A TAGMEMIC ANALYSIS OF SWAHILI CLAUSE STRUCTURE

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James J. Duran

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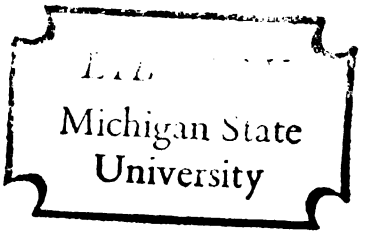

A TAGMEMIC ANALYSIS

OF

SWAHILI CLAUSE STRUCTURE

By

James J. Duran

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CHAPTER FIVE: Clause-Level Tagmemes

PREFACE

The goal of this study is a description of Swahili clause structure on the Tagmemic model, as developed by Kenneth Pike, Robert Longacre, and Benjamin Elson and Velma Pickett. Though all questions raised in the course of the investigation may not be answered definitively, it is hoped that this thesis will give some idea of the nature of the problems encountered not only in attempting a tagmemic description of Swahili, but also in attempting a tagmemic description of any Bantu language.

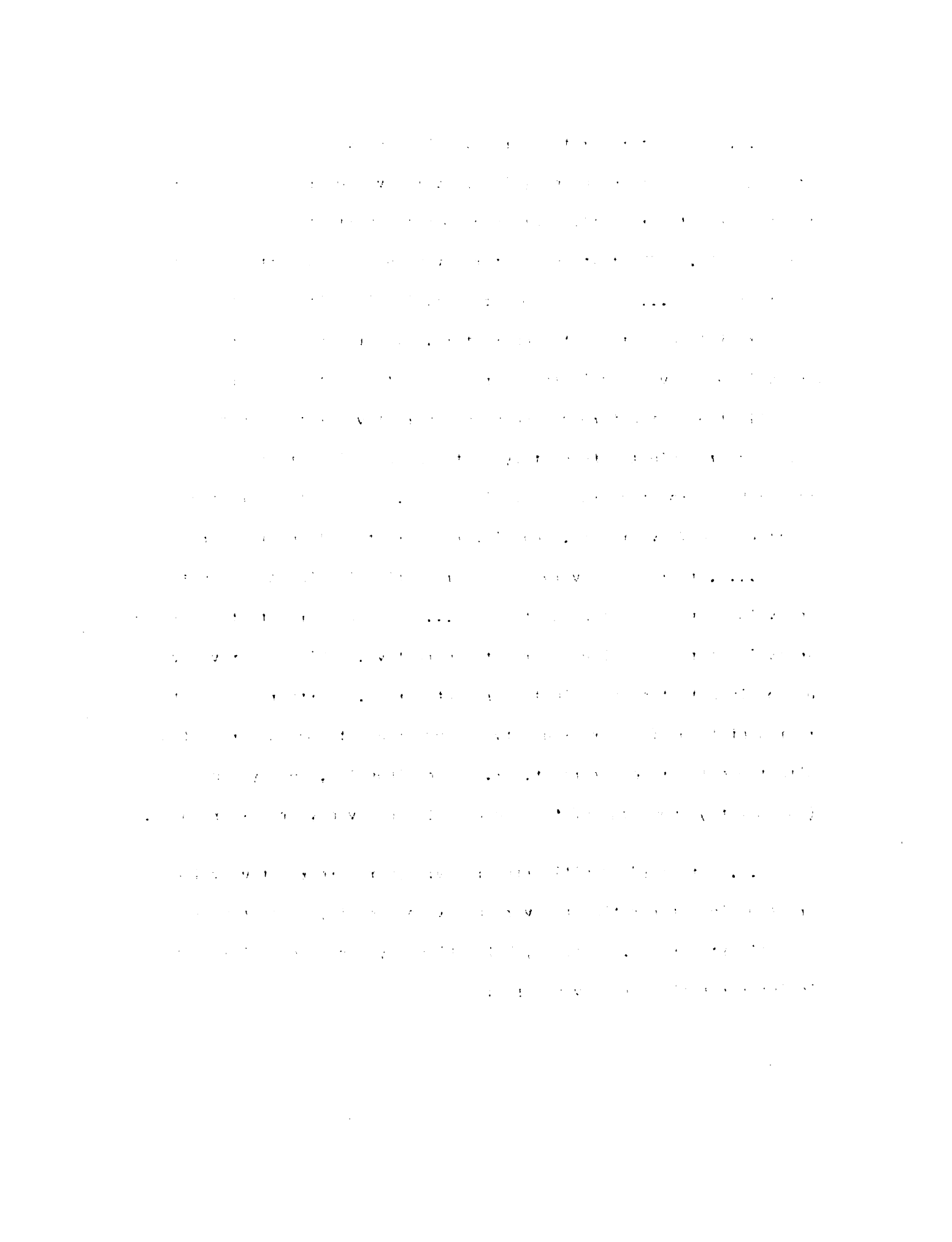
I would like to express my thanks for their help and cooperation to the members of my thesis committee: Dr. Ruth Brend, Dr. Irvine Richardson, and Dr. David Lockwood. I would also like to express my thanks to my informant, Mr. Nikundiwe, and to Miss Rebecca Agheyisi, whose clause level analysis of Bini was so helpful in providing a format for the present thesis.

INTRODUCTION

0.1. The Languages Swahili is a trade language spoken widely in Kenya, Tanzania, Uganda, and the Eastern and Southern Congo. Estimates of the number of speakers range widely, but a conservative estimate would place the number at eight million speakers, and the number is growing rapidly owing to governmental support of the language. Swahili had its origins on the Kenyan coast near and on the islands of Lamu and Pate, and is closely related to the Bantu languages of that region -- notably Pokomo and the languages of the Nyika cluster. During the last millenium, its Islamized speakers slowly colonized the coast south to Zanzibar. Within the last hundred years, the language has spread from Zanzibar inland over the large area it now occupies. Efforts have been made over the last few decades to promote a standard form of the language, based on the Unguja dialect of Zanzibar, and these efforts have been largely successful. In schools, and in various forms of mass communication, Standard Swahili has been disseminated widely throughout East Africa. It is on this standard form of the language that this study is based.

