verb)

Such a situation is conducive to (a) subsequent loss or (b) meaning shift or specialization in one of the forms. The examples in (57) show verbs which have followed the latter path.

(57) applied form unextended verb

-`samb-`el -`samb-` (Lomongo--Hulstaert, 1965:290)
'to salute' 'to unite'

-mirira -mira (Shona--Fortune, 1955:208)
'wait for' 'stand'

-sambira -samba (Chichewa--Lilongwe Language Centre, 1969:80)
'swim' 'bathe'

-shindilia -shinda (Swahili--Port, 1981:74)
'pack down' 'surpass'

As would be expected, lexicalized forms are in general related to broader functions of the applied affix.\(^\text{10}\) For two groups of examples, however, this is not the case. This rather unusual situation, in which lexicalized forms exist without evidence of any more productive function elsewhere, is of some interest on its own account. In addition, in a separate vein, both groups of forms appear to have relevance for our discussion of transitivity.

3.262 Indirective subjects

In general, as we have seen, the applied affix occurs with a variety of semantic relations in the object position. In a lexically limited function, the affix also appears with reference to the
subject. Semantically, these subject NPs are allied with the indirective function. Syntactically, they are unique among the uses of the applied affix. Examples are given in (58).

<table>
<thead>
<tr>
<th>(58)</th>
<th>applied verb</th>
<th>unextended verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 'become accustomed'</td>
<td>-ék-el</td>
<td>-ék- 'learn'</td>
</tr>
<tr>
<td></td>
<td>-tlwaêla</td>
<td></td>
</tr>
<tr>
<td>b. 'be cold'</td>
<td>-zizira</td>
<td>zizi 'the feeling of cold'</td>
</tr>
<tr>
<td></td>
<td>-tonhora</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hatsêla</td>
<td></td>
</tr>
<tr>
<td>c. 'accept/receive'</td>
<td>-pokea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-ejeelel-</td>
<td>-eg- 'to take'</td>
</tr>
<tr>
<td></td>
<td>land-ir-</td>
<td>-land- 'steal'</td>
</tr>
<tr>
<td>d. 'rejoice'</td>
<td>-konol</td>
<td>kon 'feel'</td>
</tr>
<tr>
<td></td>
<td>wahilila</td>
<td>waha 'good'</td>
</tr>
<tr>
<td></td>
<td>sehelela</td>
<td>seha 'laugh'</td>
</tr>
</tbody>
</table>

196
-sek-er- -sek- (Chichewa—Lilongwe Language Centre, 1969:80)
-kond-w-er- -kond-w- (Chichewa—Lilongwe Language Centre, 1969:80)

3.263 Verb X, with object Y, must be applied

A few verbs always appear in the applied form with some specific word as the object NP. All of the examples encountered are cited in (59)-(61) below. The verbs in (59) and (60) are semantically regular; the applied form in (61) shows meaning specialization.

(59) a. unextended form
ukonto mulilo (Bemba—Sambek, 1955:86)
'to warm oneself at the fire'

applied form
ukontela kasuba
'to warm oneself in the sun'

b. unextended form
-otha moto (Chichewa—Lilongwe Language Centre, 1969:80)
'warm oneself by the fire'

applied form
oth-er-a moto
'warm oneself in the sun'

c. unextended form
--------------- (Tswana—Cole, 1955:201)

applied form
-aramela
'bask in the sun'

(60) a. kusavalila (Lwena—White, 1949:38)
'to sleep hungry'

Tagon-era njala (Sena—Torrend, 1900:142)
'We slept with hunger, lit. on hunger

197
(61) a. unextended form

-\textit{bik}-(Bemba--Sambeek, 1955:86)
'put'

applied form

\textit{inkoko shilabikila mani}
'hens lay eggs'

b. unextended form

-\textit{ik}-(Chichewa--personal information)
'put'

applied form

\textit{nkhuku zimaikira mazira}
'hens lay eggs'

3.3 Summary

To conclude and summarize our discussion of the applied affix in this chapter and the last, the earliest function of the applied affix was that of a marker for benefactive NPs. Throughout Niger-Kordofanian, up to proto-Bantu, this is the only function consistently exemplified. In proto-Bantu, the affix began to spread to a variety of additional semantic relations: indirective, motive, locative, and time. The indirective use was a semantic generalization of the benefactive function to additional (ethical) datives: malefactics and recipients. The motive function is a cover term for purpose and cause NPs. Purpose NPs probably sprang directly from the original benefactive use. The goal locative function was a secondary semantic extension from the earlier spread of the benefactive affix to recipient NPs. A variety of other locatives followed. From locatives the
applied spread to time adverbs. Of these proto-Bantu uses, the locative and time functions, especially time, were incompletely established at the time of the break-up of the proto-language.

Syntactically, within proto-Bantu one of the semantic areas, motive, began to develop a particularly clear association with 'why' questions. One of its semantic components, purpose, developed an additional association with modifiers indicating purpose, as in 'an instrument for cutting.'

In a separate development the proto-Bantu applied affix was also used to indicate more of the action of the verb. More specifically, it indicated intensiveness, excessiveness, repetition, duration, or completion.

After the second wave of Bantu migration, in group 11, the applied affix continued to extend its semantic range and syntactic environments. It also developed discourse associations. Semantically, the affix (a) broadened the range of locative expressions it occurred with, and (b) in a fourth-step development, spread to adverbs of manner from adverbs of time. (The first three steps were (1) benefactive > recipient, (2) recipient > locative, and (3) locative > time in proto-Bantu.) Syntactically, some of the semantic functions of the affix continued to become additionally associated with specific syntactic environments: (1) the motive function, which first became associated with 'why' questions and purpose modifiers in proto-Bantu, now became also associated with 'why' clauses; (2) the benefactive
and motive functions of the applied affix added occurrence with the Bantu reflexive pronoun, sometimes giving secondarily associated semantic readings, to their scope.

Discourse functions are not directly studied or described in the descriptive grammars. For this reason alone, therefore, the evidence is scattered. In addition, however, there is generally no suggestion of specific repeated discourse functions across Bantu languages. The evidence is at most suggestive that in numerous Bantu languages some appearances of the applied affix, in addition to occurring with specific semantic relations, are influenced by the discourse environment.

The discourse-related appearances of the applied affix, following the second wave of Bantu migration, are consistently tied to its functions with locative NPs, adverbs of time, and adverbs of manner. A number of factors are probably responsible for occurrence with just these three semantic relations: (1) their general semantic and syntactic coherence; (2) their historical relationship, i.e., the historic spread of the affix from locative to time to manner, so that use with each is based on use with the former; and (3) the fact that the most strongly established use, locative, was only partly established, but spreading, at the time of the first Bantu dispersal. This left an intermittent and partly inexplicable use for subsequent functional assignment in the daughter branches.
Following the third Bantu migration, which affected only Heine's subgroup 11.9, the applied affix continued the expansion of its semantic, syntactic, and discourse associations. Semantically, in a fifth-step development, the applied affix spread to instruments from manner adverbs. The manner > instrument source means that the earlier applied/manner/discourse associations led to discourse associations for the instrumental use from the outset. Syntactically, the indirective semantic function developed associations with the possessive construction in Kinyarwanda. The semantic notion of more of the action of the verb, previously associated primarily with the single applied form, became associated with additional more semantically specific forms: (a) the single applied form plus some additional clarifying lexeme, or (b) the double applied form.

In the area of discourse function, the evidence concerning the existence of such function becomes much clearer than it was earlier. For example, with the instrumental relation in Chimwini, its appearance is explicitly related to an instrument which is discourse topic. With the reflexive pronoun in Kinyarwanda, it indicates an implicit contrast.

So far the processes we have discussed in this summary have been related to verb + verb (unextended verb + applied verb) derivations. In addition throughout Bantu the applied affix appears as a part of verb + noun derivations. It also appears in certain kinds of related dependent clauses. The verb + noun derivational process is highly
characteristic of Bantu and is not restricted to applied verbs; it occurs with verbs which have other verbal extensions and also with unextended verbs. Indeed, applied verbs would be exceptional if they did not participate in it.

Basically, with applied verbs the process is one in which use of the applied affix to mark NPs in various semantic relations, a primary syntactic environment, is associated with its simultaneous use in semantically associated deverbative nouns, a secondary environment. For example, the appearance of the applied affix on verbs with a semantic locative NP as an argument leads to deverbative Ns which denote place; its appearance with time adverbs leads to deverbative Ns which denote time, and so forth. The process appears in a few languages for benefactive and cause NPs, for verbal adjectives indicating function ("an instrument for cutting"), and for the applied affix plus reflexive pronoun context. It appears much more widely for locatives, time adverbs, and manner adverbs. For the latter two, the appearance of the affix in deverbative Ns is paralleled by its appearance on the verb of semantically associated dependent clauses. That is, in addition to appearing in deverbative Ns which denote time, the affix appears on the verb of dependent time clauses. In addition to appearing in deverbative Ns which denote manner, the affix appears on the verb of 'how' clauses. Genetically, use of the applied affix in deverbative Ns always patterns simultaneous with, or subsequent to, the comparable semantic use on the main verb of a sentence. Use in dependent clauses patterns simultaneous with use in deverbative Ns.
In general, in this chapter we have seen the semantic spread of the applied affix from benefactive NPs to a variety of semantic relations. This spread occurred in an ordered sequence of semantic commonality. Subsequently, within particular semantic relations, the affix became additionally associated with specific secondary syntactic contexts. And finally, in developments unrelated to the secondary syntactic associations, with a few semantic relations, appearance of the affix began to reflect the influence of discourse factors.

So far, our investigation of the applied affix and transitivity has taken a broad historical perspective and has been based primarily on the sentential data of descriptive grammars. In the next chapter we will complement this major outline with an approach more finely tuned. There we will conduct an intensive examination of the applied affix in a single language. The language of our study will be Cinyanja. Our data will be written text.
1. Guthrie's work is also associated with certain more major claims about genetic groupings. One such claim, a postulated division between eastern and western Bantu, is marked in Figures 3-10 on pp. 128-135 by the heavy black line running roughly down the middle of the Bantu domain. Guthrie's broader genetic relationships have not withstood the test of time, and this heavy black line should be disregarded.

2. (C1)nyanja is the language of our text in Chapter IV. According to Guthrie, Nyanja (N.31a), Cewa (N.31b), and Mang'anja (N.31c) are three parallel dialects. Heine, on the other hand, posits no separate Nyanja dialect. For him, 'Nyanja' names the language spoken in two dialects, Mang'anja and Cewa (cf. Appendix A, p. 302). Our own informal observations tend to support Heine's view.

3. A double applied affix is simply an applied affix reduplicated. The doubled applied affix is cited most widely as indicating 'more of the action of the verb,' although other uses occur also. For an example and further discussion, see Section 3.24, pp. 188-189.

4. Ittmann considers these examples to have a stative, rather than an applied extension. In Duala the stative and applied extensions have the same form. When the applied affix in Duala, homophonous with the stative, appears with locative NPs, its function is not clearly transitivizing. For this reason Ittmann considers his locative examples to illustrate the stative rather than the applied form. When evidence from other Bantu languages is considered, however, it is clear that Ittmann's locative examples are consistent with 'applied' forms elsewhere.

5. Because of tonal differences, Hulstaert does not consider these to be examples of the applied affix.

6. Kimenyi uses the 'ben' label to gloss all occurrences of the applied morpheme, regardless of the semantic or syntactic function in the specific sentence. The sentential glosses indicate actual use.
7. No animate vs. inanimate distinction can generally be invoked for Basa to explain the difference here, as shown by the example with lo 'come' below.

\[
\begin{align*}
\text{lo} & \quad \text{lol [applied]} \quad \text{(Schürle, 1912:67)} \\
'\text{come}' & \\
\text{a nlo meni} & \\
'\text{he came to me}'
\end{align*}
\]

8. Port himself provides an analysis of the applied affix in his data which is more purely semantic than any analysis our own comments would suggest.

9. The import of this proverb is that one does not try to perform a task in unpropitious circumstances.

10. Because of language contact, general functions and related lexicalized forms do not necessarily correspond on a language-by-language basis.
CHAPTER IV

THE APPLIED AFFIX IN CINYANJA

4.0 Introduction

In the present chapter we will examine functions of the applied affix found in a sample of text. The Bantu language of this text is Cinyanja, designated 11.9203 by Heine and N.31a by Guthrie, spoken in Malawi, eastern Zambia, and parts of Moçambique.

4.01 The text

Our section of text is taken from Cinyanja Cina [Another Cinyanja] by John W. Gwengwe. Gwengwe is a contemporary Malawian author who has written a number of other works, including Kukula ndi Mwambo [Growing with Instruction]; Sikusinja ndi Gwenembe [Sikusinja and Gwenembe], a book-length story of the lives of twin brothers; Ndakatulo [Verses]; and Educating Away your Fears of Witchcraft with A. V. Risdon, his only work in English. English equivalents for Gwengwe's Cinyanja texts in this chapter are a joint effort of Mr. John Tembo, whose first language is Cinyanja, and myself.

Cinyanja Cina is a collection of mwambi, stories which illustrate the meaning of traditional Cinyanja proverbs. The structure of these stories is quite consistent. A mwambi can generally be divided

*Footnotes for Chapter IV begin on p. 291.
into five ordered parts: (1) title, (2) introduction, (3) narration, (4) concluding comments by characters, and (5) explanatory paragraph. The titles of the mwambi are the proverbs themselves. The introduction informs the reader of characters and situation. The narration is a sequential account of events. In the concluding comments the characters quote the title proverb in the context of their applicable situation. The explanatory paragraph uses the author's voice and directly explains the proverb using the story. Our 43 pages of text contain 31 mwambi, each approximately 1-1/2 pages long. The total text is long enough to assure coverage of all important structures and functions of the applied affix. Because the text is composed of numerous short stories, it allows repeated observations of essentially the same story structure. The contemporary date and originality of the texts eliminate some of the problems often associated with the analysis of folk tales. The dramatic character of the stories means that they include a wide diversity of construction. The subject matter of the stories, episodes from daily village life, corresponds to the content of much daily speech.

4.02 Orthography

The orthography of our examples in this chapter is that of their author, Gwengwe. The sound/spelling correspondences in this orthography are extremely regular: i, e, a, o, and u represent the five symmetrically placed Cinyanja vowels. Orthographic p, t, k represent voiceless unaspirated stops; ph, th, and kh, their
aspirated counterparts. The _c_ represents a voiceless palatal affricate; _j_, its voiced counterpart. Orthographic _b_, _d_, and _g_ represent voiced unaspirated stops. Orthographic _f_, _v_, _s_, and _z_ represent sounds roughly similar to those denoted by these letters in English. Orthographic _ts_ and _dz_ represent alveolar affricates which are voiceless and voiced, respectively. Four orthographic symbols for nasals are used: _m_, _n_, _ng'_, and _ng_, representing roughly the sounds in English _mother_, _now_, _singer_, and _linger_.

Gwengwe's orthography does not indicate tone, nasal syllabicility, or implosive allophones of _b_, _d_, and _g_. Tone is significant in Cinyanja primarily in the marking of tenses. It is the major difference among dialects. Syllabic nasals occur only word initially. They are essentially predictable from phonological environment plus noun class. The implosive allophones of _b_, _d_, and _g_ occur word initially.

In some cases Gwengwe writes contractions or elisions with an apostrophe ('), as in English; in other cases, as a single word. We follow him in either case. In the examples of this chapter, within the verb all morpheme boundaries, including those of lexicalized morphemes, are marked with hyphens. Lexicalized morphemes and the forms to which they have become frozen are separated only by a hyphen and are glossed as a unit. Synchronously functional morphemes are separated by a hyphen and space. Double spaces separate words. Outside the verb, items are glossed only at the level of specificity relevant for the example.
4.03 Scope of the chapter

In this chapter we do not describe all occurrences of the applied affix which appeared in our text. Although all affixes were analyzed, many occurrences were lexicalized and provided no insights for our discussion of transitivity. Others were repetitions of syntactic or lexical uses already described in Chapter III. In this chapter therefore, we limit our description to three sets of affixes: (1) in section 4.2, applied affixes which appear in connection with one of the transitivity parameters proposed by H & T. These affixes are particularly relevant to our discussion of transitivity; (2) in section 4.3, the source of the applied verbs with indirective subjects. These affixes are not explained under any current view of transitivity, and some account is required under a morphologically based approach, such as curs or that of H & T; and (3) in section 4.4, uses of the applied affix associated with discourse context. H & T relate transitivity to the foreground vs. background distinction in discourse. For this reason, the source and orientation of discourse appearances of the applied affix are described.

4.1 Background information on Cinyanja

Our discourse description of the applied affix will be facilitated by an initial brief mention of certain important aspects of Cinyanja grammar.
4.11 **The noun**

Cinyanja has the rich system of noun classification and referential agreement characteristic of Bantu languages. All nouns are composed of a noun prefix, characteristic of the class of the noun, plus a noun stem. On some nouns the noun class prefix has been eliminated by phonological erosion. Words borrowed from non-Bantu languages also do not usually have a prefix. Whether an overt prefix is present or not, however, all nouns belong to some specific noun class. Noun class divisions roughly correlate with selected semantic features. Repeated references to a noun within a sentence are indicated by agreement markers which are conditioned by the class of the noun. These agreement markers often have a phonological relationship to the noun class prefix. Of the 19 proto-Bantu noun classes (Guthrie, 1967-71, Vol. 4:144), Cinyanja basically has the first 18. (The classes usually numbered 11 and 14 have merged in Cinyanja. Class 19 does not occur.)