0.2. The Nature of the Corpus: This analysis of Swahili clause structure is based on an analysis of over five hundred clauses extracted from the recently published Swahili short story "Mzimu wa Watu wa Kale." The text in chapter seven and a good part of chapter eight of "Mzimu..." was chosen for analysis since it contains a good deal of dialogue between the characters. The rough framework of this analysis was developed in the course of writing a term paper on Swahili clause structure as shown in a narrative written in the last decade of the nineteenth century in the Unguja dialect (the dialect on which modern Standard Swahili is based). Though the narrative was written some 75 years ago, and differs a great deal in style from "Mzimu...", there was a very close correlation in findings when the analysis of the 500 clauses of "Mzimu..." was compared to the earlier analysis of the 300 clauses from the narrative. This has proved very useful in detecting gaps in the present corpus. Further gaps in the representation of major clause types and clause tagmemes were detected with the help of an informant, Mr. Alfeo Nikundiwe, and my own (incomplete) knowledge of the language (some seven years experience).

0.3. Standard Swahili Orthography: There are relatively few problems in interpreting the various symbols employed in Standard Swahili orthography. A few symbols which may cause some difficulty in interpretation are given below:



_gh represents a voiced velar fricative, though many pronounce this simply as a voiced velar stop, /g/, or /g/, respectively

_th represents a voiceless interdental fricative, /θ/

_dh represents a voiced interdental fricative, /ð/

_sh voiceless alveopalatal fricative, /š/

_ch voiceless alveopalatal affricate, /č/

_j voiced alveopalatal affricate, /ǰ/

_ng' voiced velar nasal[1], /ŋ/

_r voiced flap, /ɾ/.

0.4. The Theoretical Model. The tagmemic model of linguistic description has been most fully described in Kenneth L. Pike's Language in Relation to a Unified Theory of the Structure of Human Behavior (1967). In several recent works, notably Pike's "Dimensions of Grammatical Constructions" (1962) and his Tagmemic and Matrix Linguistics Applied to Selected African Languages (1966), Robert E. Longacre's Grammar Discovery Procedures: a Field Manual (1964), and Benjamin Elson and Velma Pickett's An Introduction to Morphology and Syntax (1962), advances have been made in the application of tagmemic theory to the problems of linguistic description in the field. In this study of Swahili clause structure, Pike's "Dimensions...",

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[1]This phoneme, represented as it appears in Standard Swahili orthography, contrasts with the prenasalized voiced velar stop ng (or /ŋg/), as seen in "ng'ombe", "cow", and "ngoma", "drum".

and Elson and Pickett's Introduction ... have been especially helpful, and Longacre's Grammar Discovery Procedures ... has been of inestimable value. It is principally on Longacre's introductory chapter that the following brief description of tagmemic theory is based.

Basic to the idea of tagmemics is the concept of patterning in language. Language is seen as an interlocking system of relationships between patterns. These patterns (constructions) are called "syntagmemes"; the elements (pattern points) of which they are composed are called "tagmemes." The system of relationships between syntagmemes on a given level of language is described as the "field," and can be most easily described in terms of a matrix. These concepts have characteristically been described (by Pike) in terms of "particle" (tagmeme), "wave" (syntagmeme), and "field," terms used to describe similar phenomena in physics. The tagmeme itself, however, though a unit, composed of a slot (function) and a filler class, is manifested by syntagmemes composed of tagmemes on the next lower level. Thus tagmemic theory sees a language as composed of a systematic hierarchy of levels, with constructions on one level forming slot-class (i.e. tagmeme) units within constructions on the next higher level, and vice-versa.

The problem of defining the fundamental unit of the system, the tagmeme, brings up another concept of tagmemic theory, -- the concept of function. The tagmeme is partially defined according to its function; that is, the tagmeme is defined according to the role that

it plays in a given syntagmeme. For example, in a given clause, a goal tagmeme may be manifested by a modified noun-phrase; it will be labelled, however, according to the role it plays -- that of goal as opposed to subject, regardless of the fact that both subject and goal tagmemes might be manifested by identical noun-phrase types.[1] One fundamental criterion, then, in distinguishing the various tagmemes is that of function; a major task of the linguist is to seek those structural features in a given language which denote the function of a given tagmeme.

Describing the function of a tagmeme, however, is only part of the description of a tagmeme. A tagmeme is "a functional point... at which a set of items and/or sequences occur."[2] Thus a temporal tagmeme comprises not only a time slot within a construction, but also all those items or sequences which manifest the tagmeme--e.g. time words, embedded temporal clauses, temporal phrases. Thus a tagmeme is both a slot (i.e. function) within a syntagmeme and the set of fillers (filler class) which manifest that tagmeme.

It should be mentioned here that fillers of a given slot may theoretically be drawn from any level; in some languages, for example, clauses may fill slots in phrases, and words may fill slots in sentences. The existence of a hierarchy of levels in a given language by no means precludes such "loopbacks" and "skips" from one level to

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[1]How such tagmemes will be found in contrast will be discussed later.

[2]Longacre, (1964), pp. 15-16.

another. Tagmemics stresses the facts of levels in language; it by no means implies that these levels may not be subject to unusual interrelationships.

In sum, the aim of tagmemics is to seek out from the data the "emic" -- contrastive -- patterns of a language. Emic patterns and emic pattern points composing the patterns are revealed by the systematic analysis of the patterns and units of a language in order to determine which patterns and units are truly emic and which are only "etic" (or non-significant in the language under investigation). The criteria used in identifying emic clause-level patterns (clause types) and emic clause-level units (clause tagmemes) in this analysis of Swahili will be discussed in the following section.