4.12 **The verb**

Cinyanja word order is basically SVO. The verb in Cinyanja, as in other Bantu languages, is highly agglutinated; it contains numerous ' slots ' where morphemes of various types are positioned. The major positions are shown below. We will discuss each in turn.

subject tense/ object verb verb
agrmnt - aspect - agrmnt - stem - extensions - FV - suffixes
4.121 Subject agreement

Subject/verb agreement is obligatory, as shown in the two examples of (1a) below. The only morpheme which sometimes precedes subject agreement on the verb is the negative morpheme -/si-, shown in (1b-1); in some circumstances the negative marker follows subject agreement, shown in (1b-2). Subject agreement may serve a pronominal function, as shown in the two examples of (1c). (Here and elsewhere in this chapter, unless otherwise indicated, examples are from Gwengwe, 1964.)

(1) a-1. ci-m-kang-o ci-ja ci- na- bang-ul- a
    big lion that it past roar FY
    'that big lion roared'

a-2. m-fumu i- na- ti
    chief he past say
    'the chief said'

b-1. zi-nthu -zi si- zi- nga- cit- ik- e
    things these neg they be able do statv subjunc
    bwino ai
    well no
    'these things cannot be done well...no'

b-2. Ife ti- sa- cit- e ci-soni
    usi we neg do subjunc mercy
    'Us, we should not feel pity'

c-1. y- a- gw- a mu- m-sampha
    it compltv fall FY into trap
    'it has fallen into a trap' where y- 'it' refers to
    a wild pig

c-2. ti- sa- cit- e ci-soni
    we neg do subjunc mercy
    'we should not feel pity'
4.122 **Tense/aspect**

Tense/aspect is the most frequent function for markers in this second major position on the verb, but markers in a variety of other functions also occur here. Many, though not all, of the morphemes which appear in this position were at one time independent verbs; some still have independent counterparts. The functions which markers in this positive have, therefore, display the variety of uses which such verbs can assume. This includes tense/aspect, shown in (2a); and various other functions, shown in (2b). More than one '2nd-position' morpheme can sometimes appear, as shown in (2c). (Unless otherwise indicated, the forms below are from Lilongwe Language Centre, 1969.)

(2) a. **tense/aspect**

- a- ø- on-
  he pres see
  'he sees'

- t- a- bw-er-
  we inchoative or come
  completeive
  'we are (just) coming' or
  'we have (just) come'

- a- na-/da- pit-
  he past go
  'he went'

- ndi- dza- lemb-
  I fut write
  'I will write'

- ndi- ku- tsek-
  I prog close
  'I am closing . . .'

- u- ma- pit-
  you habit go
  'you go (regularly)'
b. other

m-fumu i- ba- pit-  (example from Gwengwe, 1964)
首席 he i while go
'the chief goes while . . .'

mu- (n)ka- pit-  (from the independent verb
you(pl) if go -(n)ka 'go'; this 2nd-
'if you go . . .'
position -(n)ka- sometimes
also suggests motion rather
than contingency)

a- ta- gon-  (from the independent verb
they when/after sleep -tha 'do, finish')
'when/if they sleep . . .'

ti- nga- low-
we be able enter
'we can/may enter . . .'

c. multiple

mu- ka- da- pit-
you if past go
'if you had gone . . .'

a- ma- ngo- lir-
they habit just cry
'they just cry . . .'

4.123 Object agreement

Unlike subject agreement, object agreement, shown in the two
eamples of (3), is not obligatory. The factors governing its appear-
ance have not been fully determined, but parameters such as definiteness,
animacy, semantic role, and syntactic position of the referent
noun are relevant. (For discussion of syntactic and discourse factors
influencing appearance of the object marker in Swahili, see Wald,
1979.) Object agreement, like subject agreement, can serve a pro-
nominal function. Unlike some other Bantu languages, Cinyanja allows
only one object agreement marker in its verb.
(3) a. a- na- ngo- mu- nyeng- a m-fumu u-ja
    they past just him_1 deceive FV chief_1 that_1
    'They just deceived (him) that chief.'

    b. n-khuku i-ja si- ti- da- i- pez- e
    chicken_1 that_1 neg we past it_1 find perf
    'That chicken, we did not find it . . .'

4.124 Verb stem

Discussion of the fourth position on the agglutinated Cinyanja
verb requires mention of four basic terms: root, stem, unextended
verb, and extended verb. These terms are widely used in descriptions
of Bantu and other African languages, although sometimes with slight
variations in meaning. Here, the need for these terms arises from
the tendency for verb extensions, the morphemes in the fifth position
on the verb, to become lexicalized. In this work, the terms are
defined as follows:

A verb root is the form of the verb with no extensions, lexi-
calized or otherwise. Most Bantu verb roots are -CVC- in form, but
-C-, -CV-, and -VC- roots also occur. A few -VCVC- and -CVCVC- roots
have been acknowledged, but in general such forms historically contain
more than one morpheme.

A verb stem is a verb root plus any lexicalized verb extensions.
In Cinyanja, a verb stem is always a continuous sequence of morphemes.

An unextended verb is equivalent to a verb stem.

An extended verb is a verb stem (= unextended verb) with one or
more synchronically functioning verb extensions.

Any lexical verb in the language may appear as a verb stem.
The verb stems we have seen thus far are -cit- 'do (lb, 1c-2),
-gon- 'sleep' (2b), -gw- 'fall' (l-1), -lemb- 'write' (2a), -lir- 'cry' (2c), -low- 'enter' (2b), -nyeng- 'deceive' (3a), -on- 'see' (2a), -pez- 'find' (3b), -pit- 'go' (2a,b,c), and -tsek- 'close' (2a), where verb root and verb stem are identical; -hw-er- 'come' (2a), where a historically earlier applied extension has now become lexicalized; -bang-ul- 'roar' (1a-1), a lexicalized compound verb (see fn. 7, this chapter); and -ti 'say' (1a-2), a 'defective' verb (see fn. 8, this chapter) which accepts neither verb extensions nor a final vowel.

A verb stem may sometimes contain multiple lexicalized verb extensions, the result of successive waves of lexicalization applied to a single verb root, as in c-ir-ik-iz- 'prop up,' du-l-ir-iz- 'intercept,' and -kan-ik-iz- 'press in.'

4.125 Verb extensions

A Bantuist term, verb extensions are the set of morphemes, usually -VC- in form, which can be attached to a Bantu verb stem. The information they add is generally indicated by their usual labels: reciprocal, causative, applied, stative, passive, and reversive.

Proto-Bantu reconstructions for these forms appear in Chapter II, pp. 76-77. Their functions in Cinyanja are described briefly below.

4.1251 Reciprocal

The reciprocal extension has a single phonological form in Cinyanja, -an-, shown in the two examples of (4) below. It indicates reciprocity. It is little lexicalized.
(4) a. -op- 'fear'

    a- ma- op- an- a
    they habit fear recip FV
    'They are afraid of each other.'

b. -dziw- 'know'

    a- ka- dziw- an- a
    they if know recip FV
    'If they know each other . . .'

4.1252 Causative

The productive form of the causative extension is -its- or
-ets-, depending on the final vowel of the verb stem. 3 Lexicalized
causative forms include some -its/-ets-; -ots-, -uts-, -ts-, -dz-, -edz- (both rare); spirantization of the preceding consonant (from
the proto-Bantu -i- causative extension); -ik-, -ek- (from a distant
Niger-Kordofanian form, cf. the Kordofanian causative form from
Talodi: -ik-, -ek, Ch. II, p. 90); -l- (described in Ch. II, pp. 90,
94-97); -iz-, -ez-, -oz-, -uz-; -as-, -es-, -os-, -us-, -s-.

When productive, the causative extension means to make someone
do something or get something done, as shown in (5a) and (5b). It
may also mean 'more of the action of the verb,' something like the
applied affix, as shown in the two examples of (6).

(5) a. -low- 'enter'

    n- a- low- ets- a a-nthu o-nse m' ny-umba
    and he enter caus FV people_i all_i in_house_i;

    mw-a-ce
    his_j
    'and he had all the people enter into his house'
b. -kongol- 'be beautiful'

ma-nkhwa- o-kongol- ets a
medicine which be beautiful caus FV
'medicine which beautifies'

(6) a. -nen- 'say'

ci-mene ndi-fun a ku nen ets a -po
what I want FV to say caus FV loc

ndi -co
be that
'what I want to say strongly is this'

b. peny- 'look'

a- na- li- ku- ngo- mu- peny ets ets a
they past be to just her look caus caus FV
'they were just really looking at her'

The lexicalized causative forms are in various stages of assimilation. Some still have shades of causative meaning; others are transitivizers, that is, they signal the addition of a patient object; others are simply present with indeterminate meaning as one in a string of lexicalized verb extensions.

4.1253 Applied

The productive form of the applied affix in Cinyanja is -ir- or -er-, depending on the final vowel of the verb stem. Lexicalized applied forms include some -ir/-er-, the common form; and -ol-, rare. In Chapter III we noted many lexical and syntactic uses of the applied affix in (Ci-)Nyanja (cf. charts 148-54): verbal marker for benefactive, malefactive, recipient, purpose, cause, instrument, and locative NPs; on the verb of 'why' questions; on the verb of purpose
modifiers, as in 'an instrument for cutting'; on the verb of 'how'
clauses; and in deverbative Ns of time and manner. For these lexical
and syntactic uses, the examples from Cinyanja and those Bantu langu-
ages of Chapter III which are closely related stand as representative.

4.1254 Stative

The stative extension is not as fully functional in Cinyanja as
it is in some other Bantu languages. It can appear only with selected
verbs, and these verbs are only a small subset of the full class for
which its meaning seems appropriate. The most transparent form of the
stative extension is -ik- or -ek-, depending on the final vowel of the
verb stem. Lexicalized forms include some ik/-ek-; -uk-, -ok-, 
-k-; and -um-, -om-, -m- (remnants of an older stative form).

Where the stative suffix is still strongly functional, the
extension creates pairs of verbs such as those in (7) below. In the
first member of each pair, the stative base appears with an object;
in the second member, this object is the subject of the stative exten-
sion verb.

(7) a-1.  -cit- a  ci-nthu
         do   FV thing
     'do a thing'

a-2.  ci-nthu ci- na- cit- ik- a
     thingi iti past do statv FV 
     'the thing was done/happened'

b-1.  -bvut- a  a-nthu
     trouble FV people
     'trouble people'

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b-2. a-nthu a- na- li ku- bvut- ik- a  
people\textsubscript{1} they\textsubscript{1} past be to trouble statv FV  
'the people were being troubled'

c-1. -ulu-l- a  m-phulupulu z-a-ce  
reveal FV perverseness\textsubscript{1} his\textsubscript{1}  
'reveal his perverseness'

c-2. m-phulupulu z-a-ce zi- dza- ulu-l- ik- a  
perverseness\textsubscript{1} his\textsubscript{1} it\textsubscript{1} fut reveal statv FV  
'his perverseness will be revealed'

The standard view of the stative extension in Bantu holds that this extension precludes the presence of an agent in the sentence. Under this view, the action of stative extension verbs simply occurs, or is performed without a specified agent. It is in this way that the stative extension is customarily described as different from the passive extension, to be described next.

Cinyanja text does not totally support this general cross-Bantu description of the stative extension, or at least it presents Cinyanja as an exception. Stative extension verbs do sometimes appear in our Cinyanja text with the NP that would be the subject of the unextended verb. Although none of the NPs in our text are semantically clear or strong agents, their presence is nevertheless surprising. The NPs may be mentioned in immediately preceding text or in the same sentence. They may appear marked with ndi 'by,' the usual agent preposition in passive sentences, or their role may be indicated by some semantically equivalent phrase or construction. In (8a) below for example, anthu ambiri 'many people' would be the subject of the verb 'dziw-' 'know' without its stative extension -ik-; in (8b)
anzace onse anali atakwatiwa 'all her friends were already married'
is the semantic subject of -bvut- 'trouble' without stative -ik-.

(8) a. -dziw- 'know

    a- na- li wo- dziw- ik- a ndi a-nthu a-mbiri
    he1 past be of know statv FV by peoplej manyj

    'he was (well) known to many people'

b. -bvut- 'trouble'

    na-mmali -yu a- na- bvut- ik- a m-tima
    thisi shei past trouble statv FV heart

    po-pez-a a-n-z-a-ce o-nse a- na- li
    because her companionsj allj theyj past be

    a- ta- kwat- iw- a
    theyj finish marry passv FV

    'This girl was troubled [at] heart because all her
    friends were already married.'

When lexicalized, the stative extension may appear as an integral part of a semantically stative verb; it may also sometimes appear with indeterminate meaning, perhaps as one in a series of lexicalized verb extensions.

4.1255 Passive

The productive form of the passive extension is -idw- or -edw-, depending on the final vowel of the verb stem. Lexically specific forms include -iw- and -w-. Lexicalized forms, not common, include -ew- and -ow-.

The passive and stative extensions are very similar in function. The difference between the two is basically one of age. The 'stative' extension is the older syntactic passive; the 'passive' extension is
the more recent. Historically, their difference in age is demonstrated by the fact that the passive extension cannot be confidently reconstructed even for all of Bantu (cf. p. 77 and fn. 4, Chapter II, p. 121). Possible reflexes of the stative extension, however, appear as far away genetically as Kordofanian (cf. Masakin -(a)akɔ 'passive'; Talodi -ɔk, -k 'passive' p. 105). Synchronically, in Cinyanja a difference in age is suggested because the 'stative' extension is more lexicalized; the 'passive' extension, generally productive. The older passive, that is, the 'stative' extension, appears less frequently with agents. The newer passive appears more commonly with agents than might be generally expected.

Synchronically, their similarity in function is suggested by text rather than elicitation data. For example, elicitation data indicates that the -dɔ- passive can apply to NP objects in a wide range of semantic roles (Trithart, 1977). In actual text, however, the great proportion of these NPs are patients, and patient NPs are probably the only objects which can become the subject of a stative-extension verb. Similarly, elicitation can produce examples in which the stative and passive extension alternate on the same lexical verb (Trithart, 1977: 94), presumably with contrasting uses. In our text, however, this was not true. Instead, with one exception, each lexical verb here consistently appeared with the same extension in all cases where an object became the subject. Examples of the passive extension appear in (9) below.
(9) -lum- 'bite'

w- a- lum- idw- a ndi n-joka
you compltv bite passv FV by snake
'you have been bitten by a snake'

-cek- 'cut'

a- na- cek- edw- a ndi m-pen1 -yu
he past cut passv FV with knife1 this1
'he was cut with this knife'

-ch- 'call/name'

a- ma- ch- edw- a A-na-sal-a
they habit call passv FV Muslims
'they are called Muslims'

4.1256 Reversible

The reversible extensions -ul-7 and -uk-, transitive and intransitive respectively, appear with only a handful of verbs in Chinyanja. Insofar as a consistent function is discernible, a verb extended with -ul- or -uk- signifies the reverse/opposite of the base, as shown in the examples of (10) below.

(10) a. -ul-

-tsek- 'shut'               -tseg-ul- 'open'

-bv-al- 'dress oneself' and
-bv-ek- 'dress another'

-kan- 'refuse'               -kan-ul- 'open'

b. -uk-

-wer-eng- 'count, read'     -wer-uk- 'get off work'

-pat- 'stick, as in a gap'
-pat-uk- 'go off to the side'

-tul- 'lift down from one's head'
-tul-uk- 'rise up'
-bv-al- 'dress oneself' and -bv-ek- 'dress another'
-bv-uk- 'come off, of clothing'
-tsi-ts- 'lower'
-tsi-ts-im-uk- 'recover from a faint'
-pul-ul- 'kill off'
-pul-um-uk- 'escape'

4.126 Final vowel

All Cinyanja verbs end in either final vowel -a, glossed FV, or final vowel -e. Final vowel -e comes from two sources: (1) it may signal the subjunctive, or (2) it may be a historical remnant of the il-e 'perfective' form described in Chapter II, pp. 92, 97-99. In the latter capacity, it automatically appears on certain past tense forms in the negative. Final vowel -a, sometimes glossed 'indicative,' is actually of indeterminate meaning. It is the 'elsewhere' form and appears on all verbs which do not require -e.

4.127 Verb suffixes

A variety of morphemes are sometimes suffixed to the verb. The most common of these are listed in (11) below. Of these morphemes, those significant for our discussion of transitivity will be described more fully as necessary.

(11) -be (1) 'still'; (2) 'neg' (only with the verb -li 'be')
    -ni 'you pl.'
    -nji interrogative 'what?'

the final syllable of some demonstratives, usually those ending in -o, e.g., -lo, -yo, -ko, -po, -mo

-nso 'again'
-tu 'really'
-di 'really'

4.2 The applied affix and action/transitivity

To return to our discussion of the applied affix, in this section we examine appearance of the applied affix and other morphemes associated with one or more of the components of transitivity proposed by H & T (cf. Ch. I, pp. 44-48).

4.21 Lexical appearances

The affixes we discuss in this section are not morphemes in the usual sense. A morpheme is generally defined as the shortest sequence of sounds with constant semantic or structural value. The affixes presented here do not truly have such values. We describe them as lexical because they appear as part of the word regardless of context.

In Section 4.211 below we examine applied vs. nonapplied verb pairs in which the applied member of each pair is associated with higher values of one or more of the H & T transitivity components than the nonapplied member. In Section 4.212 we note similarities between these forms and other applied vs. nonapplied verb pairs in which the applied member is associated with 'more of the action of the verb.' We describe the forms in both sections using a multifaceted concept of action. Based on evidence from a variety of sources, we argue that the 'action' associations of the applied affix ultimately relate historically to its original benefactive function. In Section 4.213 we note parallels between our applied forms and
certain similar but younger causative forms. The comparison confirms our description of the source of the applied forms.