0.5. Criteria for Distinguishing Clause Types and Clause Tagmemes

In defining the term "clause", and in setting up criteria for distinguishing clause types and their tagmemes, I shall follow closely the definitions and criteria suggested by Longacre in his Grammar Discovery Procedures and by Pike in his "Dimensions...". By the term "clause", I mean a syntagmeme which occurs above the phrase level and below the sentence level and which contains one and only one predicate or predicate-like tagmeme. Any tagmeme which functions as a predicate in a grammatical string will be considered a predicate, whether or not such a tagmeme is manifested by a verb-phrase, so long as there is no other tagmeme in the suspected clause which might be considered a predicate.

To distinguish between clause types, I have partially employed Longacre's criteria: "For two patterns (syntagmemes) to be in contrast, they must have more than one structural difference between them; at least one of these differences must involve the nuclei of the syntagmemes."[1] Countable structural differences are:

"(a) differing linear orderings;
(b) differing number of tagmemes;
(c) differing syntagmemes manifesting similar but distinct tagmemes;
(d) differing emic classes[2] manifesting similar but distinct tagmemes;
(e) differing transform potential (or differing derivations via transform)."[3]

Nuclear tagmemes (as opposed to peripheral tagmemes) will be identified in accordance with the criteria established by Longacre, which may be set forth as follows:

"(1) All obligatory tagmemes are nuclear (although not all nuclear tagmemes are obligatory).

"(2) Tagmemes in agreement with the predicate... or in explicit cross reference to it, are nuclear."[4]

Further signs that a clause tagmeme may be nuclear[5] are:

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[1] Ibid., p. 18.

[2] Emic classes are defined as "small closed function set(s)" (e.g., set of affixes or a group of function particles) or a subdivision of a large open class (e.g., transitive verbs as opposed to other types of verb).

[3] Ibid., p. 19.

[4] Ibid., pp. 48-49.

[5] Ibid., pp. 50-51.

(a) contiguity to the predicate,[1]
(b) restriction of distribution to certain clause types;
(c) susceptibility to transformations;
(d) overt marking as nuclear by special case endings or particles;[2]

In distinguishing between the different clause types and clause tagmemes, I have chosen to employ yet another criterion, that of distribution on the next higher level. Longacre explicitly rejects this criterion, holding that contrasting internal structures alone should determine whether two clause types contrast or not.[3] Kenneth Pike, on the other hand, has taken a different view:

> "In my view a difference in the distribution of two constructions in higher-layered constructions may, like a transform difference, count as one of two required differences provided this distributional difference is paralleled by a substantial difference in structural meaning (such as 'declarative' versus 'interrogative')."[4]

Such a criterion has proved useful in distinguishing dependent from independent clause types, or dependent clause types from one another, where another structural difference already exists.

Swahili clause types (clause syntagmemes) distinguished from one another on the basis of the criteria listed above may be divided into several categories: basic clause types versus derived clause types, and those dependent clause types which are dependent on the sentence level versus those which are embedded on the clause level or on a lower level (i.e., those which fill or help fill a clause level slot).

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[1] I have altered this from Longacre's statement that "Nuclear tagmemes tend to occur contiguously to each other in some languages" (p. 50).

[2] Ibid.

[3] Ibid., pp. 20-23.

[4] Pike, (1962), p. 232.

CHAPTER ONE: BASIC CLAUSE TYPES

Since, according to this analysis, there are no dependent basic clause types in Swahili, all those basic clause types described below are to be considered independent as well. Basic clause types may be divided into two groups[1] on the basis of their predicate-type: those clause types in which the predicate is manifested by a verb-phrase constitute the action-clause group, while those clause types in which the predicate is manifested by a unit other than a verb-phrase constitute the non-action-clause group.

In describing the basic clause types in Swahili, the clause types will be given in their minimal forms. Nuclear tagmemes will be described, but peripheral tagmemes will not be discussed at this point. Minimal formulae, examples, and a brief discussion of the identificational-contrastive features of each clause type will be given.

1.1. Action Clause Types: Swahili action-clause types are centered constructions with the predicate occupying the center position flanked by nuclear tagmemes on both sides, with peripheral tagmemes flanking the entire nucleus. Nuclear tagmemes other than the predicate tagmeme are cross-referenced to the predicate,

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[1] i.e., natural groups, not emic clause classes.

though such cross-referencing is subject to certain conditions. Subject tagmemes, both subject-as-actor and subject-as-initiator, are always marked by an affix in the predicate. The indirect-object tagmeme, the object-of-directed-action tagmeme, and the object-as-actor tagmeme are marked obligatorily by an affix in the predicate if they are not manifested overtly outside the predicate. In transitive clauses, the marking of the object-as-goal tagmeme is optional, regardless of whether the object-as-goal slot is filled. In ditransitive clauses, however, the object-as-goal tagmeme is never marked in the predicate. Similarly, in causative clauses, the goal tagmeme is never marked in the predicate.

Regarding the relative ordering of tagmemes, the following seems to hold true. Among the nuclear tagmemes, the subject tagmemes (subject-as-actor and subject-as-initiator) precede the predicate, whereas all other nuclear tagmemes follow the predicate. Of those nuclear tagmemes which follow the predicate, in the ditransitive clause, the indirect-object tagmeme precedes the object-as-goal tagmeme, while in the causative clause, the object-as-actor tagmeme precedes the goal tagmeme. As will be seen below, the order may be varied under certain conditions. As regards the peripheral tagmemes, both the peripheral tagmemes themselves and their ordering will be discussed in a later section.