4.2.11 **Applied forms associated with the H & T transitivity parameters**

Earlier (cf. Ch. I, pp. 44-49) we outlined the H & T componential view of transitivity which holds that a number of linguistic parameters affects the transitivity of a sentence: 1. number of participants (arguments of the verb) 2. kinesis (degree of physical activity of the verb) 3. aspect (perfective vs. imperfective verb) 4. punctuality (lexical aspect of the verb) 5. volitionality (spontaneity of the agent) 6. affirmation (affirmative vs. negative sentence) 7. mode (realis vs. irrealis) 8. agency (high vs. low) 9. individuation of the object, and 10. affectedness of the object.

In our Cinyanja text we discovered certain nonapplied vs. applied verb pairs, listed in (12) below, distinguished by one or more of these components of transitivity. (The figures in parentheses here and in subsequent examples are frequencies of occurrence, to be discussed later.) In each case the higher transitivity values uniformly cluster on one member of the pair. The applied affix is the distinguishing morpheme for this form.

(12)  
-`cenj-er- 'be smart, clever careful' (5)  
-`cenj-er-er-'outwit' (3)  
(number of participants, punctuality, and volitionality/agency)  

-gwir-'grab, catch' (34)  
-gwir-`ir-'consume, as fire' (2) (affectedness of object)
-im- 'stop, stand' (14)  'im-ir-ir-'stand up' (6) (kinesis, punctuality)

-le-k- 'leave off, stop' (7)  'le-k-er-er-'bear, as something/someone' (1) (number of participants, volitionality/agency)

-mv- 'hear (51), feel (8), smell (1)'  -mv-er-'hear (1), obey (1)'

Use of -mv- vs. mv-er for meanings associated with auditory perception is variable. There is a strong tendency, however, for the unextended form -mv- to be used to indicate simple, nonvolitional perception, and for the applied form to be used exclusively for volitional acts. Nonvolitional -mv- may also course appear in its applied form for various syntactic reasons.

-mv-ets-er-'eavesdrop' (2) (volitionality/agency)

-nyeng-'deceive' (2)  -nyeng-er-er-'take from another when one has something oneself' (1) (kinesis, punctuality, affectedness of object)

-on- 'see' (153)  -on-er-'observe' (2) (volitionality) (affectedness of object)

The function of the applied affix with the verb -on- is not always easily determined, and for visual perception (like the use of -mv- vs. mv-er for auditory perception, see above) is variable. In general, however, the applied verb on-er is reserved for situations where a volitional subject or an affected object is implied. The unextended verb -on- has a flexible range of meanings which include simple perception, observation, staring, noticing, etc. The difference between the two, therefore, is the relatively limited range of the applied form to higher transitivity contexts, not any absolute difference in their use.

-yang' an-'look at' (1)  -yang'an-ir-'observe' (1)

The difference in use of forms here is much the same as that for on-'see' vs. on-er 'observe' above.

We consider the applied affixes in (12) above to be lexical for several reasons. First, the forms we list above are the total list
from our text of such forms. The affixes apparently, therefore, appear on only a handful of verbs. In addition, each affixed verb has only a single meaning in all of its occurrences. When this meaning is desired, only the affixed verb can appear. This is the kind of form/meaning relationship expected for lexical items.

Of the ten components of transitivity proposed by H & T, six appear in this set of verbs. This is the total set of components which could be lexically relevant. (Aspect, affirmation, mode, and individuation of the object, the four components not found, appear with a verb only in context.) The components relevant for each pair of verbs consistently appear in unison on a single form.

Synchronically, in their total behavior these forms are very like certain other Cinyanja applied forms. The synchronically similar forms relate to the 'more of the action of the verb' function of the applied affix.

4.212 Applied forms associated with 'more of the action of the verb'

In Cinyanja the applied affix is generally associated with 'more of the action of the verb' only in conjunction with other forms (cf. Section 4.22, Appearance allied with other morphemes). Independently, the affix does not usually have this function. For a handful of non-applied vs. applied verb pairs, however, the 'more of the action of the verb' relationship is present. All of the relevant forms from our text appear in (13) below.
Comparing the forms in (13) with those in (12), a number of similarities emerge:

(a) In both sets, both the base and applied forms are uniformly present.

(b) With one exception (-ch-'trap' vs. ch-er 'gather' in (13)), the base forms uniformly occur more frequently than the applied forms.

(c) In both sets, the meaning difference between the base and applied forms is limited by a specified set of semantic parameters, different for the two sets. In (12) the parameters are some of the transitivity components proposed by H & T; in (13) they are repetition, duration 'many do' (sometimes referred to as the 'frequentative'
function of the applied affix), and 'do to many' (sometimes referred to as the 'distributive' function).

(2) Within these limitations, the applied vs. nonapplied meaning differences are frozen and arbitrary. Thus for (12), although one meaning difference between cenj-er 'be smart, clever, careful' vs. cenj-er-er 'outwit' is 'number of participants,' this same transitivity component cannot enter into the meaning difference between -im- 'stand' vs. im-ir-ir, which always means 'stand up.' Similarly for (13), in each of the twenty occurrences of bw-er-er, the form always means 'return,' never 'come through' (analogous to p-it-ir-ir 'go on, continue, pass by'), or 'many come quickly' (analogous to dy-er-er 'have a feast'), or 'come many times to a lot of places' (analogous to ch-er 'gather' and ko-l-ol 'harvest').

(d)(1) In both sets, the base verbs tend to fall into small semantic groups. In (12) these groups are verbs of perception (on- 'see,' mw 'hear,' and yang'an- 'look at'); those relating to deception (cenj-er 'be smart, clever, careful' and nyeng- 'deceive'); verbs of desisting (im- 'stop, stand' and le-k 'leave off, stop'); and the isolate verb of taking/holding -gwir- 'grab, catch.' In (13) they are verbs of direction (bw-er 'come; and pit 'go'); verbs of taking/holding (-ch- 'trap,' ko-l 'trap,' and perhaps dy- 'eat'); and the isolate ps- 'be cooked, overcooked.'

(2) But in both sets the semantic classes merely circumscribe without defining the actually occurring forms. That is, the apparently relevant semantic classes include forms which do not work
as described here. (The judgments which follow are from a combination of Mr. Tembo's grammaticality assessments, repeated and exclusive text use, Scott (1892), and Zambesi Mission (1964).) For (12), the 'increased transitivity' forms, some of the counterexamples are: for verbs of perception, -peny- 'see' becomes peny-ets-ets to indicate intensity, not peny-er; for verbs of deception, the semantically appropriate form related to -nam- 'lie' is nam-ix 'deceive,' not nam-ir; for verbs of desisting, siy-ir, the applied form of -si(y)- 'leave off,' generally means 'leave for' rather than 'bear, as something/someone.' For (13) some of the counterexamples are: for verbs of direction, dz-er, the applied form of -dz- 'come,' means 'come from,' not 'come again' or 'return' as required, and for -nk- 'go,' the applied form nk-er is apparently not used; for verbs related to gathering, gwir-ir, the applied form of -gwir- 'catch,' means 'consume, as a fire,' not 'harvest' or 'gather,' as required.

The nature of the similarities between the two sets of verbs has certain implications for the kind of process we are dealing with here. First, it is synchronic. This is suggested by (a), which notes that in both sets both the base and applied forms are uniformly present, and (b), which notes the greater frequencies of occurrence for the base forms. Second, the process is not governed by a general rule. This is suggested by (c-2) and (d-2), which deal with the unpredictable aspects of the verbs. Third, the process is semantic in nature. This is suggested by (d-1), which notes that the process is semantically circumscribed, if not defined, in the verbs it applies to,
since the base verbs fall into semantic groups. It is also suggested by (c-1), which notes that the process is again semantically circumscribed, if not defined, in the changes it effects. That is, in both sets the meaning difference between the base and applied forms is limited by a specified set of semantic parameters, different for the two sets.

In Chapter III, we noted that functions of the applied affix which are interrelated in origin (for example, verbal marking of the recipient, locative, time and manner functions) tend to have synchronic similarities within each language where they occur. Functions only indirectly related do not show such similarities. The strong synchronic similarities between the verbs in (12) (the 'increased transitivity' forms) and those in (13) (the 'more of the action of the verb' forms) is strongly suggestive of a common origin and creation process.

Moreover, in addition to the behavioral similarities between the two sets of forms, in both cases the applied affix effects change in a common semantic domain. We will label this domain 'action.' By 'action' we mean something much broader than simply 'kinesis' (cf. 'kinesis,' p. 45); as ultimately used here, 'action' is a term with two sides. One side of the term is 'action quality.' Action quality refers to those properties which, probably universally, conceptually characterize the best or prototype actions. These properties will be seen to be 1. number of participants: the presence of an agent and an object as opposed to just one of these 2. kinesis: degree of
physical activity implied by a verb  3. aspect: perfective vs.
non-perfective  4. punctuality: lexical aspect  5. volitionality:
deliberateness or spontaneity of agent  6. affirmation: whether a
clause is affirmative or negative  7. mode: realis vs. irrealis
8. agency: whether an agent is high in potency vs. low in potency
9. affectedness of the patient: how completely the patient is
affected.

Obviously, the concept of 'action quality' is very similar to
the concept of transitivity developed by H & T. It is, in fact,
simply an alternative cover term for a very slightly revised subset
of their transitivity parameters. Action quality includes all of the
H & T transitivity parameters except individuation of the object.
The incorporated subset of parameters is unrevised with one exception:
H & T's 'affectedness of the object' has become 'affectedness of the
patient.'

The other side of the term 'action' is 'action quantity.'
'Action quantity,' like 'action quality,' is a cover term. 'Action
quantity' refers to such concepts as repetition, duration, 'many do'
('frequentative'), and 'do to many' ('distributive').

The 'more of the action of the verb' function of the applied
affix increases the quantity of the action of the verb. That is, with
this affix the action of the verb occurs more than once or over a per-
iod of time. The 'increased transitivity' affixes increase action
quality. That is, they effect a change in the semantic areas univer-
sally associated with action.
Given that the applied affix can develop meanings associated with action increase, one question which arises is the historical source for this function. We here suggest the benefactive function to be the source. Our evidence is drawn from several areas. First, we earlier suggested a common source for the action quality and action quantity functions of the applied affix because of synchronic similarity between the forms in (12) and (13). Now, in our descriptive grammars of Bantu, the action quality function is not reported. The action quantity function does appear however, and historically this function is clearly chronologically subsequent only to the marking of benefactive object NPs (cf. Ch. III, pp. 153, 188-89). Second, probably universally, the benefactive object function is associated with action. Cross-linguistically, the benefactive function generally means 'for the benefit of.' This function is inherently associated with action and volitionality. When the function appears with non-volitional and/or non-action verbs, it can increase their volitional and action implications. For example, the phrase 'die for the benefit of X' essentially precludes the possibility of dying quietly in one's sleep of old age; 'be tall for the benefit of x,' suggests the voluntary physical action of improving one's posture; 'fail for the benefit of X' requires volitionality and precludes inadvertent failure or failure because of inability.

In some languages use of the benefactive morpheme has been extended to additional contexts where less volitionality is present. Cinyanja is one of these languages. Even here, however, the morpheme
actually appears primarily in volitional contexts where physical action is involved. In our text, the examples were almost exclusively of this sort: \textit{-gwir-ir} 'grab X for Y' (1); \textit{-konz-er} 'prepare X for Y' (1); \textit{-kumb-ir} 'physically dig up X for Y' (2); \textit{-on-er} 'see X (lost by Y) for Y' (1)(the sole nonvolitional and nonaction verb); \textit{-ph-er} 'kill X for Y' (1); \textit{-pang-ir} 'prepare X for Y' (1); \textit{-phik-ir} 'cook X for Y' (2); \textit{-siy-ir} 'leave X (an object) for Y' (1); and \textit{-zim-ir} 'put out a fire for Y' (2).

If the 'increased action' function of the applied affix does in fact have its historical roots in the benefactive object function, a second question also arises: by what precise means does the 'increased action' function come about? The most likely source is the process often responsible for historical shifts in morphemes which do not yield to internal logic. This is the process in which very frequent (incidental) cooccurrence can lead to a reanalysis of function. The morpheme which at one point appears only incidentally, albeit very frequently, in a specific context later becomes functionally associated with the context. It now marks the context which was earlier incidental and has a new independent meaning which can eventually spread to new independent environments. In the case of the applied affix the association between the applied affix and action is initially only incidental to the affix's function in marking benefactive object NPs. The inherent association between benefactives and action, however, means that the affix's incidental association with
action is very high. Such high coincidence is the primary necessary ingredient for reanalysis of function.

4.213 Functionally comparable forms with the causative extension

We noted earlier that one other extension in Cinyanja, the productive -its-/-ets- causative extension, can function to indicate 'more of the action of the verb' (cf. pp. 216-17), here labelled (increased) action quantity. We have seen various causative extensions throughout Niger-Kordofanian which appear in one form or another in Cinyanja. This particular causative extension is fairly young.\(^{11}\)

The -its-/-ets- causative extension is probably a proto-Bantu innovation (cf. Ch. II, pp. 90, 95).

The causative function of the -its-/-ets- causative extension, as opposed to the function increasing action quantity, is the predominant one and is extremely regular and transparent. The extension has no significant limitations on its use. Thus, it can appear with originally one-argument verbs, as shown in (14), and with originally two-argument verbs, shown in (15). With an originally two-argument verb, it can appear with the original subject, shown in (15a); with the original object, shown in (15b); or with both, (15c). And the extension can even be piggy-backed, shown in (16), to indicate progressively more indirect levels of causation.

(14) -pus- 'be foolish'

\[
\text{a- na- i- pus- its- a m-fumu i-ja}
\]

they past him\(_1\) be foolish caus FV chief\(_1\) that\(_1\)

'They fooled him, that chief.'
(15) a. -dy-'eat'

ine ndi- wa- dy- ets- e
me_1 i_1 them eat caus subjunc
'Me, I should feed them.'

b. -itan- 'invite'

m-fumu i- na- itan- its- a Kaundama ndi
chief_1 he_1 past call for caus FV Kaundama_j and

m-kazi w-a-ce
wife_k his_k,j
'The chief had Kaundama and his wife called for.'

c. -iwal- 'forget'

mw- a ti- iwal- its- a ma-samba ...
you compltv us forget caus FV leaves
'You have made us forget the leaves . . . .'

(16) -lip- 'pay'

a. o-nse a- na- wa- lip- its- a n-g'ombe
all_1 he past them_1 pay caus FV cow_j

i-modzi - i-modzi
one_j one_j
'He made each of them pay a cow.'

b. a- da- lip- its- a n-g'ombe a-nthu
he past pay caus caus FV cows people
'He [a visitor] caused the people to have to pay cows.'
(As a result of something that he;[the visitor] did,
the chief made the villagers pay cows to him_1.)

The action quantity function of the causative, like that of the
applied affix, is paired with an action quality function in forms
generally relating to increased action. (Cf. pp. 231-32 for our
initial discussion of 'action,' 'action quality,' and 'action quan-
tity.') All of our text examples of the causative extension in its
'increased action' function appear in (17) below.
(17) verbs of perception

-mv- 'hear' (51)  mv-ets-ets 'understand' (1)
  (increase in quality: volitionality)
  'hear well' (1)
  (increase in quantity)

-peny- 'see' (2)  peny-ets-ets 'look at intently, closely' (5)
  (increase in quality: volitionality)

verbs of taking

-gwir- 'grab, catch' (32)  gwir-its 'hold on tightly' (3)
  (increase in quantity)

-land- 'take, steal' (6)  land-its 'rescue' (1)
  (increase in quality: affectedness of object)

verbs of speaking

-kamb- 'talk' (13)  kamb-its 'relate well, as a story' (1)
  (increase in quantity)

-nen- 'say, tell' (42)  nen-ets 'tell on' (1)
  (increase in quality: affectedness of object)
  'say strongly' (1)
  (increase in quantity)

semantic isolate

-fiir- 'be red' (1)  fiir-its 'glowing red, as coals' (1)

Here, as with the applied affix, the verbs fall into semantic groups: verbs of perception, verbs of taking, verbs of speaking, and the semantic isolate -fiir- 'be red.' The semantic groups for the causative extension are basically a subset of those with the applied extension. With the applied affix, the comparable groups are verbs of perception (-on- 'see,' -mv- 'hear,' and -yang'an- 'look at') and
those of taking/holding (\text{-ch-} 'trap,' \text{ko-l} 'trap,' \text{-gwir-} 'grab, catch' and possibly \text{-dy-} 'eat'). With the applied affix we noted no semantic group comparable to the verbs of speaking with the causative extension; however, with the applied affix verbs of speaking would tend to blend in with recipient object lexicalizations. (For a list of these lexicalizations, see (35), pp. 263-64.) The causative extension has nothing comparable to the verbs of deception, desisting, or direction of the applied affix.

The causative extension, like the applied extension, may signal an increase in either the quantity or quality of the action of the verb. Unlike the situation with the applied affix, however, every 'increased action' causative verb does not necessarily have the same meaning in all of its occurrences. Because the causative extension is not frozen into a quantity vs. quality distinction with each lexical verb, the 'increased action' function appears to be younger here. Interesting trends, however, are already beginning to emerge. Already the verbs of perception show a greater tendency toward qualitative increases in the action of the verb; those of taking show a greater tendency toward quantitative increases. Verbs of perception vs. those of taking are prime examples of low action vs. high action forms. With low action verbs, therefore, the 'increased action' function, initially at least, moves to increase the quality of the action; with verbs that are already high action, it geneally increases the quantity.

The fact that the causative 'increased action' function appears to be younger than the comparable function with the applied affix

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allows us to reexamine (and confirm) some of our more tentative claims regarding the source of the applied function. For example, we earlier suggested, on the basis of synchronic similarity alone, that the action quality and action quantity applied forms in (12) and (13) respectively arose via a single process from a single source. The behavior of our younger causative forms tends to support this suggestion. The mere fact that both aspects of meaning again occur with the causative form is, of course, some support. More important, however, are (1) the capacity of a single causative form to assume either meaning and (2) the identification of factors influencing the more likely meaning with each form.