In distinguishing between the various action-clause types, great care must be taken in noting the relationship of the participants in the action both to the action and to one another. This is especially important in analyzing Swahili, where clause level elements, phrase

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[1] i.e., in those cases where the object-as-goal slot is unfilled.

level elements, and word level elements may be easily confused due to the nature of the Swahili action predicate. The problem is especially acute in the case of verbal extensions, i.e., those elements suffixed to a verb-root to create derived forms of the verb (e.g., -fung-, "to close," -fungu-, "to open", -fungi-, "to close for someone," -fungik-, "to be closed"). There is all the more reason for highlighting these problems in that Pike has recently proposed a treatment of Bobangi clause types which has far-reaching implications not only for Bobangi and closely related languages of the Congo Basin, but also of Bantu languages in general.[1] Working with Bobangi material as presented in Malcom Guthrie's brief study of Bobangi syntax (in his Bantu Sentence Structures)[2], Pike has suggested setting up a causative clause type which could be derived from a basic clause type. From the basic clause

elenge eliki-nde opima ka

youth did-not go-out not

("the youth did not go out")

one can, presumably by the addition of the causative extension -is- to the verb manifesting the predicate, by the adding of another actor, and change in roles, produce a clause of the following type:

mpomba eliki-nde opimisa elenge ka.

elder did-not cause-to-go-out youth not.

("The elder did not make the youth go out")

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[1]Kenneth L. Pike, (1966) p. 39.

[2]Malcolm Guthrie, (1961).

If in Swahili clause types are seen as created from other clause types by means of adding extensions to the verb manifesting the predicate, adding actors, and changing roles, certain complications are bound to arise. By analogy with Pike's example, we might handle a similar relationship between clause types in Swahili in the following manner:

Basic clause type:

moto unawaka

fire it-is-burning

Causative (derived) clause type:

mtu anawasha moto

man he-is-causing-to-burn fire

("The man is lighting the fire")

One might well ask here why the second type might not be considered as expressing a simple transitive relationship between subject and object-as-goal.

Note the following examples:

(1)

S	P
ndoo	imejaa
pail	it-is-full

(2)

S	P
ndoo	imevunjika
pail	it-is-broken

(3)

S	P	Og
mtu	alijaza	ndoo
man	he-filled	pail

(4)

S	P	Og
mtu	alivunja	ndoo
man	he-broke	pail

Despite the causative affix on the intransitive verb in the verb-phrase manifesting the predicate in example 3 and the absence of it in

the transitive verb in the verb-phrase manifesting the predicate in example 4, they both seem to express the same relationship between the actors and the action. Likewise, despite the stative affix in the transitive verb in the verb-phrase manifesting the predicate in example 2, and the absence of a stative affix in the intransitive verb in the verb-phrase manifesting the predicate in example 1, both examples seem to be manifesting the same relationship between actor and action. Differences between examples 1 and 2, and between examples 3 and 4 are superficial differences caused by the presence or absence of derivational affixes.

Similarly, the presence or absence of the reversive affix in Swahili does not affect the relationship between actors and action.

S	P	O_g	S	P	O_g
mtu	alikunja	karatasi	mtu	alikunjua	karatasi
man	he-folded	paper	man	he-unfolded	paper

The action in the second example is the reverse of the action in the first example, yet the relationship between the actors and action is the same in both examples; the subject acts upon the object-as-goal in exactly the same manner (though performing a different action) in both examples.

Complications may arise if more than one extension is added to the root:

magogo yamelingana

logs they-are-lined-up-with-one-another

alilinganisha magogo

he-caused-to-line-up-with-one-another logs

alinilinganishia magogo

he-caused-to-line-up-with-one-another-for-me logs

("he lined up the logs for me")

The relationships shown above could be easily described as reciprocal, transitive, and ditransitive (benefactive) respectively, despite the compounding of affixes.

For this reason close observation of clause-level relationships would seem to be quite important in Swahili.

1.1.1. Intransitive Clause:[1]

$$\pm S_{act}:NP^1 \quad +P_i:VP_i$$

The intransitive clause contains an optional subject-as-actor tagmeme manifested by a noun-phrase of type 1 (in which the head may be filled by any noun), and an obligatory intransitive predicate tagmeme manifested by an intransitive verb-phrase[2].

Example: S_{act} P_i

moto unawaka

fire it-is-burning

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[1]Formulae for the nuclei of clauses only will be given in this chapter. Peripheral tagmemes will be described in Chapter 4.

[2]A list of the symbols used in these formulae, together with the tagmemes and fillers which they represent, will be given in Appendix . It should be noted that though mention is made of phrases filling clause-level slots, analysis of the phrase level is as yet incomplete. The phrase level has, in fact, only been analyzed as far as it seemed necessary for the clause-level analysis.

1.1.2. Transitive Clause:

$$\pm S_{act}:NP^1 \quad +P_t:VP_t \quad \pm O_g:NP^1$$

This clause type contrasts with the intransitive clause type in that the predicate is transitive, and an optional object-as-goal tagmeme is present.

Example:	S_{act}	P_t	O_g
	mtu	anavunja	kikombe
	man	he-is-breaking	cup

1.1.3. Directive Clause:

$$\pm S_{act}:NP^1 \quad +P_{dir}:VP_{dir} \quad \pm O_{da}:NP^2$$

This clause type contrasts with the types given above both by the nature of its directive predicate and by the presence of an optional object-of-directed-action tagmeme manifested by noun-phrases of type 2 (in which the head must be manifested by an animate noun).

Example:	S_{act}	P_{dir}	O_{da}
	Ali	alimjia	baba yake
	Ali	he-came-to-him	his father

This clause type is further distinguished from the intransitive clause type by the fact that, unlike the intransitive clause type, it has a passive transform.

1.1.4. Ditransitive Clause:

$$\pm S_{act}:NP^1 \quad +P_{di}:VP_{di} \quad \pm I:NP^2 \quad \pm O_g:NP^1$$

This clause type contains a ditransitive predicate and an indirect-object tagmeme as nuclear elements, which is sufficient to set it off from the preceding clause types.

Examples: S_{act} P_{di} I O_g

Ali anampa nduguye chakula

Ali he-is-giving-him- his-brother food

1.1.5. Causative Clause:[1]

$\pm S_{init}:NP^1$ $+P_{ca}:VP_{ca}$ $\pm O_{act}:NP^1$ $+G:NP^1$

This clause type is set off from the above clause types not only by its distinctive subject-as-initiator and object-as-actor tagmemes, but also by the causative predicate manifested by a causative verb-phrase.