Comparison of the two extensions also allows us to examine our initial limitation of the function to verbs in certain semantic areas. Our examination of the causative increased action function supports this, since the semantic areas here are basically a subset of those with the applied affix.

And finally, we earlier posited that the mechanism creating the increased action function of the applied affix rested on a close link between the source benefactive function and action. If the mechanism posited earlier is to be general, then there must also be a close link between the causative function and action. This is, in fact, the case.

The causative construction generally turns the subject of the noncausative verb into an object of the causative verb and adds a new agent subject. This immediately increases the action quality of the verb. Although the noncausative verb is likely to be low action,
intransitive, or one-argument, the causative verb by definition has an agentive and usually volitional subject; it by definition has an object which is present and affected. The association between the causative extension and high action is inherent in the causative construction. A basis for reanalysis of function, similar to that of the applied extension, is present.

4.22 **Appearances allied with other morphemes**

In this section we describe cooccurrence of the applied affix with two other forms: reduplication of the verb, in Section 4.221; and the emphatic suffix -tu, in Section 4.222. With these forms the applied affix is again associated with the two aspects of increased action outlined earlier, increased action quantity and increased action quality (cf. pp. 231-32).

Reduplication and -tu are also both independently and solely associated with both of these meanings. To judge from their general functions with other forms, the basic meanings of reduplication and -tu with verbs surround increased action quantity. By themselves, these forms suggest increased action quantity to be the primary component of increased action and action quality to be a secondary development. Reduplication of the verb and the emphatic suffix -tu also have no inherent association with transitivity. The data here confirm therefore our earlier suggestions of the derivative nature of the association between transitivity morphology and action. Further data in this section suggest the mechanics of the process by which a
transitivity morpheme such as the applied affix, following independent association with a semantic area such as action, spreads to new contexts for appearance.

4.221 Replication of the verb

Reduplication is a general procedure which may occur with a variety of parts of speech, shown in (18): nouns (18a), noun modifiers (18b), and adverbs (18c). It also occurs with verbs, shown in (19)-(23). With all parts of speech reduplication has the same general significance: an increase in quantity.

(18) a. nouns

a- da- dzaz- a mi-tuks-o mi-tuks-o
they past fill FV water jar water jar
'They filled numerous water jars.'

b. adjectives

1. a- na- itan- a ma-bwenzi a-mbiri- mbiri
he past invite FV friends many many
'He invited many, many friends.'

2. a- cit- a pa-ka-mw- a non- i- non- i- yo
he FV do mouth be fatty be fatty that
'He has oil all over his mouth.'

c. adverbs

1. mu- dza- dzi- an- a kweni-kweni
you fut know recip FV truly
'You will truly know one another.'

2. Nkhumbu a- na- ngo- yend- a bwino- bwino
Nkhumbu he past just walk FV good good
'Nkhumbu just walked very carefully/slowly.'

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With verbs, reduplication appears lexically as part of some items associated with surprise or fear, shown in (19). It is also associated with actions inherently repetitious or cyclic, shown in (20a), or where repetitious mutuality among many parties is indicated, shown in (20b).

(19)  
- do-do-m– 'be puzzled, surprised'
- dze-dze-m-uk– 'start with fear'
- nje-nje-m– 'shiver, start with fear'
- tsi-tsi-m-uk– 'recover from a faint'

(20)  
a.  - loc- a- loc- 'embroider'
- pey-uk- a- pey-uk– 'sway from side to side'

b.  - pik- ik- a- pik- ik– 'all askew'
- siy- an- a- siy- an– 'all different'

Generally, however, the basic significance of reduplication, an increase in quantity, means that with verbs reduplication takes on the range of meanings identical to those common for the applied and causative extensions discussed earlier. Thus, like the causative and applied extensions, reduplication may indicate an increase in the quantity of the action of the verb, as shown in (21); this increased quantity may emerge specifically as repetition (21a), duration (21b), or 'many do'/ 'do to many' (21c). (For parallels with the applied affix, see (13), p. 228.)

(21)  

a.  repetition

a– na– li
ku– khal– a– khal– a
pa– nsi
they past be to

sit  FV
sit  FV
ground

ka-wiri-ka-wiri
twice twice

'They were often (ka-wiri-ka-wiri) sitting down.'
b. duration

a- ta- kamb- a- kamb- a Bonongwe ndi
they after talk FV talk FV Bonongwe and

m-kazi w-a-ce a- na- law-ir- a n-
wife, his they past say good-bye FV and

a- pit- a kw-a-o
they go FV home

'After they talked and talked, Bonongwe and his wife said good-bye and went home.'

c. 'many do'; 'do to many'

a-muna a-mbiri a- na- le-k a- le-k a-
men many they past leave FV leave FV

a-zi-kazi a-o a-kale kuti a- kwat-ir-
wives their old that they marry

e Mwambuci
subjunc Mwambuci

'Many men left their old wives so that they should marry Mwambuci.'

With at least one verb, -fun- 'want' shown in (22), reduplication implies an action quality, rather than quantity.

(22) -fun- 'want' (40) vs. -fun-a-fun-'look for' (5)
'look for' (6) (agency, volitionality)
'almost' (2)

Reduplication, like the causative and applied extensions before it, therefore, can indicate an increase in either action quantity or quality. Like the causative extension, it apparently prefers originally low action, rather than high action, verbs for the action quality increase.
Considering the 'increased action' meanings common to the applied affix and reduplication of the verb, it is not surprising that the two should occasionally appear in conjunction. All examples encountered appear in (23) below.

(23) a. **repetition**

po- funs- ir- a- funs- ir- a a- na- mv- a
on ask app FV ask app FV they past hear FV

mwa- ci- nsi- nsi kuti . . .
in secret that . . .

'On asking around (repeatedly and from many sources) they heard secretly that . . .'

b. **duration**

m- zondo u- ja u- na- li ku- nyek-_ er-
corner i that i it i past be to be consumed app

a- nyek-_ er- a- be
FV be consumed app FV still

'That corner (of a rag) was still being progressively eaten away (by the fire)'

c. **inherently cyclic or repetitious action**

ma- buv- a- li peph- er- er- e- peph- er- er- e- 12 e
wasps i they i be blow app app blow app app

ku- ulu- k- a
to fly FV

'The wasps were buzzing flying.'

The applied and reduplicated form in (23a) indicates repetition of the action; that in (23b), duration. The applied and reduplicated from in (23c) signs inherently cyclic or repetitious action, the beating of the wings of wasps.
The meaning of applied and reduplicated forms is similar to that of forms simply reduplicated, without the applied affix. (Compare (23a) with (21a); (23b) with (21b); (23c) with (20a).) The parallels with simply applied forms are incomplete and incidental to those which the affix has with reduplicated forms separately. In our text, applied and reduplicated forms have no distinctive function.\textsuperscript{13} Because (1) the meaning of reduplicated verbs is completely predictable from the meaning of reduplication generally, and (2) applied and reduplicated forms are indistinguishable in function from forms simply reduplicated, it appears that the applied affix can attach itself to reduplicated forms but that it adds no distinctive meaning. (For further details on the basis for appearance of the applied affix, see pp. 254-57.)

4.222 The suffix -tu

The suffix -tu, like reduplication, may occur with a variety of parts of speech, shown in (24): the copula ndi 'be' (24a); sentential conjunctions such as ndipo 'and,' koma 'but,' and popeza/paja 'because' (24b); nouns and pronouns (24c); and adjectives (24d). With these parts of speech the suffix is an emphatic form used primarily in dialogue. (Note that the sentential glosses in (24) convey the overall effect of the Cinyanja emphatic without necessarily providing a literal translation.)
(24) a. ... koma Dumbo u-siw-a u-na- mu-ph-
    but Dumbo, shabbiness, it, past him, kill

    a ndi-thu
    FV be emphatic

    '... but (as for) Dumbo, (his) shabbiness was really
    killing him.'

b. "Ndii-po- tu tsone mu ti-pats a
    and sentential emphatic then you us give FV

    z-a-ambiri . . ."
    many

    "And [indicating a consideration advantageous to the
    speaker but not to the listener] you [in exchange]
    (must) give us a lot ..." 

    "C-a-bwino nd a mv a, koma tu
    good I compltv hear FV but emphatic

    o sa-nam a . . ."
    you neg lie FV

    "All right I've heard, but don't lie . . ."

    "Mzitheyi, pa-ja- tu y a ku-leful-
    Mzitheyi, because emphatic it, compltv you weary

    a ni n-jala i dy a ni ko
    FV you pl.14 hunger, eat FV you pl. partitive

    n-khuyu y i"
    fig this

    "Mzitheyi, look, it has wearied you, the hunger; eat
    a little of this fig."

c. "... ta-on a m-kazi- tu w-o-kongol a u-y-o
    do see FV woman, emphatic beautiful, that

    "... look a real woman, beautiful, that (one)."
"Ife-tu a-nz-a-nu ti-ri ndi we emphatic your companions i we be with

a-bwenzi a-thu . . ."
close friends j our i, j

"We, your companions, have our close friends."
(A supercilious statement: the speakers are implying that they are special people, separate from their unremarkable companions.)

d. "A-nz-a-thu mw- a- on- a no-kha- tu Our companions i you i compltv see FV alone i emphatic

ku-ti ma-bvut-o- wa a- bw-er- a ndi that troubles j these j they j come FV with

m-fumu . . ."
chief

"Comrades, we have all noticed that these troubles have come with the chief . . ."

With verbs, -tu appears as the only affix relatively infrequently. Alone, -tu indicates either intensity, as in (25a) an increase in the action quantity (three examples); or completion/perfection, as in (25b), an increase in action quality (one example). The perfection is situational or contextual rather than grammatical. That is, it does not depend on, nor is it particularly associated with, past or perfect tense or aspect markers.

(25) a. "A-nz-a-thu, zi-thu z- a- ip- our companions things i they i compltv be bad

a- tu tsopano, t- a- ulu-l- ik- a FV really now we compltv reveal statv FV

"Companions, things are really bad now; we have been revealed."
b. "Ndí- ku- by-ul- a- tu a-nthu- wa
a- ku- on- a!"
they[1] you[1] see FV

"I will undress you completely; these people will see you (naked)!

The suffix -tu appears more commonly in conjunction with the applied affix than on verbs alone (15 vs. 4 examples). When the two morphemes, the applied affix + -tu, appear in conjunction, the most common and productive meaning (6 examples with 6 different verbs) is a sense of perfectivity/completion. As before this perfection is situational or contextual rather than grammatical. It often reflects completion of an action prior to another event, as shown in (26).

(26) Kale tsiku lina panamveka kuti pa mudzi pa Mzekwe panali kufufulidwa mowa wa udzu. Munthu wina...atamva a-na-
yamb-ir-a-tu kumweta udzu wace kuti pa tsiku lamowalo angadzavutike ndi kugwira nchito yomweta udzu.

'Long ago one day it was heard that at the village of Mzekwe was being brewed the beer of grass. (They were brewing beer for the people who would come to cut grass for thatching houses.) A certain person...when he heard he began immediately (he-past-begin-app-FV-emphatic) to cut his grass because on that day of beer he might be troubled by working cutting grass. (He began to cut his grass right away so that on the day of the festivities he would have nothing to do except drink beer.)'

In one example, shown in (27), the two morphemes in conjunction denote the common meaning for -tu alone: more of the action of the verb.

Mwalimu said, "Us in Islam we do not allow eating things
dying by themselves, or certain things which rotted a
long time ago like meat and also we do not allow eating
mice. Also another thing we must emphasize (we-say-app-
subjunct-emphatic) we do not allow eating meat of pig.
You, Mr. Hyena, will you abstain from these things?"

Not surprisingly the applied affix + -tu and also the applied
affix alone are particularly frequent (3 examples of each) with the
verb -th- 'finish, end, do.' The verb -th- 'finish, end, do' func-
tions in many different capacities in Cinyanja: (1) it is the source
of the second-position morpheme -ta- 'when, after' on the agglutinated
Cinyanja verb (cf. (2b), p. 213); (2) it appears lexicalized in forms
such as -t-anf 'what kind' and -t-er-e, -t-er-o 'do so'; it occurs in
compound verbs such as th-a-mang 'run,' where it combines with -mang-
'tie, build, make'; and (3) it adds force to commands, as in ta-on-a
'do look!' from -on- 'see,' ta-im-a 'do stop!' from -im- 'stop, stand.'
As a main verb it appears either with agent subject and following
infinitive (19 examples), as shown in (28a); here the verb has the
sense of 'can, be able, finish.' Or -th- may have an (agent) subject
and an object (12 examples), as in (23b); in such a frame the verb
has the sense of 'finish, spend (time), use/take (all).' Or -th- may
have a patient subject (9 examples), as in (28c); here -th- has the
sense of 'be over, run out, wear out (intr), be gone, pass (of time).'

(28) a. . . . Mwambuci s- a- na- th- e ku- ch-er- a
Mwambuci neg she past be able perf to gather FV

   n-diwo mwa n-jira i-y-i . . .
   herbs in way this

' . . . Mwambuci was not able to gather herbs in this
way . . . ')'
b. iye- y-u a- na- th- a n-chit-o y-o- tut-
he₁ this₁ he₁ past finish work₁ of₁ carry
a- yi n-thawi y-a- m-sana
FV this₂ time₂ of₂ midday

'Him, he finished the work of carrying (bundles) in the afternoon.'

c. "Inu u-fumu w-a-nu w- a- th-
You₁ chieftainship₃ your₃,ᵢ itᵢ complty be over
a lero, mawa tisonkhananso kuti tipeze wina . . ."
FV today

"You, your chieftainship is over today, tomorrow we meet again so that we may find another . . ."

All of the (1) applied and (2) applied + -tu forms occur in a Patient - V frame such as (28c). No difference in use between the 9 unextended and 3 simply applied forms is readily apparent. The 3 applied + -tu forms do, however, clearly have a distinct function. On the verb -th-, the applied extension and the suffix -tu in conjunction indicate total affectedness of the patient subject. (The effect on a patient subject here, rather than on an object, suggests revision of H & T transitivity parameter 10. affectedness of the object. A revision such as 'affectedness of the patient' would presumably cover all of the previous data as well as the present examples with -th-.) In the text example of (29) it is possible to contrast use of the unextended verb -th- with that of th-er-a-tu. The unextended verb appears with the less affected patient.

(29) Atayenda mitunda yambiri ndiponso atatha miỵ̄zi isanu, kamba a-na-yamb-a ku-th-a ndipo pa mvezi wacisanu ndi cimodzi, kamba a-na-th-er-a-tu koto kuti tsopano anangoyenda opanda cakudy a cowanira masiku awiri.
'After they traveled many miles and had spend five months (on the road), (their) provisions began to run out (provisions; theyi-past-begin-FV to-run out-FV) and then in the sixth month (their) provisions ran out completely (provisions; theyi-past-run out-app-FV-emphatic) so that now they just traveled for two days without sufficient food.'

The verb -f- 'die' gives us our last set of special circumstances for the appearance of the applied affix and -tu. Two factors influence the appearance of -f- vs. -f-er-a-tu: (1) realis vs. irrealis and (2) one vs. two participants in the situation. These factors, like those surrounding perfection earlier, are situational or contextual rather than grammatical. That is, the presence of realis vs. irrealis is determined by whether death actually occurs, not by whether the verb is subjunctive, conditional, hortative, etc. Similarly, the one- vs. two-participant distinction hinges essentially on the difference between murder vs. death through one's own stupidity/accident/hunger/natural causes, etc. Clear contexts for the use of -f- vs. -f-er-a-tu appear in (30a) and (30b) below.

(30) a. Pamene Mzitheyi analikukazina nyamayo, anthu a pamudzi a-na-f-a ndi nkuli popeza kafungo kanali tikiti! Anthu osakamba bwino nkhani.

'When Mzitheyi was frying that meat, people in the whole village died (they-past-die-FV) of longing because the smell was everywhere. They couldn't even speak properly (because they were so overcome by the desirable smell).'

b. natsegula ndi mpeni, nalowa nepeza mbuye wace aligonire pa kama ndipo Dumboyo anasamula nkhwangwa, nailunjikitsa m'lisipa; natema dzamphamu. Nthawi yomweyo magazi anang'ondoka ndipo ena anamwaza pa zobvala zace. Mwini munda uja a-na-f-er-a-tu. Dumbo anayamba kuba akatundu nakabisa.

'And he opened (the window) with a knife, and he entered and he found his master sleeping on the
bed and so Dumbo raised his axe and he drove it straight into the temple vein and he cut him mightily. At that time the blood spattered and some spotted his clothes. The owner of the field died. (he-past-die-app-FV-emphatic)
Dumbo began to steal (his) belongings and he went to hide (them).

Percentage distributions of realis vs. irrealis and one- vs. two-participant situations for the two forms are shown in (31). The tables are essentially complementary: half of the f-er-a-tu forms cluster in the clear [+realis], [+ two-participant] situations such as that in (30b); half of the -f- forms cluster in the opposite, as in (30a). No f-er-a-tu forms appear in the minus-minus context; almost no -f- forms in the opposite, plus-plus. Some of both forms appear in the mixed situations.15

(31)      -f-          f-er-a-tu
          | + realis  | - realis  | + realis  | - realis  |
+ two-participant  7%       13%       50%       25%
- two-participant   33%      47%       25%       0%
total occurrences:    15      4

In this section, 4.22, we have seen data which further support the two-sided concept of action we presented earlier (pp. 231-32). The data provide this support by constituting additional forms from a different source which are nevertheless readily analyzable using our earlier concepts. Two two-fold sets of data appear. One set is the (a) applied and reduplicated verbs, and (b) applied verbs with the emphatic suffix -tu. Both display both action quantity and action quality sides of their increased action functions. The second
set is (a) verbs which are simply reduplicated (without the applied affix) or (b) which simply carry the emphatic suffix -tu (without the applied affix). Both again independently display both action quantity and action quality facets to their increased action meanings.