Example: S_{init} P_{ca} O_{act} G

Ali anamlisha ng'ombe majani

Ali he-is-causing-him-to-eat cow grass

("Ali is feeding the cow grass")

1.2. Non-Action Clause Types: There are three emic non-action clause types in Swahili: an equative clause type, a locative clause type, and a possessive clause type.

1.2.1. Equative Clause: The Equative clause type contains an optional subject-as-item tagmeme manifested by any noun-phrase and an obligatory equative predicate tagmeme, manifested by a copula and an obligatory equative tagmeme, manifested by any noun-phrase.

$\pm S_{it}:NP^1$ $+P_{eq}:Cop$ $+Eq:NP^1$

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[1]The exact nature of this clause type has not yet been determined.

Example: S_{it} P_{eq} Eq

Ali alikuwa mtu mkubwa

Ali he-was man big

1.2.2. Locative Clause: The locative clause type contrasts with the equative clause type in its locative predicate, which is manifested by a locative copula, followed by an optional locative tagmeme manifested by a locative noun-phrase.

$\pm S_{it}:NP^{1}$ $+P_{loc}:Cop_{loc}$ $\pm Loc:NP_{loc}$

Example: S_{it} P_{loc} Loc

Ali alikuwako nyumbani

Ali he-was-at at-home

1.2.3. Possessive Clause: This clause type contrasts with the preceding clause type in its subject-as-possessor tagmeme, in its possessive predicate tagmeme, manifested by a possessive copula and in its item-possessed tagmeme, manifested by a noun-phrase of accompaniment.

$\pm S_{possessor}:NP^{1}$ $+P_{poss}:Cop_{poss}$ $+It_{po}:NP_{ac}$

Example: $S_{possessor}$ P_{poss} It_{po}

Ali alikuwa na kisu

Ali he-was with knife

("Ali had (or owned) a knife")

It should be emphasized here that the relationship between the subject and what follows is not only one of subject and accompanying item, but also of possessor and possessed.

CHAPTER TWO: DERIVED CLAUSES

2.1. The Nature of Derived Clauses: Those clauses which are not included among the basic clauses in Swahili fall into the category of derived clauses. Derived clauses are those clauses which can be formed by multiplying basic (or "kernel") clause types by a constant, that is, some feature such as, for example, "emphasis." Thus, by multiplying basic clause types in a given language by the "emphasis" feature, one might produce such clauses as an "emphatic intransitive clause", or "emphatic transitive clause", and/or an "emphatic ditransitive clause". The entire array of basic and derived clauses can then be charted on a matrix. Such a mode of description, described in a number of articles over the past few years by Kenneth Pike,[1] eliminates a great deal of redundancy in description, and provides a convenient method of showing the general pattern of clause distribution in "field" (or matrix) -- that is, the relationships of all possible clause types in a given language to one another. For this reason, this mode of description has been followed in this study. For the sake of brevity, only one example will be given to illustrate each series of derived clause types; to ascertain whether a certain clause type does or does not occur, reference must be made to the matrices showing possible clause types for Swahili,[2] which will be found at the end of each section on the various derived clause groups.

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[1] See especially Pike, (1962).

[2] Not all possible clause types may be represented in the matrix; the prime object was to account for clause types found in the corpus and to fill in possible gaps with the aid of Mr. Nikundiwe.

Derived clauses in general may be placed in one or two broad categories: emic derived clauses and etic derived variants of basic clauses, or of other derived clauses. Emic derived clauses are those clauses which show at least two structural differences (of the kind mentioned earlier) from the clauses from which they can be derived, and from each other. Etic derived variants are clauses which fail to meet that criterion. (These will be described in the following chapter).

A word should be said about the derivation of clauses in Swahili by multiplication by a given feature. A number of derived clause types formed by multiplication of a number of basic clause types (or of derived clause types) by a given feature form a derived clause class in Swahili. Each derived clause class, then, is a number of derived clause types which are characterized by a given feature, i.e. that feature by which the basic clause types were multiplied to form the derived clause types. In describing Swahili derived clause classes, reference will be made to an over-all formula, meant to symbolize the class as a whole.

2.2. Emic Derived Clauses in Swahili: Emic derived clauses in Swahili may be divided into three groups: A, B, and C. By multiplying certain basic clauses by a certain Group A feature, such as "reciprocity", one may produce certain Group A clauses. Likewise, by multiplying certain basic clauses by a Group B feature, such as "imperative", one may produce certain Group B clauses. Yet again, certain basic

clauses may be multiplied by a certain Group A feature and a certain Group B feature to produce yet other derived clauses -- those of Group C. Thus, by multiplying a basic clause by the Group A feature "reciprocity" and by the Group B feature "hortative", a Group C hortative reciprocal ditransitive clause may be derived, e.g. "Sisi na tupeane zawadi", "Let us give one another gifts." It should be noted, however, that multiplication of a basic clause by two features of the same group is not possible. For example, a basic clause which has been multiplied by the Group A feature "reciprocity" may not be multiplied also by the Group A feature "passivity"; this precludes the occurrence of such clause types as a "passive-reciprocal-ditransitive" clause type. Likewise, a basic clause which has been multiplied by the Group B feature "hortative" cannot be multiplied also by the Group B feature "imperative"; thus, for example, a "hortative-imperative-ditransitive" clause type does not occur in Swahili.

2.2.1. Group A Derived Clauses: These are formed by multiplying basic clause types by a Group A feature.[1]

2.2.1.1. Passive Clause Class: The members of the passive clause class contrast with the clauses from which they are derived in that they contain a subject-as-goal tagmeme, and their predicate slot likewise is filled by a passive verb-phrase and has a passive function which distinguishes it from other predicates. An agentive tagmeme often

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[1]Feature-clause multiplication possibilities for Group A clauses are shown in the matrix at the end of this section.

follows, but it is neither obligatory nor cross-referenced to the predicate; nevertheless, it may be regarded as nuclear since it is diagnostic of this particular clause type.