In Section 4.211 six components of action quality were noted: (1) number of participants: arguments of the verb; (2) kinesis: degree of physical activity of the verb; (3) punctuality: lexical aspect of the verb; (4) volitionality: spontaneity of the agent; (5) agency: high vs. low; and (6) affectedness of the object. The data in this section, 4.22, further support some of the earlier components. They also add two more: (1) aspect: perfective vs. imperfective; and (2) mode: realis vs. irrealis. And they revise one earlier component, affectedness of the object, to affectedness of the patient.

The data in this section also offer conclusive evidence for our earlier hypothesis concerning the secondary nature of the association between transitivity morphology and action parameters. This evidence comes from reduplication of the verb and verb suffixation of emphatic -tu without the applied affix. Without the applied affix those morphemes have nothing to do with objects or transitivity. Nevertheless, both display the same association with both the action quantity and quality semantic parameters first noted for transitivity morphology. Furthermore, unlike transitivity morphology, their increased action meanings are their basic meaning, semantically expected and predictable from their functions elsewhere.
Further, the data in this section provide increased information on the structure of the increased action function. In this structure, action quantity is the primary component and action quality is derivative. Material suggestive of this possibility has been present throughout our data. In this section, evidence comes from the relatively lower frequency of occurrence and less predictable nature of the action quality vs. action quantity function.

And finally, the data in this section give some indication of the mechanism by which a transitivity morpheme like the applied affix, following association with the semantic area of action, can spread to new contexts. The process is one of semantic spread in which commonalities between a semantic area in which a morpheme occurs, and one in which it does not, provide the basis for spread of the morpheme from the former to the latter. In Chapter III we saw several examples in which the applied affix spread from one semantic area of object-marking to another similar one. Recall the spread of the affix from benefactive to malefactive and recipient, from recipient to locative, from locative to adverbial, and from adverbial to instrumental object NPs. In such cases, the new semantic area often already has its own semantic marking, and the newcomer morpheme initially appears in addition to this. Later the new morpheme may acquire its own distinctive function in the new semantic area; it may alternate with the older morphology; and/or it may eventually displace the older morphology altogether. Thus, when the applied affix marks locative, adverbial, and instrumental object NPs, all relatively new semantic
areas, the applied affix often appears alongside morphology more
distinctive for the semantic role. The applied affix may appear in
conjunction with locative noun class markers in marking locative NPs,
in conjunction with reflexes of proto-Bantu na 'with' in marking
instrumentals, and in conjunction with adverbial morphemes in marking
adverbs. In some languages the applied affix can replace these mor-
phemes in some circumstances; in others it has acquired specialized
functions in conjunction with them. Initially, however, the morpheme
simply spreads to a new semantic area similar to its original one.

When the semantic area is action, the mechanics of the process
are essentially the same as with object NPs. As before, the new con-
text often already has its own marking, and the newcomer morpheme
simply attaches itself to a distinction already present. This is pre-
cisely what we have seen in this section when (1) the applied affix
occurs with reduplicated verbs, with the same meanings as redupli-
cated verbs alone; (2) the applied affix + -tu marks perfection/
completion, as can unextended verbs with -tu alone (cf. (25b));
(3) the applied affix occurs with the verb -th- 'do, finish, end,'
with no difference in use between the unextended and applied forms
readily apparent; and (4) the applied affix + -tu marks [+ realis,
+ two-participant] occurrences of -f- 'die,' as can -f- alone (cf.
(31)). In none of these cases does the applied affix "carry" the
action quality. Instead, the relevant semantic quality is already
present in the new construction and the applied affix attaches itself
to the quality already present. In some cases, of course, the applied
affix may subsequently acquire specialized functions. Initially, however, the morpheme simply spreads to a new context similar semantically to its previous one.

The same mechanism can also easily describe the increased action quality Cinyanja forms in the previous section (cf. (12)), and the 'more of the action of the verb' comparative Bantu function described in Chapter III. In these cases also it appears that the applied affix does not "carry" the action quality. Instead, the affix simply spreads to a new context where the semantic quality is already present. Thus in the increased action quality applied Cinyanja forms, the applied affix tends to appear with -mv- 'hear,' -on- 'see,' and -yang'an- 'look at' in contexts with greater volitionality, agency, and/or affectedness of object implied. The unextended verbs may generally, however, alternatively appear in these same contexts. The applied affix does not extend the range of the verb. It simply attaches to the verb in an already present area of its semantic range. Similarly in the comparative Bantu data in which the applied affix functions to indicate 'more of the action of the verb,' the distinctions it marks were of course always present. The applied affix simply becomes attached to them. The same is true of the causative extension in its comparable functions. The ability of a single mechanism to describe all of the data reviewed so far in the present section 4.22, plus the 'more of the action of the verb' comparative function of the applied affix described in Chapter III tends, of course, to support the validity of the mechanism. The coincidence of precisely
these forms with those explained through reference to action also lends further credence to our two-sided concept of action.

4.23 Occurrences connected with individuation of the object

Two verbs in our text, -funs- 'ask' shown in (32) and -oth- 'warm oneself,' shown in (33), always appear in their applied form with a certain lexical object NP. In semantic role and syntactic position this object, shown in the b-sentences (mbeta 'single person' for -funs-ir- 'ask,' (32b); dzuwa 'sun' for -oth-er- 'warm oneself,' (33b)), is similar to others, shown in the a-sentences, which appear with the unextended verbs.

(32) a. unextended verb

-funs- n-chit-o 'ask for work' (1)
-funs- ma-lo 'ask for a place (to sleep)' (3)
-funs- u-kwat-i 'ask for marriage' (1)
-funs- u-bwenzi 'ask for friendship' (1)

b. applied verb

-funs- ir- a m-beta (2)
ask applied FV single person
'ask for betrothal'

(33) a. unextended verb

-oth-a m-oto (0) (Lilongwe Language Centre, 1969:80)
'warm oneself by the fire'

b. applied verb

-oth-er-a dz-uwa (1)
'warm oneself in the sun'

The major difference among the applied vs. nonapplied objects is their individuation. One of the H & T components of transitivity,
individuation is the cover term for such noun features as proper, concrete, count, animate, singular, and referential/definite. Nouns with plus (+) values for these features are more highly individuated than their counterparts with minus (−) values (cf. Ch. I, pp. 47–48). In (32a) the unextended verb -funs- 'ask' appears with a variety of goal/purpose object NPs with low individuation. The NPs are generally abstract, mass, inanimate, and nonreferential. Contrast these objects with mbeta 'single person,' concrete, count, animate, singular, and referential. The same sort of contrast appears in (33). The NPs moto 'fire' and dzuwa 'sun' are the only common object NPs for the verb -oth- 'warm oneself.' Of these two, moto 'fire,' a common noun, is inherently less individuated than dzuwa 'sun,' which has a unique referent.

In our data, individuation of the object is separate from the other components of transitivity proposed by H & T. It does not cluster with other transitivity parameters in influencing appearances of the applied affix. This sets it off from the other parameters, which tend to cluster with each other. Also, applied morphemes associated with individuation are completely determined and semantically empty. They show neither variation nor independent meaning. In all of these respects these applied morphemes are distinct from other applied morphemes associated with the other transitivity parameters; this transitivity parameter therefore is different from the others.
H & T undifferentiatingly include individuation of the object along with their other transitivity parameters. Because of differences such as those we have mentioned, we do not. Action quality, the cover term we have proposed for our revised subset of H & T transitivity parameters, does not include individuation of the object (cf. pp. 231-32). The synchronic facts support separation of this parameter from the others. Also, the semantic association responsible for creation of these forms is probably different from that for those preceding. We have argued that action quality forms, such as those in (12), arise through an incidental association of transitivity morphology with action. The individuation forms, on the other hand, probably arise through consistent but incidental association of the applied affix with the more highly individuated of two object NPs. In Cinyanja and across Bantu, appearance of the applied affix is not generally directly associated with individuation of the object. Through the benefactive function, however, it can be associated indirectly. In all languages, Bantu and otherwise, benefactive objects are among the most highly individuated. Syntactically, a benefactive object is relatively rarely the sole object of the verb. The usual double-object construction gives rise to the following situation: when the applied affix marks the benefactive NP, it is also incidentally associated with the more highly individuated object. For these forms therefore, individuation, rather than action, is the significant semantic association.
In Cinyanja the other ingredients are apparently (1) fixed phrases, that is, a single verb repeatedly occurring with a single object, where (2) the object is much more highly individuated than other objects of the verb elsewhere. The repeated and formulaic quality of the context appears to be important in both initiating and limiting the rare shift in function.

The results of the shift in function are akin to those of total syntacticization: a morpheme which has been completely stripped of independent meaning and now appears solely as a function of surrounding context. In Cinyanja this surrounding context is so specific that the ultimate "rule" seems more lexical than syntactic, since it relates a single form to a single meaning. The forms themselves also have various characteristics of lexical items: (1) they are frozen; (2) they are extremely finite in number; and (3) the same set phrases appear in language after language, regardless of differences in the surrounding uses of the applied affix. Regardless of the ultimate categorization of the synchronic rule, however, the semantic area involved in creation of the items, individuation of the object, is different and separate from action.

To summarize our discussion in Section 4.2, we have found repeated support for association between the applied affix in Cinyanja, selected as an example of transitivity morphology, and the H & T components of transitivity. Of the ten H & T parameters (1. number of participants; 2. kinesis; 3. aspect; 4. punctuality; 5. volitionality; 6. affirmation; 7. mode; 8. agency; 9. individuation of the object;
10. affectedness of the object), all except affirmation have been directly supported in our data. 'Affectedness of the object' has been revised to 'affectedness of the patient.' Individuation of the object is separated from the remaining parameters.

We have proposed action quality as the cover term for our subset of slightly revised H & T parameters. Based on evidence from a variety of data, action quality forms are derivative from more productive action quantity functions, such as repetition, duration, 'many do' ('frequentative'), 'do to many' ('distributive'). Both functions are found with transitivity morphology and also with morphemes which inherently have no association with objects. The basic meaning of these latter morphemes is 'increased action.' Occurrence of the full action quality and quantity functions with these exclusively 'action' morphemes supports a derivative association between action quality parameters and transitivity morphology.

4.3 Applied verbs with indirective subjects (cf. Ch. III, pp. 195-97)

In a number of verbs from our text, the applied affix apparently relates to an indirective subject. The effect on the subject may be benefactive or malefactive; the subject may be a recipient; or the effect may be nonspecific, as shown in (34) below. (Where no non-applied form is listed, none is extant. Forms followed by a zero (0) in parentheses here and in subsequent examples are taken from Scott (1892) unless otherwise indicated.)
(34) beneficial

-čir- 'get better, recover' (1)
-čir-i-ir- [cizir] 'cure' (2)
-čir-ik-iz- 'prop up' (3)

-kond-w- 'be happy' (1)
-kond- 'like, love' (25)
-kond-w-er- 'be happy' (2)
-be pleasing' (3)

-lem- 'be heavy' (0)
-be tired' (1)

-lem-er- 'be rich' (14)

-sek- 'laugh' (3)

-sek-er- 'rejoice' (1)

and perhaps

-sew-er- 'play' (4)

malefactive

-leph-er- 'fail' (5)

-mwal- 'go away' (0)

-mwal-ir- 'die' (2)

recipient

-kumb-ir- 'remember' (1)

-kumb-uk-ir- 'remember' (9)

-land- 'take, steal' (6)

-land-ir- 'receive' (15)

-nonspecific

-ledz- 'be intoxicated' (0)

-ledz-er- 'be intoxicated' (3)

-yen-er- 'must, have to, be necessary, right' (17)

-zol-ow-er- 'be accustomed to' (5)
No theory of transitivity, including that of H & T, accounts for these forms. The forms are, in fact, counter to all semantic expectations surrounding transitivity morphology. The subjects are low in agency and volitionality. Objects are rarely present. Where present, they are low in affectedness and individuation.

In their total behavior these forms are very similar to lexicalizations of the indirective object function of the applied affix. All such lexicalizations found in our text appear in (35) below. (Where no nonapplied form is listed, none is extant.)

(35) bene\-f\-act\-ive

-\-dy- 'eat' (33)       -\-dy-\-er-\-an- 'share' (4)
-kwat- 'to marry, said of the man' (0)
-kwat-\-ir\- 'to marry, said of the man' (15)
-\-omb\-\-ol- 'save' (2)
-sam-\-al- 'care for' (4)
-tam-\-\-and\- 'praise' (1)       -\-tam-\-\-and\-\-ir\- 'praise' (2)
([-animate] objects only)
\-tam- 'praise' (4)
\-(either [-animate] or [+human] objects)

male\-f\-act\-ive

-\-du-\-l- 'cut (through)' (10)
\-'intercept, as a thief' (0)
-du-\-l-\-ir-\-iz\- 'to intercept, as a thief' (1)
-pan- 'fix between two bamboos, as a load' (0)
-pan-\-ir\- 'fix between two bamboos, as a prisoner's head' (2)
recipient

-b-al- 'bear, as a child' (2)
-p-er-ek- 'give' (4)
-p-ats- 'give' (20)
(Ø-)b-er(-e) 'breast' (0)

-bvum- 'assent' (0)
-bvom-er- 'agree, accept, answer' (8)
-bvom-er-ez- 'swear to' (4)

-c-ez- 'visit' (4)
-ch- 'call' (1)
-ch-ul- 'pronounce, choose' (3)

-cing-am- 'lean over, slope' (0)

-cing-am-ir- 'meet' (1)

-law- 'start off in the early morning' (0)
-law-ir- 'say good-bye' (7)

-lonj-er-er- 'ask for marriage' (1)

-long-os- 'resume co-habitation after abstinence' (0)

-long-os-ol- 'relate' (4)

-lonj-ez- 'promise' (2)
-lonj-er- 'greet' (2)

(c-f-b-er-ek- 'produce' and related forms above) p-er-ek- 'give' (accepts patient objects only, no recipients) (4)

The similarities between the indirective subject forms in (34) and the indirective object forms in (35) are as follows:

(a) In both sets the nonapplied forms are either

(1) not present in the language, or

(2) present, but with

(a) an idiosyncratic meaning relationship between the nonapplied and applied forms, or

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(b) the same meaning and function for the nonapplied
and applied forms. These forms are also charac-
terized by a lower frequency of occurrence for the
nonapplied form.

In (34), those verbs meeting condition (1) are -c-ir- 'get
better, recover,' -c-ir-i-ir- [-cizir-] 'cure,' -c-ir-ik-iz- 'prop';
-sew-er- 'play'; -leph-er- 'fail'; -kumb-ir- 'remember'; -yen-er-
'must, have to, be necessary, right'; -zind-ik-ir- 'recognize'; and
-zol-ow-er- 'be accustomed to.' Verbs for (2a) are -lem-er- 'be
rich,' -sek-er- 'rejoice,' -mwal-ir- 'die,' and -land-ir- 'receive.'
Those for (2b) are the remaining verbs -kond-w-er- 'be happy' and
-kond-w-er-er- 'be happy'; -kumb-uk-ir- 'remember'; and -ledz-er- 'be
intoxicated.'

In (35) the verbs for condition (1) are -omb-ol- 'save,'
-sam-al- 'care for,' -h-er-ek- 'produce,' -lenj-er-er- 'ask
for marriage,' -lonj-er- 'greet,' and -p-er-ek- 'give.' Those for
(2a) are -dy-er-an- 'share'; -bvo-er- 'agree, accept, answer' and
-bvo-er-er- 'swear to'; -c-er-an- 'greet'; -cing-am-ir- 'meet';
-law-ir- 'say good-bye'; and -long-os-ol- 'relate.' Those for (2b)
are the remaining forms -kwat-ir- 'marry, said of the man,' -tam-and-
ir- 'praise,' -du-l-ir-iz- 'intercept,' and -pan-ir- 'fix between
two bamboos, as a prisoner's head.'

(b) In both sets any semantic coherency is within the applied
forms. In neither set are there any consistent semantic relation-
ships between the applied and nonapplied forms.
For the forms in (34) the semantic coherency is the indirective subject. For those in (35) it is the implication of an indirective object.

For the verbs in (35) at least, these characteristics are a direct result of the lexicalization process. Briefly, lexicalization is the historical process in which forms that habitually go together become reinterpreted as a unit. In the case of the applied affix, this means that certain unextended verbs, because of their meaning, frequently occur with the applied affix. Over time the applied affix becomes so strongly associated with the unextended verb that it loses synchronic motivation and the two morphemes function as a single lexical item. The historically extended verb is now a verb stem. Subsequent loss of the historical base form may follow. Meaning shifts are also common.

Relative frequency is the synchronic manifestation of historical process, and works as follows. In language, in general, the forms which some theories refer to as 'unmarked' or 'basic' occur more frequently in discourse than those which are 'marked' or 'derived.' In our case, the unextended form of any verb is more frequent than that form augmented by any extension such as the applied affix. This is assuming that the applied affix has some synchronic function. In a case in which lexicalization is occurring, the disparity in the frequency of occurrence between the unextended and extended forms is eliminated or reversed. The applied form occurs just as frequently as the nonapplied form, if not more so, and without any clear
difference in meaning. Synchronously, the results of the lexicalization process are essentially applied verbs with the characteristics of those in (34) and (35).