Over-all formula for the Class:[1]

$\pm{}^{*}S_{g}$:NP $+{}^{*}P_{pa}$:VP_{pa} $\pm$Ag:NP^{3} $\pm{}^{*}$(other nuclear tagmemes of basic clauses)

Examples:

(Passivity X Transitive)

S_{g-t}	P_{pa-t}		Ag
kikombe	kilivunjwa	na	kijana
cup	it-was-broken	by	youth

(Passivity X Directive)

S_{g-dir}	P_{pa-dir}		Ag
Ali	alijiwa	na baba	yake
Ali	he-was-come-to	by his	father

("Ali was visited by his father")

(Passivity X Ditransitive)

S_{g-di}		P_{pa-di}	O_{g}	Ag
wafanya	kazi	walipatiwa	kazi	na serikali
workers	they-were-gotten-for		work	by government

("The workers were provided with work by the government")

2.2.1.2. Reflexive Clause Class: In this clause type a subject

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[1]Symbols marked with an asterisk represent a whole class of tagmemes -- not a single tagmeme.

acts upon itself. Members of this clause class are distinguished from the basic clauses from which they are derived not only by its subject tagneme, but by its distinctive predicate tagneme as well.

Over-all Formula for the Class:

$\pm^{*}S_{refl}{:}NP \quad +^{*}P_{refl}{:}VP_{refl} \quad \pm^{*}$(other nuclear tagnemes of basic clauses)

Examples: (Reflexivity X Transitive)

$S_{refl\text{-}t}$	$P_{refl\text{-}t}$
Juma	alijikata
Juma	he-cut-himself

(Reflexivity X Ditransitive)

$S_{refl\text{-}di}$	$P_{refl\text{-}di}$	O_{g}
Juma	alijipatia	kazi
Juma	he-got-for-himself	work

2.2.1.3. Reciprocal Clause Class: Over-all formulae for the possible ways of expressing the reciprocal relationship are as follows:

a. $\pm^{*}S_{rec}{:}NP$(plural) $+^{*}P_{rec}{:}VP_{rec}$ $\pm^{*}$(other nuclear tagnemes of basic clauses)

Examples:

$S_{rec\text{-}t}$	$P_{rec\text{-}t}$
vijana wale	walipigana
youths those	they-fought-one-another

$S_{rec\text{-}t}$		$P_{rec\text{-}t}$
Juma na	Ali	walipigana
Juma and	Ali	they-fought-one-another

b. $\pm^{*}S_{rec}{:}NP \quad \pm^{*}P_{rec}{:}VP_{rec} \quad \pm^{*}S_{rec}{:}NP_{ac} \quad \pm^{*}$(other nuclear tagmemes of basic clauses)

Examples: $S_{rec\text{-}t}$ $P_{rec\text{-}t}$ $S_{rec\text{-}t}$

Juma alipigana na Ali

Juma he-fought-with Ali

In the first two examples, the reciprocal subject is expressed by a plural noun-phrase (single-centered or double centered). The third example[1] shows a discontinuous reciprocal subject with an obligatory second party (manifested by a relator-axis accompaniment noun-phrase which follows the predicate).

A Matrix of Group A Derived Clause Types

Basic Clause Types: Action	Group A Features: Passive	Reflexive	Reciprocal
Intr.			*X
Trans.	*X	*X	*X
Dir.	X		X
Ditr.	*X	X	X
Caus.	*X	X	X

Non-Action: (Non-Action Clauses cannot be multiplied by Group A features).

2.2.2. Group B Derived Clauses: Group B Derived clauses are those clauses formed by multiplying basic clause types by a Group B

---

[1] In this and all succeeding clause classes, only one example will be given to illustrate the class as a whole; the examples will illustrate the feature of that clause class times the transitive (basic) clause type. For feature multiplication possibilities, reference must be made to the matrices.

[2] * = occurs in corpus
X = attested by informant
A gap means that I consider that such a clause is not likely to occur.

feature. Group B clauses may be divided into two groups: Independent derived clauses, and dependent derived clauses. Independent derived clauses in Swahili are those clauses which are potentially independent on the next higher level, the sentence level. That is to say, such clauses may at times function as dependent units in such sentence types as direct or indirect quotation sentences, yet they have the potentiality of occurring on the sentence level independent of other elements, so that such a clause, plus characteristic sentence intonation, may manifest a given sentence type. Dependent clauses in Swahili, on the other hand, are found to occur either in a state of patterned dependency on the sentence level, or else embedded in the clause-level or lower-level slot, and can be divided into two distinct sub-groups on that basis.

2.2.2.1. Independent Derived Clauses:

2.2.2.1.1. Imperative Clause Class: The identificative-contrastive features of all imperative clause types may be given in an overall formula as follows:

$$\pm^{*}S_{voc}{}^{\wedge}NP \quad +^{*}P_{imp}{}^{\wedge}VP_{imp} \quad \pm^{*}(\text{other nuclear tagmemes of basic clauses})$$

The vocative subject (or subject-as-addressee) manifested by an animate noun-phrase and the derived imperative predicate manifested by an imperative derived verb-phrase establish every member of this class as emically distinct from the basic clause types from which they are derived.

Example: $S_{voc\text{-}t}$ $P_{imp\text{-}t}$ O_g

Ali, funga mlango!

Ali, close door!

2.2.2.1.2. Hortative Clause Class: An over-all formula for the hortative clause class may be given thus:

$$\pm S{:}NP^{1} \quad \pm H\text{-}m{:}\underline{na} \quad +P_{desid}{:}VP_{desid} \quad \pm(\text{other nuclear tagmemes of basic clauses})$$

The optional presence of the Hortative marker, manifested by the particle **na**, which occurs immediately before the predicate and marks the clause as hortative, and the derived desiderative predicate show these clauses to be emically distinct from the basic clauses from which they are derived.

Example: $S_{act\text{-}t}$	(hortative marker)	$P_{desid\text{-}t}$	O_g
Ali	na	afunge	mlango
Ali	let-him-close		door

2.2.2.2. Dependent Derived Clauses: As mentioned in section 2.2.2. dependent derived clauses contrast with the basic clauses from which they can be derived in their distribution and in at least one feature of their internal structure. Again, dependent derived clauses which occur in a state of patterned dependency on the sentence level contrast (by application of the aforementioned criteria) with dependent derived clauses which occur embedded on the clause level or a lower level.

2.2.2.2.1. Derived Clauses Dependent on the Sentence Level:[1]

2.2.2.2.1.1. Consecutive Imperative Clause Class: The members of this clause class contrast with the different series listed above both

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[1]Analysis of the sentence level is still incomplete, but it has been analyzed as completely as seemed necessary for clause-level analysis.

in its distinctive consecutive desiderative verb-phrase, and in its distribution--it is found only after the main clause in consecutive imperative sentences.

$\pm^{*}S_{voc}$:NP $+^{*}P_{con\text{-}desid}$:VP$_{con\text{-}desid}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

Example: $S_{voc\text{-}act}$ $P_{con\text{-}desid\text{-}t}$ O_{3}

(Nenda), Ali, ukafunge mlango

(Go), Ali, and-then-close door

2.2.2.2.1.2. Consecutive Hortative Clause Class: The members of this class contrast with those of the consecutive imperative clause class in their subject tagmeme classes. The subject tagmeme class of the consecutive imperative clause class has a vocative feature which is absent in the subject tagmemes of the consecutive hortative clause class. Secondly, the members of this class contrast with those of the consecutive imperative series in that they occur only after the main clause in a consecutive hortative sentence.

$\pm^{*}S$:NP $+^{*}P_{con\text{-}desid}$:VP$_{con\text{-}desid}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

Example: S_{act} $P_{con\text{-}desid\text{-}t}$ O_{3}

(Na waende) watoto wakafunge mlango

(Let-them-go) children so-that-they-close door

2.2.2.2.1.3. Protasis Clause Class: Members of the Protasis Clause class fill protasis slots in the conditional sentence type.

Protasis clauses can be formed in two ways, with no significant difference in meaning:[1]

---

[1] These are variant forms of clauses--not contrastive clauses. For this reason it seems best to include them here, rather than place them with the etic clause variants, where a structural difference does in fact entail a difference in meaning.

$$\pm R_{cond}: \begin{matrix}\text{ikiwa}\\ \text{kama}\end{matrix} \quad \pm\pm \text{Axis} = (\text{any basic clause})^{1}$$

$$\pm R_{cond}: \text{kama} \quad \pm\pm S:NP^{1} \quad \pm\pm P_{part}:VP_{part} \quad \pm\pm(\text{other nuclear tagmemes of basic clauses})$$

The first form is characterized by an obligatory relator (ikiwa or kama) which precedes an axis filled by one of the basic clause types. The second form is characterized by an optional relator kama and an axis including a participial derived predicate, manifested by a participial derived verb-phrase.

Examples:

R_{cond}	S_{act}	P_{t}	Q_{g}
ikiwa	Ali	atafunga	mlango...
if	Ali	he-will-close	door...

R_{cond}	S_{act}	P_{past-t}	Q_{g}
(kama)	Ali	alifunga	mlango....
(if)	Ali	if-he-closes	door...

2.2.2.2.1.4. Hypothetical Protasis Clause Class. This clause class contrasts with the former both in its predicate-type, and in its external distribution. This series occurs in hypothetical conditional sentence types, which are distinguished from conditional sentence types by the fact that, in hypothetical conditional sentences, hypothetical clause types and only these fill both protasis and apodosis slots. An over-all formula for this series must be given thus:

$$\pm R_{cond}:\text{kama} \quad \pm\pm S:NP \quad \pm\pm P_{hypo}:VP_{hypo} \quad \pm\pm(\text{other nuclear tagmemes of basic clauses})$$

---

[1] A double asterisk indicates that a whole class of clause types is being symbolized.

Examples: R_{hypo} S_{act} P_{hypo-t} O_{g}

(kama) Ali angefunga mlango....

(if) Ali if-he-would-close door ....

2.2.2.2.1.3. Hypothetical Apodosis Clause Class: The members of this class contrast with those of the above class in that the relator kama is obligatorily absent, and in that it must follow the hypothetical protasis clause in a hypothetical-conditional sentence.

Over-all formula:

$\pm$*S:NP $+$*P_{hypo}:VP_{hypo} $\pm$*(other nuclear tagmemes of basic clauses)

Example: S_{act} P_{hypo-t} Assoc.[1]

...mimi ningeendelea na kazi yangu

... I I-would-continue with work my

2.2.2.2.2. Derived Clause Classes Embedded on the Clause Level or Lower Levels:

2.2.2.2.2.1. Participial Clause Class: The members of this class of derived clause types contrast with those of the protasis clause class in that, though its predicate is manifested by a participial verb-phrase also, the relator kama is obligatorily absent. Secondly, since it fills a (peripheral) participial clause-level slot, its distribution is contrastive.[2]

$\pm$*S:NP $+$*P_{part}:VP_{part} $\pm$*(other nuclear tagmemes of basic clauses)

---

[1]The Associative tagmeme is a peripheral tagmeme, and will be discussed later.

[2]One alternative solution would be to consider member clause types as noun phrases with an embedded clause.

Example: S_{act} P_{part-t} O_g

(nilimwona) Ali akifunga mlango

(I-saw-him) Ali he-closing door

2.2.2.2.2.2. Purpose Clause Class: The members of this class contrast with those of the hortative class in that, though its predicate also is manifested by a desiderative verb-phrase, it is a dependent clause class and its optional relator is ili or kusudi. This class fills a (peripheral) purpose clause-level slot.