Although the verbs in (35) obviously result from lexicalization, for the verbs in (34) the subject status of the indirective NP precludes direct lexicalization as a source. That is, since the applied affix nowhere generally functions to mark indirective subjects, no direct historical source for the lexicalizations is available. On the other hand, lexicalization in conjunction with some syntactic process is a possibility. The necessary process would have to change objects into subjects. The obvious choice is the usual Bantu passive. This must be eliminated however, since the -u- morphology (Meeussen, 1967:92) which is part of this process would inevitably have to show up on the lexicalized verbs, which it does not. Another possibility, more tenable, is the process sometimes called subject-object reversal. This process, like the traditional Bantu passive, turns objects into subjects without reversing the semantic roles of the NPs. A sentence with subject-object reversal reconstructed for proto-Bantu (Meeussen, 1967:120) appears in (36) below. 18 Unlike passive, subject-object

(36) nkima jifji buenge bua-miti the monkey knows the
    (cleverness of) trees;
    buenge bua-miti bujji nkima id.

reversal has no specific verbal morphology. In short, subject-

applied verb - indirective object sentences, in conjunction with

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subject-object reversal and subsequent lexicalization, could produce
the required forms. The advantage of this proposal is that it makes
use of independently attested processes, lexicalization and subject-
object reversal, to explain forms which otherwise seem to require
something new. The disadvantage is that once inspection of the items
proceeds beyond the most cursory level, the facts do not conform to
general expectations for items from this source.

Two major problems occur. The first is the meaning of the
applied forms. In general, if we assume that the lexically basic
applied forms here result from (1) addition of the appropriate indirect-
tive object to the applied base, (2) subject-object reversal, and
(3) lexicalization of the result, the actual meanings of the applied
forms do not conform to the expected result, even given the shifts
in meaning which often follow an item's lexicalization. For example,
the addition of a benefactive NP to the verb -sek- 'laugh' gives
'laugh for,' and with subject-object reversal -sek-er- should mean
'be laughed for.' It is hard to connect this with 'rejoice,' the
actual meaning of the applied form. Similarly for -mwal-ir- 'the
person to whose detriment someone else went away' does not seem to be
the same as 'the person who died.'

The second surprising fact is that the creation of these verbs
seems to be an ongoing process in Cinyanja. Consider two sets of
forms: (1) -kumb-uk- 'remember' (0) vs. -kumb-uk-ir- 'remember' (9);
and (2) -kond-w- 'be happy' (1) vs. -kond-w-er- 'be happy' (12) and
-kond-w-er-er- 'be happy' (2). For each, the applied verb and
nonapplied verb have interchangeable meaning and function. Also, the applied verb occurs more frequently in discourse than the non-applied form. This is generally a picture of incipient lexicalization.

For the forms here, lexicalization in the usual sense is clearly out. In Cinyanja the applied affix does not generally mark indirective subjects, so that lexicalization of frequently cooccurring forms is not a possibility. Cinyanja is also not one of the Bantu languages which generally allows subject-object reversal, so that lexicalization from this source also lacks essential support.

The applied forms in (34) clearly require some revision in the processes we usually use to describe possible historical courses for morphology. In general however, the relevant processes do not seem to relate to transitivity; they surround lexicalization and its possible sources. Because the theory which seems to require revision can now clearly be seen to treat lexicalization rather than transitivity, we eliminate further discussion of these forms.

4.4  The applied affix and discourse

In Section 4.41 we describe the major discourse function of the applied affix in Cinyanja, associated primarily with locatives, where the affix signals a need for inference about the situation or story. In Section 4.42 we describe discourse uses with a smattering of additional constructions and meanings. These additional occurrences generally appear to be offshoots of the primary use with locative NPs.
4.41 Discourse appearances with locatives

In Chapter III, p. 172 we presented Swahili sentences with locative objects in which the applied affix seemed to be used to make some comment on the significance of the semantic information provided. Somewhat similar examples appear in Cinyanja. The Cinyanja examples all carry locative morphology; the relevant NPs actually occur, however, in two semantic roles: locative (cf. (37) and (38) below) and instrument (cf. (39)). In order for the applied affix to appear in Cinyanja, two conditions, one syntactic and the other contextual, must be met: (1) an object NP carrying locative morphology must be present, the syntactic condition; and (2) inference about the situation or story must be required, the contextual condition. The need for a syntactic condition is demonstrated in (37).

(37) a. Pa mu-dzi pa- ka- khal- a pa zi-tiru at i village at i if be FV of i fools

m-ka-mw-ini a- sa- ma- kul- ir- a- po mw-end-o son-in-law j he j neg habit grow app FV there leg

'If a village is of fools, a son-in-law does not grow there [in] the leg.'
(Even if everyone in the village is foolish, a son-in-law should not become big-headed.)

b. M-ka-mw-ini a- sa- ma- kul- e mw-end-o son-in-law i he i neg habit grow subjunc leg

'A son-in-law should not grow [in] the leg.'

The example in (37a) (Gwengwe, 1964:26) and that in (37b) (Lilongwe Language Centre, 1969:75) are alternate versions of the same proverb. The second is an abbreviated version of the first; both mean the same thing. They are stated in the context of Nyanja tribal society which
is matrilocal; cohabitation occurs in the wife's home village, not the husband's. For this reason the husband's position in the village is not very strong. The import of both proverbs is that a husband/son-in-law is well advised not to be too critical of anything he sees. The only difference between the two proverbs is syntactic. In (37b) no overt locative appears, contrasting with (37a). Because the overt presence of this NP is a necessary condition for the applied affix, the verb -kul- 'grow' in (37b) is unextended, differing from kul-ir 'grow' in (37a), which is applied.

The need for a contextual condition is demonstrated in (38) and (39). The example in (38) illustrates specifically a difference in the significance of the same event in two different contexts; one event is marked by the applied affix, the other not. (The NPs in (38) are semantically locative, but because the verb -gw- 'fall' of this example does not normally appear with the applied affix meaning 'fall into/onto,' the applied affix of (38b) is not syntactically conditioned.)

(38) a. Caka cina mphalabungu zitayamba ku-gw-a m'tsekera, anthu a m'mudzi muja anayamba kuyendanso maulendo ao otopetsa.

'A certain year when the caterpillars began to fall into the grass, the people of that village began to travel again on their tiring journeys.'

b. Dzuwa litatuluka, mphalabungu zinayamba ku-gw-er-a pa-nsi ndipo amene adatolawo adadzaza mitsuko mitsuko.

'After the sun came out, the caterpillars began to fall onto the ground and then those who were picking them, they filled lots of big pots.'
The two examples of (38) occur widely separated in the text of the same story. The general situation depicts villagers who travel some distance to find caterpillars, used as an important source of food. When the caterpillars appear in the spring, before dawn of each day they are located on bushes where they are hard to see. Just after the sun comes out the caterpillars drop onto the ground where they are easily visible. Later in the day they crawl into the shade of the grass where they are once again hard to find. The critical time for 'picking' the caterpillars therefore, is just after sunrise. The problem is that the villagers live so far away that they can arrive in time for picking only with great difficulty. All things considered therefore, the arrival of caterpillar season and the dropping from bushes to the ground is not a major event because the caterpillars are still obtained only with great difficulty. This is the situation of (38a). In (38b) the caterpillars are again dropping from bushes. This time, however, the caterpillars have appeared not far away, where they can be obtained only with great difficulty, but instead on the bushes immediately surrounding the village. The basic event is the same but the context is extremely different. Now the harvest is very easy; the villagers are effortlessly already at hand. The falling to the ground of the caterpillars results in endless abundance, pots and pots of food, not in endless tiring journeys. The difference in the significance of the two events is associated with appearance vs. nonappearance of the applied affix. The significant event of (38b) is marked by the applied affix; the comparatively
insignificant one of (38a) is not. The applied affix signals the
difference in implication of the same action in the two different
contexts.

Our next example in (39) demonstrates more specifically the
role of inference.

(39) a. Pamgong'o ndi pamutu popanda nkhatan'dipo kumabvuta
        ku-teng-a zi-nthu pa-mu-tu pamene palibe nkhatana.
        'A bare head is a head without a carrying ring and
        it is hard to carry things on a head when there is
        no carrying ring.'

b. ku- teng- er- a zi-nthu pa- m-gong'o
        to carry app FV things on bare head
        'carrying things on a bare head'

The example of (39b) is a Chinyanja proverb and also the title to one
of our stories; that of (39a) is the last sentence in the story; it
explains the meaning of the proverb. The background for these sen-
tences is that of a people accustomed to do much carrying of loads on
their heads. Normally a thick circlet of woven grass is placed
between the head and the load to distribute the weight. Its absence
suggests that because of thoughtlessness and/or haste the task of
carrying will be accompanied by problems and discomfort. The loca-
tives in (39a) and (39b) are overlapping in meaning. In (39a) the
locative pa-mu-tu 'on the head' is vague concerning the presence of a
circlet; one might or might not be present. In (39b) the locative
pa-m-gong'o 'on a bare head' specifically indicates that the usual
circlet is absent. The major difference between the two sentences
relates to the need for inference. In (39a) the situation is being
explicated, requiring no inference, and the verb appears in its un-
extended form. The unadorned proverb in (39b) clearly requires infer-
ence and the verb is applied.

In these examples we suggest that the applied affix signals a
need for inference about the situation or story. If this hypothesis
is true, it should have effects on the distribution of the affix in
various segments and types of text. For example, if, as we claim,
the applied affix in these examples signals a need for inference,
then it should be distributed unevenly between sections of text where
a background for inference has vs. has not been established. The
absence of established context should not be conducive to its appear-
ance. This is in fact precisely what occurs in our text samples.
Recall that the text we examined was a collection of mwambi, stories
which illustrate the meaning of traditional Cinyanja proverbs. As we
noted earlier, our mwambi can be structurally divided into five parts:

1. Title
2. Introduction
3. Narration
4. Concluding comments by characters
5. Explanatory paragraph

The titles of our mwambi are the proverbs themselves. The introduc-
tion informs the reader of the characters and situation. The narra-
tion is a sequential account of events. In the concluding comments
the characters often quote the relevant proverb. The explanatory
paragraph uses the author's voice and directly explains the proverb

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using the story. Of these five structural parts to a mwambi, only the second, used to establish context, is essentially provided with no background for inference. (The titles, because they are proverbs, do have such a background.) The table in (40) shows the distribution of affixes across the five structural parts of the story.

(40)  
(1) title  4  
(2) introduction  1  
(3) narration  7  
(4) concluding comments by characters  5  
(5) explanatory paragraph  5  
  
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Note that in all of our stories only one of the locative-bound applied affixes which signals a need for inference appears in a context-setting section. In addition, although generally an affix occurring in this section would have no significant context, this one in fact does. As such, it is the exception which proves the rule. The full introduction is cited below.

Munthu wina dzina lance Cikwanekwane anali wolemera koposa. Iyeyu anali kukhala pa mudzi wa Msaocha ndipo anali wodzivika ndi anthu ambiri cifukwa ca zocita zace podzionetsera numa cace.

Cikwanekwane anali ndi macitidwe otero kuti paliponse pamene anali kuyenda anali kufotokozera anthu za kulemera kwace ndipo mwina a-na-li ku-wa-teng-er-a ku-nyumba kw-ace, nalowetsa anthu onse m'nyumba mwace, kuzipinda zonse za nyumba kumene cuma cinali kusingidwira.

Tsiku lina . . .

'A certain man his name Cikwanekwane was exceedingly rich. This one he was staying at the village of Msaocha and he was well known to many people because of his deeds in showing off his wealth.

Cikwanekwane had habits of such a kind that everywhere where he was traveling he was explaining to people
about his wealth and sometimes he was taking them to his house (he-past-be to-them-take-app-FV to$_4$-house his$_4$), he made all the people enter into his house, to all the rooms of the house where the wealth was being kept.

A certain day . . . '

Clearly the introduction occurs in two parts. The first part (paragraph 1) is purely scene-setting. The second part, paragraph 2, describes an ill-advised habit. This habit is part of the background for a specific occasion (not described above) in which Cikwanekwane takes strangers into his home to show off his wealth with disastrous results. As such, description of the habit, where the applied affix occurs, is part of the introduction section of the mwambi. However, although the second paragraph above is structurally part of the introduction to the story, it already has a significant context, set up in paragraph 1. This context is Cikwanekwane's extreme wealth.

Knowledge of this fact already allows the reader to infer the ill-advisedness of taking strangers to the home. Thus, although the sentence occurs in the introduction section for the mwambi, the necessary context has already been established for inference. The import of all the evidence surrounding introductions therefore indicates that this use of the applied affix signalling need for inference is absent when no informational background has been established for inference.

Next, if as we claim, the applied affix signals a need for inference, the converse should also be true. That is, not only should the affix be absent from environments where inference is impossible, it should also tend to cluster in environments where inference is required. This implication is again supported by counts
from our texts. Proverbs, as much as any other linguistic form clearly require inference for their understanding. Of the 22 occurrences of the inference-signalling locative-bound applied affix in our text, 11 appear in proverbs. Since proverbs constitute a very small proportion of our total text, certainly less than 10%, it can be seen that half of these applied affixes appear in this rather small amount of material. Although proverbs are always tricky material for linguistic speculation, this use of the applied affix in our proverbs is completely parallel to its use in general text. The difference is the concentration. The total of our evidence, therefore, from introductions and proverbs, indicates that this use of the applied affix is absent where inference is impossible and concentrated where inference is required. Both counts support our claim that the applied affix signals a need for inference about the situation or story.

The use of the applied affix described in this section has one major essential characteristic of constructions with discourse function. By definition, such constructions require reference to factors beyond the scope of the sentence for their description. Such reference is obviously required here. The context we refer to also moves far away from that specifically mentioned in the text. It includes general (cultural) expectations as well as factors more specific to the communicative context. In the next section we will see additional and related uses of the applied affix in discourse function.
4.42 Other discourse uses

The applied affix appears in a smattering of additional contexts: parallel clauses with topic locatives, described in Section 4.421; preceding the adverb 'together,' in Section 4.422; in implicit contrasts, in Section 4.423; for irony and foreshadowing, in Section 4.424; and to indicate purposeful action designed to overcome some obstacle, described in Section 4.425. The first four of these contexts, Sections 4.421 - 4.424, stem from use of the applied affix with locatives. The fifth, Section 4.425, relates to increased action quality.

4.421 Parallel clauses with topic locatives

The applied affix appears in parallel clauses which include a locative NP as topic. Examples appear in (41) below.

(41) a. Pa- samb- ir- a m-fulu ka-pol-o a- samb- where\textsubscript{i} bathe app FV master slave\textsubscript{j} he\textsubscript{j} bathe

\begin{align*}
&\text{ir- a po- mwe- po} \\
&\text{app FV at\textsubscript{i} same there\textsubscript{i}}
\end{align*}

'Where bashes the master, the slave bashes at the same (place).'

b. pa-mene a- dy- er- a m-fumu i\text{fe} ti- dy- er- where\textsubscript{i} he\textsubscript{j} eat app FV chief\textsubscript{j} us\textsubscript{k} we\textsubscript{k} eat app

\begin{align*}
a- nso &\text{ po- mwe- po} \\
\text{FV also at\textsubscript{i} same there\textsubscript{i}}
\end{align*}

'Where the chief eats, us we eat there also.'

c. ny-ama y-a-nu u-ko mu- da- ph- er- a in\text{e} meat\textsubscript{i} your\textsubscript{i,j} where\textsubscript{k} you\textsubscript{j} past kill app FV me
ku- na- li- be ; u- ko nso mw- a- teng- there, past be neg where, also you, compltv take
er- a ine ku- na- li- be
app FV me there, past be neg

'Your meat, where you killed (it), me (I) was not; where also you took (it) me (I) was not.'

In Chapter III, pp. 169-70 we noted that within branch 11 Bantu, the applied affix begins to be cited with locatives which, for various reasons, appear in preverb position. The use of the applied affix described here, with topic locatives in parallel clauses, is the specifically Cinyanja version of this branch 11 trend. In Cinyanja the applied affix is not required with either topic locatives or parallel clauses separately. (For a discussion of similarities of motivation and distribution for certain kinds of fronting and parallelism in Old English, see García, 1979).

4.422 Preceding the adverb 'together'

The applied affix appears preceding the adverb pa-modzi/li-modzi 'together' in a function essentially identical to the discourse use of the applied affix described in the previous section for locatives. With pa-modzi/li-modzi 'together,' the affix again signals a need for inference. The clearest example of parallel function between discourse use of the applied affix with locatives and use with pa-modzi/li-modzi 'together' occurs in the description of traditional taboos. Certain tribal customs are highly circumscribed in the places where they can occur and in the participants allowed to be present. For both kinds of limitations, one represented by a
locative, the other by the word pa-modzi 'together,' the applied affix marks the prohibited situation.

(42) a. napita naye kuthengo kufupi ndi madzi kukacita miyambo yina yo-sa-cit-ik-ir-a pa-mu-dzi.

'and they went with him to the bush near the water to go perform certain rites not done (app) in the village.'

b. masiku amenewo panali mwambo waukulu wakuti munthu amene sali mfumu, kapena wolemera sanaloledwa ku-dy-er-a pa-modzi ndi anthu omveka . . .

'(In) those days there was an important custom that a person who was not a chief or rich was not allowed to eat (app) together with famous people . . .'

In (42a), for example, the applied affix -ir- marks the locative pa-mu-dzi 'in the village,' a prohibited location for certain rites if Islam. In (42b) the applied affix -er- marks pa-modzi 'together,' a prohibited conjunction of participants in the act of eating. In neither case is the precise reason for the taboo ever stated. This must be inferred from outside knowledge. In neither example, (42a) or (42b), does the verb appear in the applied form for purely syntactic reasons. In (42a) the verb cit-ik-ir 'be done (app)' is an exception to the general syntactic constraint in Chichewa against simultaneous appearance of the stative -ik- and applied -ir- affixes on the same verb. Other than in lexicalization or for discourse uses such as that described here, forms like -cit-ik-ir- are nonoccurring. Similarly, in (42b) the applied affix is not generally used to mark all occurrences of pa-modzi 'together' with the verb dy- 'eat,' as
shown by a phrase such as ti-dy-e pa-modzi 'let's eat together.'
The syntax here must be supplemented by context. The necessary context relates to the need for inference.

4.423 In implicit contrasts

The applied affix marks implicit, but not explicit, contrasts.

Two examples of the applied affix in implicit contrasts are cited in (43) below.

(43) a. Bonongwe anati, "Iwetu anthu ena nga-dy-er-a ndiyeye uzingowaona, wolpa usamabvutike naye."

'Bonongwe said, "Well some people just take (lit. eat) [app] [without giving] so you should just look at them, a bad person you should not be troubled with him."

b. Gongoni anati, "Mai inu, ine ndidamva mbiri ya inu ndipo ndikondwera kuti muli mkazi wokongola, motero ndatsimikiza kuti ndikwatre inu."
Naciphadzuwa anati, "Mauwo ndamva ndipo nda . . . ."

Atangochula ma-u o-vamb-ir-a-wa, mwininguwo ija anafika nati, "Gwirani munthu uyo!"

Gongoni said, "You mai (traditional form of address), I have heard report of you and I am pleased that you are a beautiful woman, so I have decided that I should marry you."
Naciphadzuwa said, "These words I have heard and so I . . . ."

After she pronounced just these beginning (app) words [but not the rest of her reply], the owner of that cloth arrived and said, "Grab that man!"

In (43a) because of a cultural expectation of mutual reciprocity of favors within certain relationships, there is an implication that the people under discussion should give as well as receive. In (43b) the context requires greater explication. The hopeful bridegroom is
wearing clothes stolen for the occasion of his proposal of marriage. The owner of the clothing is in hot pursuit. In the midst of his proposal of marriage the prospective bridegroom is revealed as a thief. Subsequently of course the woman will not marry him. What her initial response would have been, however, is unknown. The applied affix -ir- in the phrase ma-u o-yamb-ir-a-wa '(just) these beginning words' marks the absence of the rest of her reply.

In these examples, because the second half of the contrast is never mentioned, the need for inference is obvious. A link between (1) appearance of the applied affix, and (2) need for inference is clearly a function with strong similarity to the use of the applied affix described in Section 4.41 with locatives.

4.424 For foreshadowing and irony

On one occasion the applied affix seemed to be used for foreshadowing and on another for irony. These examples appear in (44) and (45) below.

(44) M-ai \( w-a \) m' nyumb-a mu-ja a- na- m- pats-woman\(_i\) of\(_i\) in\(_j\) house\(_j\) that\(_j\) she\(_i\) past him give
ir- a n-guwo- yo.
app FV cloth\(_k\) that\(_k\)

'The woman of that house gave him that cloth.'

(45) mkuwe unamveka ndipo anthu onse anapita kwa mfumu ndipo wo-yamb-ir-a kufika anali Kacenjede

'a shout was heard and then all the people went to the chief and then the first (person) to arrive was Kacenjede.'

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In (44) the verb -pats- 'give' is a two-object verb. That is, it does not require an applied affix with a recipient object. The applied affix in (44), therefore, is not syntactically determined. As background for (44), a man (the Gongoni of (43b)) wishes to acquire clothes to wear to make a proposal of marriage. He therefore goes to a stranger's house and tells the woman that her husband, absent at the time, commands that she lend Gongoni his clothes. The woman does so, as described in (44). Gongoni's manner of acquiring his clothes, however, later becomes the basis for much humiliation, as described earlier in connection with (43b). It is possible that the applied affix of (44) marks the obvious inference of imper ³ disaster to be made from the manner of acquiring the clothes, without the usual concomitant locative. If so, this discourse use of the applied affix, like other uses so far in this section, can be related to use of the applied affix with locatives.

In (45) the verb -yamb- 'begin' does not normally appear in the applied form simply as a modifier for a subject NP. Some larger context must influence appearance of the affix. In this particular example the shout is a call to a meeting. The meeting has been specifically planned as part of a plot to undo Kacenjede, a son-in-law who has become too big-headed for his own good in his wife's village (cf. discussion of (37), p. 270). At the meeting planned to undo him, Kacenjede is ironically the first to arrive. If he had only known what the meeting was for, of course, Kacenjede wouldn't have come at all.
In general, irony is an outcome of events contrary to expectation. Present is an implicit contrast between what actually occurred and what might have been expected. The use of the applied affix for irony is essentially a special application of its use for implicit contrast. As such, this use of the applied affix, like the other discourse uses described up to this point, is ultimately associable with discourse uses of the affix with locative NPs.

4.425 *Purposeful action*

In four examples the applied affix, attached to relatively low-agent verbs, was associated with greater agency or purposefulness on the part of the subject. Three of the examples appear in (46) below. (The fourth example is another sentence with *pum-ul* 'rest'.)

(46) a. Ulendo umenewo, Giling'ande anasauka nawo mtolo uja ndipo anali ku-pum-ul-a njira yonse . . .

'This trip, Giling'ande had much trouble carrying that (heavy) bundle and so he was resting all the way . . . .'

b. mbeta pakhomo sizimacoka phazi ai kotero kuti anyamata ena a-ma-ngo-gon-er-er-a pakhoma la mwana wamkaziyo kufunsira mbeta

'the unmerried men would not budge a foot from her doorstep in such a way that some boys were even sleeping on the doorstep of that daughter to ask for a betrothal.'

c. *ti-mw-er-e* madzi poti mtimawu unjenjemera

'we should drink water because this heart trembles.'

In each of these examples the action performed is a daily one: resting (46a), sleeping (46b), and drinking (46c). To indicate routine
performance of the actions the unextended forms -pum- 'rest,' -gon-
'sleep,' and -mwa- 'drink' are generally used. In these examples, however, the action is performed particularly purposefully in order to overcome some obstacle or situation.

In discussing the 'increased transitivity' and 'more of the action of the verb' functions of the applied affix in Cinyanja earlier (Sections 4.211 and 4.212) and comparable functions with the causative affix (Section 4.213), we noted that with these affixes low action verbs tend to show an increase in the quality of the action of the verb and high action verbs tend to show an increase in quantity. The increased agency and purposefulness associated with the relatively low-action verbs of this section are in accord with this earlier observation. The examples here also illustrate less lexical and more contextual dependence for this function that we have seen in our Cinyanja examples up to this point.

To conclude, the discourse-related functions of the applied affix which we have described in Section 4.42 (in parallel clauses with topic locatives, Section 4.421; preceding the adverb 'together,' Section 4.422; in implicit contrasts, Section 4.423; for foreshadowing and irony, Section 4.424; and to indicate purposeful action designed to overcome some obstacle, Section 4.425) are just smatterings of use. Each function appears at most a few times in our text. For this reason independent demonstration of proof of use for each function, such as that provided for locative-morphology NPs in the last section, is impractical. In general, however, the nature and origin of these
uses of the applied affix is clear. The first four functions relate to discourse uses of the applied affix found with locatives. The last relates to increased action quality.

4.5 **Summary and conclusion**

This work takes a single piece of transitivity morphology, the applied affix in Bantu, and examines it from a historical perspective. The theoretical framework motivating the examination is the componential, discourse-related definition of transitivity proposed by H & T (1980).

Historical antecedents of the applied affix in Bantu can be found in several of the major branches of Niger-Kordofanian: Kordofanian, West Atlantic, and Benue-Kwa. The earliest reconstructable form we find for the affix is that of a verb suffix; its earliest reconstructable function, the marking of benefactive object NPs. These findings differ from those of many earlier accounts which suggest that the Bantu applied affix arose from an independent verb with locative function.

Within narrow Bantu, the applied affix enjoys major accruals of function. Semantically, it spreads from the marking of benefactive object NPs to the marking of malefactive and recipient object NPs as well. The benefactive use also forms the basis for spread to purpose and cause object NPs. From recipient NPs the applied affix moves to occurring with locatives; from locatives the affix spreads to
adverbs of time and manner; and from adverbs of manner the affix spreads to occurrence with instrument predicate NPs.

The applied affix also diversifies syntactically. It spreads from occurrence only with object NPs to a variety of additional contexts. In general these contexts are semantically related to previous areas, but syntactically they are unrelated to objects. For example, the affix spreads from marking locative object NPs to appearing in deverbative Ns of place. Similarly, it spreads from marking predicate manner NPs to appearing in deverbative Ns of manner. In appearances related to clauses, the applied affix spreads from marking purpose and cause NPs to appearing on the verbs of 'why' questions and 'why' clauses; similarly, it spreads from marking predicate manner adverbs to appearing on the verb in 'how' clauses and questions.

In an apparently unrelated development, the applied affix begins to appear signalling 'more of the action of the verb': repetition, duration, 'many do' ('frequentative'), and 'do to many' ('distributive'). In connection with the marking of locative, time, manner, and instrument object NPs, some occurrences of the applied affix appear to be discourse-related.

Our text examination of the applied affix in Cinyanja performs two tasks. First, it looks for appearances of the applied affix, previously undescribed for Bantu, related to the H & T components of transitivity. Second, it traces these appearances to commonly described functions of the applied affix. In doing so, it gives a descriptive account of the general basis for association between
some transitivity morphology and the componental parameters of transitivity proposed by H & T.

The H & T componental view of transitivity holds that a number of linguistic parameters affects the transitivity of a sentence:
1. number of participants (arguments of the verb) 2. kinesis (degree of physical activity of the verb) 3. aspect (perfective vs. imperfective verb) 4. punctuality (lexical aspect of the verb) 5. volitionality (spontaneity of the agent) 6. affirmation (affirmative vs. negative sentence) 7. mode (realis vs. irrealis) 8. agency (high vs. low) 9. individuation of the object 10. affectedness of the object. In our Cinyanja data occurrences of the applied affix can be found associated with nine out of ten of these components of transitivity, all except affirmation. Our data suggest that association between the applied affix and individuation of the object is a phenomenon separate from the remaining associations; and that 'affectedness of the object' should be revised to 'affectedness of the patient.' Eliminating parameter 9. above, therefore, and revising 10., we label our slightly revised subset of H & T transitivity parameters with the cover term 'action quality.' These semantic parameters are suggested to be a list of those which, presumably universally, characterize the best or prototype actions.

In our data 'action quality' is a function derivative from a more general, productive, and historically precedent function of 'action quantity' with the same morphemes. The action quantity function indicates repetition, duration, 'many do' ('frequentative'),
and 'do to many' ('distributive'). For the applied affix, it can be identified with the more generally described 'more of the action of the verb' function.

In Cinyanja, action quantity and derivative action quality functions occur with transitivity morphology such as the applied and causative extensions. They also occur with morphemes generally unrelated to objects, such as reduplication of the verb and verb suffixation of an emphatic marker. The basic meaning of these latter morphemes surrounds 'action quantity.' The total set of forms and meanings suggests that action quantity and action quality functions are derivative associations for the transitivity morphology discussed here. Transitivity morphology becomes linked with these functions through frequent, general, and sometimes inherent association with action.

H & T propose a functional explanation based on the foreground vs. background distinction in discourse to explain a posited universal coherence of their transitivity parameters. The transitivity parameters are therefore linked in their work to discourse function. As noted earlier, in some Bantu languages the applied affix has also been observed in discourse-related uses in some contexts. Our investigation of the discourse-related uses of the applied affix in Cinyanja, however, did not establish any link between these functions and the H & T work. The major discourse-related functions of the applied affix in Cinyanja arise from earlier uses marking locative object NPs, not from functions involved in the action.
quality/transitivity associations of the morpheme. The actual discourse function of the applied affix centers around a need for listener or reader inference. This function is not readily associ-able with the foreground vs. background distinction which H & T discuss. In short, the discourse-related uses of the applied affix in Cinyanja appear to be a functional development of the morpheme separate in both content and origin from transitivity or action quality functions.
NOTES

1. For arguments relating Bantu tense/aspect markers to higher verbs, see Givon, 1971b.

2. This aspect marker is synchronically a contraction of

\[
\text{ndi-} \text{ li ku-} \text{ tsek--} \quad \text{ndi-} \text{ ku-} \text{ tsek--} \\
\text{I be to close} \quad \text{I prog close} \\
\text{'I am closing'} \quad \text{'I am closing'}
\]

With this contraction, the earlier infinitival marker ku- functions to indicate progressive. Where no overt tense marker appears, present progressive is assumed.

3. The productive forms of the causative, applied, stative, and passive verbal extensions all have the same \(i \sim e\) vowel alternation. The quality of this vowel is phonologically determined. The vowel is \(i\) if the final vowel of the verb stem is \(a, i,\) or \(u;\) \(e\) if the final vowel is \(e\) or \(o.\)

4. The Ci- of Cinyanja is a noun class prefix. Heine (1972) does not include this prefix in his labelling for the language; in our Chapter III, therefore, Cinyanja forms are listed under Nyanja.

5. The 'cause' use of the applied affix \(-ir/-er-\) and the causative use of the causative affix \(-its/-ets-\) are not the same. The causative construction adds a new agentive argument which appears as the subject of the causative verb; usually the subject of the non-causative verb appears now as an object. (For a fuller description of the causative extension see pp. 235-36.) The 'cause' use of the applied affix, on the other hand, does not alter the grammatical relations of the nonapplied verb. Instead, it simply adds a new object which helps precipitate the action of the verb, as shown in the sentences below.

\[
\text{ndi-} \text{ ri- ku-} \text{ nyad-} \text{ ir-} \text{ a c-uma c-a-nga} \\
\text{I be to be proud app FV wealth,} \text{my} \text{1} \\
\text{'I am being proud of my wealth . . .'}
\]

\[
\text{nd-} \text{ a- dziw- ir-} \text{ a ka-ci-soti w- a- bval-} \text{ a -ko} \\
\text{I compltv know app FV little hat he compltv wear FV loc} \\
\text{'I know by the little hat he's wearing . . .'}
\]
The 'cause' objects which the applied affix marks are generally inanimate and semantically unsuitable to appear as the subject of an -its/-ets- causative construction.

6. Note that the stative extension -ik/-ek- is identical in form to one of the lexicalized causative forms -ik/-ek- (cf. p. 216). These two presently homophonous forms are from historically different sources. Causative -ik/-ek- dates back to a Kordofanian causative form in Talodi: -ik, -ek (cf. Ch. II, p. 90). Stative -ik/-ek- dates back to a Kordofanian passive form: -ak, -ok in Talodi; -(a)ako in Masakin (cf. Ch. II, p. 105). Synchronically the two reflexes are easily distinguished. The causative reflex, if vestigially functional, increases the valence of any affixless related verb; the passive reflex, if functional, decreases it.

7. The transitive reversional form -ul- is homophonous with the independent verb -ul- 'sound.' Lexicalized verbs extended with -ul- 'transitive reversional' should be kept separate from lexicalized verb compounds with -ul- 'sound.' Examples of the latter appear below.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Verb + -ul- 'sound'</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(y)ank-</td>
<td>-lank-ul- 'talk, speak, say'</td>
</tr>
<tr>
<td>-ch-</td>
<td>-ch-ul- 'pronounce'</td>
</tr>
<tr>
<td>-lam-</td>
<td>-lam-ul- 'command'</td>
</tr>
<tr>
<td></td>
<td>-gam-ul- 'give a verdict'</td>
</tr>
<tr>
<td></td>
<td>-dand-a-ul- 'complain'</td>
</tr>
<tr>
<td></td>
<td>-bang-ul- 'roar, as a lion'</td>
</tr>
</tbody>
</table>

8. Three verbs in Cinyanja are 'defective' in that they do not accept either verb extensions or a final vowel: (1) -ti 'say'; (2) -li 'be'; and (3) ndi 'be.'

9. Here we discuss only the handful of 'more of the action of the verb' forms particularly synchronically comparable to the 'increased transitivity' forms of (12). All other 'more of the action of the verb' forms are discussed in their proper section. In spite of this separation, all of the 'more of the action of the verb' forms, both those presented here and those described later, argue for the same historical source for transitivity parameters.

10. Reasons for omission of 'individuation of the object' appear in Section 4.23. Evidence for a switch from 'affectedness of the object' to 'affectedness of the patient' appears in Section 4.2222, in connection with discussion of the verb -th- 'finish, end, do.' Grounds for including the remaining parameters will appear throughout the remainder of this section, 4.2.
11. In an interesting contrast, the various causative extensions have much less staying power than the benefactive applied affix over time.

12. Here, as in (13), increased action is sometimes indicated by a single applied affix and sometimes by a double applied affix. Across Bantu, the use of single vs. double applied affixes in this function is a cline (cf. p. 153); progressively more double applied affixes appear as one moves from west to east.

13. This is not the situation described in Chichewa: Intensive Course however, where applied and reduplicated verbs, in conjunction with -nka 'go' or -pita 'go,' indicate the idea of a progressive increase in quantity. Examples appear below (Lilongwe Language Centre, 1969:81):

(a) 0- dziw- a chi-zungu a- ku- nk- a n- a-
adj know FV English they prog go FV and they
chul-uk- ir- a- chul-uk- ir- a
be numerous app FV be numerous app FV

'Those who know English are becoming more and more numerous.'

(b) Mu-dzi w-a-o u- na- nk- a n- u- kul-
village their it past go FV and it grow
-ir a- kul- ir- a
app FV grow app FV

'Their village grew bigger and bigger.'

(c) M-biri y-a-che i- dza- nk- a n- i- mv- ek-
report his it fut go FV and it hear statv
er- a- mv- ek- er- a ponse- ponse
app FV hear statv app FV everywhere

'His reputation will spread everywhere.'

This use is easily incorporated into an 'increased action' function and in no way contradicts our subsequent generalization based on our text data.

14. The plural form here and in other examples may connote respect rather than indicating actual plurality.
15. In one example, shown below, the applied affix + -\text{tu}, rather than appearing on the verb -f- 'die,' appears on the immediately preceding verb -\text{gwar} - 'stab.'

"teng- a- ni  m-kondo u-ja ndi- mu- \text{gwar}- ir- e-
fetch FV you pl. spear\_ that\_ I him\_ stab app subjunct

\text{tu} a- f- e!"
emph he\_ die subjunct

"Fetch that spear (you slaves); let me stab him; let him die!"

This example did not enter into our calculations for the table in (35). Had it been entered, it would have appeared in a mixed-situation box: + two-participant, - realis, and would not have affected our conclusions.

16. Although Scott (1892) lists -\text{ledz}- 'be intoxicated' as a lexical entry, the form \text{lEdz-er} is that which actually occurs in all of his examples.

17. Although Scott (1892) cites 'intercept' as one of the meanings of -\text{du-l}-, no examples are provided.

18. Meeussen gives only his reconstructions, without the evidence which supports them. It is impossible, therefore, to say precisely how he arrives at his conclusions. Possible sources of evidence, however, would be (1) the genetic affiliation and geographic distribution of Bantu languages in which subject-object reversal presently occurs; (2) the occurrence in almost all narrow Bantu languages of a specific case of subject-object reversal, that in which the object is a locative NP; (3) in languages such as Swahili (cf. Whitely, 1970), the existence of numerous lexical items for which the subject and object of the verb can be interchanged without dramatically changing the meaning of the sentence; and (4) for a few verbs such as -\text{kond}- `like, love' or `be pleasing to,' the existence of this possibility in many Bantu languages.
APPENDIX A

GENETIC ORGANIZATION OF THE BANTU LANGUAGES

(Taken from Heine, 1972:172-174; translation mine)

1. Bube (A.31)*
2. Tiv (Z.1)
3. EkoI-Branch (Z.2)
4. Duala-Ewondo-Branch
   4.01 Balong-Koose
      4.011 Balong (A.13)
      4.012 Koose (A.156)(Kossi)**
   4.02 Ewondo-Group
      4.021 Ewondo (A.72a)
      4.022 Bulu (A.74)
      4.023 Fang (A.75)
   4.03 Duala-Group
      4.031 Duala (A.24)
      4.032 Su (A.23)(Isubu)

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*The reference symbols here sometimes differ slightly from those in Heine (1972:172-74). Heine cites Guthrie (1967-71) as the source for his symbols but it appears that in fact his symbols are sometimes actually drawn from Guthrie (1948). The symbols here uniformly represent the later source.

**This language does not appear in either Guthrie (1948) or Guthrie (1967-71). Its reference symbol is taken from Heine.
4.033 Bomboko (A.21)
4.034 Bakundu (A.11c)*
4.035 Batanga (A.11d)*

4.04 **Benga-Banoo**
4.041 Benga (A.34)
4.042 Banoo (A.32a)(Nhô)
4.043 Bapuku (A.32b)

4.05 Kele (B.22a)
4.06 Ngoro (A.61)
4.07 Mvumbo (A.81)
4.08 Mbene (A.43a)[Basa]
4.09 Sekiyani (B.21)
4.10 Lundu (A.11)

5. Kande (B.32)
6. Mpongwe (B.11a)
7. Njem (A.84)

8. **Benge-Baali-Branch**
   8.1 Benge (C.43)
   8.2 Baali (D.21)

9. **Bira-Branch**
   9.1 **Bira-Amba**
      9.11 Bira (D.32)
      9.12 Amba (D.22)

*This language does not appear in either Guthrie (1948) or Guthrie (1967-71). Its reference symbol is taken from Heine.*

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9.2 Kumu (D.23)

10. Nyali-Branch

10.1 Nyali (D.33)

10.2 Mbuttu (= Mbuti?)

11. Kongo-Branch

11.1 Upper-Kongo-Group

11.11 Bangi (C.32)

11.12 Ngala Group

11.121 Ngala (C.36d)

11.122 Poto (C.36a)

11.123 Bwela (C.42)

11.13 Ngombe (C.41)

11.14 Soko (C.52)

11.15 Mongo (C.61a and b)

11.16 Kusu (C.72)

11.17 Tetela (C.71)

11.18 Bushoong (C.83)

11.2 Teke-Mbete

11.21 Teke (B.71a)

11.22 Mbete (B.61)

11.3 Kikongo Group

11.31 Kikongo (H.16)

11.32 Yaka (H.31)

11.33 Hung'anna (H.42)
11.34 **Nzebi-Duma**

11.341 Nzebi (B.52)*

11.342 Duma (B.51)

11.4 **Boma (B.82)**

11.5 **Yonzi (B.85b)**

11.6 **Lunda (L.52)**

11.7 **Luchazi-Chokwe**

11.71 **Luchazi-Mbunda**

11.711 Luchazi (K.13)

11.712 Mbunda (K.15)

11.72 **Lwena-Chokwe**

11.721 Lwena (K.14)

11.722 Chokwe (K.11)

11.8 **Westhighland-Group**

11.81 **Kimbundu-Group**

11.811 Kimbundu (H.21)

11.812 Mbangala (H.34)

11.813 **Sama-Songo**

11.8131 Sama (H.22)

11.8132 Bolo (H.23)

11.8133 Songo (H.24)

11.82 **Umbundu (R.11)**

*This language is closely related but not identical to the Nzebi treated in Guthrie (1968). [Heine's note.]
11.83 Nyaneka-Herero
   11.831 Nyaneka (R.13)
   11.832 Kwanyama (R.21)
   11.833 Ndonga (R.22)
   11.834 Herero (R.31)*

11.9 Easthighland-Group
   11.901 Lega-Kabwari
      11.9011 Lega (D.25)
      11.9012 Kabwari (D.56)
   11.902 Enga (D.14)
   11.903 Bemba-Luba
      11.9031 Bemba-Ila
         11.90311 Bemba-Nsenga
            11.903111 Bemba-Bisa
               11.9031111 Bemba (M.42)
               11.9031112 Bisa (M.51)
               11.903112 Nsenga (N.41)
      11.90312 Ila-Lenje
         11.903121 Ila (M.63)
         11.903122 Lenje (M.61)
         11.903123 Subia (K.42)
   11.9032 Luba-Songe
      11.90321 Luba-Lulu (L.31)

*Of these Herero shows a closer lexical relationship to the languages of Group 11.9. The historical basis for this relationship can still not be stated with confidence. [Heine's note.]
11.90322 Luba-Katanga (L.33)
11.90323 Songe (L.23)
11.90324 Kanyoka (L.32)

11.904 Luyana-Nkoya
   11.9041 Luyana (K.31)*
   11.9042 Nkoya (L.62)

11.905 Yeye (R.41)

11.906 Interlacustrine-Croup
   11.9061 Konjo (D.41)
   11.9062 Ruanda-Rundi
      11.90621 Ruanda (D.61)
      11.90622 Rundi (D.62)
      11.90623 Ha (D.66)

11.9063 Nyoro-Nkore
   11.90631 Nyoro (E.11)
   11.90632 Toro (E.12)
   11.90633 Nkore (E.13)

11.9064 Haya (E.22)
11.9065 Ganda (E.15)
11.9066 Luhya (E.32b)
11.9067 Gusii (E.42)

*No area with this reference appears on Guthrie's schematized map. Consequently, in the maps on pp. 129-35, no geographical area for this language has been filled in.
11.907 Sukuma-Nyamwezi
   11.9071 Sukuma (F.21)
   11.9072 Nyamwezi (F.22)

11.908 Kikuyu-Kamba
   11.9081 Kikuyu (E.51)
   11.9082 Kamba (E.55)

11.909 Chaga (E.62b)

11.910 Taita (E.74)

11.911 Taveta (G.21)

11.912 Eastcoast-Group
   11.9121 Swahili (G.41)
   11.9122 Shambaa-Zaramo
      11.91221 Shambaa-Zigua
         11.912211 Shambaa (G.23)
         11.912212 Zigua (G.31)
      11.91222 Zaramo (G.33)

   11.9123 Giryama (E.72a)
   11.9124 Pokomo (E.71)

11.913 Irangi (F.33)

11.914 Gogo-Hehe
   11.9141 Gogo (G.11)
   11.9142 Hehe (G.62)
   11.9143 Kinga (G.65)

11.915 Popolo (G.51)

11.916 Matumbi (P.13)
11.917 Makonde-Yao
11.9171 Makonde (P.23)
11.9172 Yao (P.21)

11.918 Makua (P.31)

11.919 Fipa-Konde
11.9191 Fipa (M.13)
11.9192 Nyiha (M.23)
11.9193 Nyekyosa (M.31)(Nyakyusa)

11.920 Nyanja-Group
11.9201 Henga (N.21)*
11.9202 Tonga (N.15)
11.9203 Nyanja (N.31a)**
   11.92031 Mang'anja (N.31c)
   11.92032 Cewa (N.31b)
11.9204 Nyungwe (N.43)

11.921 Shona
11.9211 Karang'a (S.14)
11.9212 Ndau (S.15)

11.922 Rue (N.45)

*No language called Henga appears among the Bantu languages classified by Guthrie. Guthrie's N.21 is Tumbuka, logically a likely member for this 11.920 Nyanja genetic group.

**According to Guthrie, Nyanja (N.31a), Cewa (N.31b), and Mang'anja (N.31c) are three parallel dialects. Heine, on the other hand, posits no separate Nyanja dialect. For him, 'Nyanja' names the language spoken in two dialects, Mang'anja and Cewa.
11.923 Tsonga (S.53) (Shangaan)
11.924 Venda (S.21)

11.925 Copi-Ronga
   11.9251 Tonga (S.62)
   11.9252 Copi (S.61)
   11.9253 Ronga (S.54)

11.926 Sotho-Zulu
   11.9261 Sotho-Tswana
      11.92611 S. Sotho (S.33)
      11.92612 Tswana (S.31a)

   11.9262 Nguni
      11.92621 Xhosa (S.41)
      11.92622 Zulu (S.42)
      11.92623 Swati (S.43) (Swazi)
      11.92624 Ndebele (S.44)
APPENDIX B

REFERENCES FOR ENTRIES IN TABLES (pp. 148-54)

**Bube**

Pōo, 1890:72-73, 136 (indirective)

**Tiv**

**Ewondo**

**Bulu**

**Duala**

Ittmann, 1939:131-33 (indirective); 132, 136 (motive);
132-34, 136 (locative); 156 (instrumental); 134 (more
of action of verb); 155-56 (DN:state)

**Mbene (=Basa)**

Schürle, 1912:67-68 (indirective); 68, 84 (motive);
67, 83 (locative); 83-84 (adverbial); 84 (instrumental)

**Tunen**

Dugast, 1971:232-33 (indirective); 232-33, 247-48, 264,
266-67, 271, 273-77 (motive); 232-33, 265-66, 271,
277 (locative); 233, 299 (adverbial); 247-48, 265, 271
(more of action of verb); 232 (about); 268, 271, 273-
74, 277 (DN:result)

**Bangi**

Whitehead, 1899:35-36 (indirective); 35, 52 (locative);
52 (adverbial); 36 (about)

**Mongo**

Hulstaert, 1965:258-63, 288-94 (indirective); 259-62
(motive); 72, 83, 103, 260-65 (locative); 102 (adverb-
ial); 261 (instrumental); 72, 83, 102, 263-64, 289
(more of action of verb); 261-62 (about); 262, 288
(accompaniment); 72, 83, 103-04, 128 (DN:state)

Teke

Mbete Adam, 1954:84 (indirective)

Kikongo Bentley, 1887:531, 627-31 (indirective); 530-31, 533,
601, 606, 627-31 (motive); 531, 627-28 (locative);
533, 602, 628 (adverbial); 627-31 (instrumental); 682
(applied + reflexive); 604, 629 (first); 601, 606, 628,
631 (therefore); 629 (more of action of verb); 628
(about); 628 (accompaniment)

Duma Adam, 1954:84 (indirective); 84 (locative); 84 (more
of action of verb)

Lunda

Lwena White, 1949:37-39 (indirective); 37-38, 61 (motive);
13, 37-38 (locative); 38, 59 (adverbial); 13 (instrumental);
38 (applied + reflexive); 38 (more of action
of verb)

Kimbundu Duranti, 1979:34 (indirective)

Herero Hahn, 1857:17, 40, 90 (indirective); 76 (motive); 12,
17 (locative)

Lega Meeussen, 1971:16 (indirective); 16 (locative); 16
(more of action of verb)
Bemba
Sambeek, 1955:85-86, 117 (indirective); 75-86 (motive); 86 (locative); 86, 100 (adverbial); 86 (instrumental); 90-91, 100 (applied + reflexive); 86 (in vain); 86 (together); 86, 89-90, 93, 117 (more of action of verb)

Lamba
Doke, 1938:184-85, 188-91, 418 (indirective); 185, 188-89, 454 (locative); 101 (adverbial); 209-10 (more of action of verb); 101 (DN:state)

Luba
Burssens, 1946:73 (indirective); 73 (motive); 73 (locative); 73 (instrumental)

Mashi
Gary, 1977:88 (indirective)

Luyia
Gary, 1977:88, 90 (indirective); 90 (adverbial); 90 (instrumental); 90 (accompaniment)

Ruanda
Kimenyi, 1976:15, 31, 98-100, 108 (indirective); 26-27, 87-88 (motive); 20-22, 93-94, 112 (locative); 64 (adverbial); 57-58 (applied + reflexive); 88 (for nothing)

Nkore
Morris and Kirwan, 1957:115, 117-18 (indirective); 117-18 (motive); 117 (locative); 117 (instrumental); 118 (therefore); 118 (for nothing); 118 (anyhow); 118 (more of action of verb)
Haya
Duranti, 1979:40 (indirective); 44 (motive)
Duranti and Byarushengo, 1977:55, 58, 63, 65 (indirective); 56 (motive); 54, 63, 96 (locative)
Trithart, 1977:96 (locative)

Ganda
Ashton et al., 1954:330-31, 333-34 (indirective);
330-34 (motive); 330-31, 333-34, 376-77 (locative);
330-31, 334 (adverbial); 334 (instrumental); 333
(applied + reflexive); 332 (for nothing); 334 (together);
330, 332-34 (more of action of verb)

Nyamwezi
Velten, 1901:59-60 (indirective); 60-61 (motive); 59, 60 (locative); 60 (about)

Kikuyu
Barlow, 1951:78-79, 123, 265 (indirective); 78 (motive);
99, 116, 123, 265 (locative); 99 (adverbial); 122
(applied + reflexive); 124, 265 (more of action of verb)

Swahili
Ashton, 1947:218-20 (indirective); 220 (motive); 219
(locative); 220-21 (applied + reflexive); 220, 243-44
(more of action of verb)
Port, 1981:73-75, 79 (indirective); 77-78 (motive);
78, 80 (locative); 78 (adverbial); 76, 78 (instrumental)
Scotton, 1967:126-27 (indirective); 126-28 (motive);
126-27 (locative); 126-27 (more of action of verb)
Chimwini  
Kisseberth and Abasheikh, 1977:188-96, 207 (indirective); 190, 195, 204 (motive); 194 (locative); 196-211 (instrumental)

Shamba
Duranti, 1979:36 (indirective); 35, 37 (instrumental);

Yao
Whiteley, 1966:38, 111-12 (Indirective); 38-39, 113 (motive); 39 (locative); 38-39 (instrumental)

Safwa
Voorhoeve, 1966:6.1.6.4 (indirective); 6.1.6.4 (locative); 6.1.6.4 (instrumental); 6.1.6.5 (more of action of verb)

Nyanja
Harding, 1966:95 (indirective); 95 (motive); 95 (locative); 95 (more of action of verb)

Lilongwe Language Centre, 1969:80-81, 106 (indirective); 80-81, 93 (motive); 41, 80-81, 106, 109 (locative); 41, 62, 65, 81 (adverbial); 107 (instrumental); 80-81 (more of action of verb); 81 (about)

Mchombo, 1978:150-51, 154, 159-61, 166-67 (indirective); 155-56 (motive); 156, 166-67 (locative); 150-51, 166, 168 (instrumental)

Sanderson and Bithrey, 1939:51 (indirective); 51 (motive); 51 (locative); 51 (instrumental); 51 (more of action of verb)

Trithart, 1977:7, 12, 36-37, 65-66, 71 (indirective); 7, 21, 58-59 (locative); 7, 16, 38, 41-42
(instrumental); 12, 13, 40, 43 (applied + reflexive)

Trithart, 1979:7, 18 (indirective); 8-9 (instrumental)

Watkins, 1937:76 (indirective); 76 (motive); 76 (instrumental)

**Shona**

Fortune, 1955:208-09 (indirective); 209-10 (motive);
74, 76, 113-14, 209-11 (locative); 112-13, 210
(adverbial); 208-09 (applied + reflexive); 209 (for
nothing); 211-12 (more of action of verb)

**Venda**

Ziervogel, 1961:104-05, 110 (indirective); 104, 224
(motive); 104-05, 190 (locative); 191 (more of action
of verb)

**S. Sotho**

Doke and Mofokeng, 1957:155-59, 165, 399 (indirec-
tive); 155, 158-59, 437 (motive); 155-58, 438 (loca-
tive); 158 (applied + reflexive); 164-65 (more of
action of verb)

**Tswana**

Cole, 1955:199, 201-02, 430-32, 434 (indirective);
202 (motive); 81, 116, 201-03 (locative); 202
(applied + reflexive); 203 (more of action of verb)

**Ndebele**

Ziervogel, 1959:79 (indirective); 169 (motive); 79
(locative); 81 (more of action of verb)
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