$\pm R_{purp}$: ili / kusudi $\pm$*S:NP $\leftrightarrow$*P$_{desid}$:VP$_{desid}$ $\pm$*(other nuclear tagmemes of basic clauses)

Example: R_{purp} S_{act} $P_{desid-t}$ O_g

kusudi Ali afunge mlango

in-order-that Ali he-may-close door

2.2.2.2.2.3. Desiderative Clause Class: The members of this class are distinguished from those of both the hortative and the purpose classes by the obligatory absence of the relators for those classes, and by their distribution in Goal-as-Action slots in transitive clauses.

...$\pm$*S:NP $\leftrightarrow$*P$_{desid}$:VP$_{desid}$ $\pm$*(other nuclear tagmemes of basic clauses)

Example: S_{act} $P_{desid-t}$ O_g

(nilimtaka) Ali afunge mlango

(I-wanted) Ali that-he-close door

2.2.2.2.2.4. Relative Clause Class: The members of this clause class occur typically embedded in post-head position in modified noun-phrases which manifest a given clause-level tagmeme. It is important to note that the subject tagmeme does not occur in the members of this clause class when the head of the noun-phrase modified by the embedded clause is identical with the subject of the embedded clause.

Two forms of these clause types are possible, with no difference of meaning; either an overt relator signifying "relative clause" occurs with a basic clause as axis, or the clause contains a relative predicate manifested by a relative verb-phrase.

$+R_{rel}$ ~ $+P_{rel}$ $+$**Axis: (any basic clause)

or else

$\pm$*S:NP $+P_{rel}$:VP_{rel} $\pm$*(other nuclear tagmemes of basic clauses)

Examples:

	R_{rel}	P_{ti}	O_j
...	ambaye	alifunga	mlango
...	who	he-closed	door

	P_{rel-t}	O_j
...	aliyefunga	mlango
...	he-who-closed	door

2.2.2.2.2.5. Relative-of-Manner Clause Class: The members of this class contract with those of the relative clause class in that they fill clause-level manner tagmeme slots, and, again, their relators are distinct

from those of the relative clause class. Unlike the subject tagmeme of the relative clause class, the subject tagmeme of the relative-of-manner clause class is under no strictures regarding occurrence.

$\pm R_{man}$: namna / kama / (kwa) jinsi / vile $\pm$ *S:NP *$P_{rel\text{-}man}$:$VP_{rel\text{-}man}$ $\pm$ *(other tagmemes of basic clauses)

Examples:

R_{man}		$P_{rel\text{-}man\text{-}t}$	G_g
(kama)	Ali	alivyofunga	mlango
(as)	Ali	as-he-closed	door

2.2.2.2.2.6. Temporal Relative Clause Class: The members of this clause class contrast with those of the preceding two classes in that they fill clause-level temporal slots, and in that they have a distinctive relator. In this class also, the subject tagmeme is free to occur without stricture. Two forms are possible for this clause class, a temporal relator-axis form...

R_{temp}: hali / kabla / mpaka / tangu / hata / hadi *Axis:(any basic clause)

Examples: R_{temp} S_{act} P_t O_g

hali Ali anafunga mlango

while Ali he-is-closing door

or else a form with a temporal relative predicate ...

±*S:NP +*$P_{rel\text{-}temp}$:$VP_{rel\text{-}temp}$ ±*(other nuclear tagmemes of basic clauses)

Example: S_{act} $P_{rel\text{-}temp\text{-}t}$ O_g

Ali alipofunga mlango

Ali when-he-closed door

2.2.2.2.2.7. Cause Clause Class: The members of this class contrast with the classes above in the light of their distinctive relators, and of their exclusive distribution in clause-level cause tagmeme slots.

+R_{cause}: (kwa) sababu
(kwa) maana
kwa kuwa

+**Axis: (any basic clause)

Example: R_{cause} S_{act} P_t O_g

... kwa sababu Ali alifunga mlango

... because Ali he-closed door

A Matrix of Group B Derived Clause Types

	Basic Clause Types							
	Action					Non-Action		
Indep.	Intr.	Trans.	Dir.	Ditr.	Caus.	Eq.	Loc.	Poss.
Imp.	x	*x	x	x	x			
Hort.	x	*x	x	x	x	x	?	?
Dep.								
Cons. Imp.	x	x	x	x	x	x		x
Cons.Hort.	x	x	x	x	x	x		
Prot.	*x	*x	*x	*x	x	*x	x	*x
Hypo Prot	x	x	x	x	x	x	x	x
Hypo Apod	x	*x	x	x	x	x	x	x
Part.	*x	*x	x	*x	*x			
Purp.	x	*x	x	x	x	x	x	?
Desid.	x	x	x	x	x	x	?	x
Rel.	*x	*x	*x	*x	x	x	*x	*x
Rel-man.	*x	*x	x	x	*x	*x		x
Rel-temp.	*x	*x	x	x	x	x		x
Cause	x	*x	x	x	x	*x	x	x

[1]x = Attested by informant
* = Occurs in corpus
? = Suspected to occur, though not attested by corpus or informant.
A gap means that I consider that such a clause is not likely to occur.

2.2.3. Group C Derived Clauses: Group C derived clauses are formed by multiplying a basic clause by both a Group A and a Group B feature.

All feature-clause multiplications are possible except for the following:

1. Multiplications by the Passive feature together with either the Hortative or Imperative features.
2. Multiplication by the Directive-Passive feature together with the Consecutive Imperative feature.

CHAPTER THREE: ETIC CLAUSE VARIANTS

An etic variant of a clause may be defined as a clause which differs from another clause in both form and meaning, but which fails to satisfy the criteria for contrastiveness outlined in the introductory chapter. Etic clause variants in Swahili may be presented as follows:

3.1. Etic Variants of Basic Clauses:

3.1.1. Desiderative-Transitive Clause Variant: This clause variant differs from the transitive clause only in its object-as-Action tagmeme, manifested by a desiderative clause:

$\pm S_{act}{:}NP^2 \quad +P_t{:}VP_t \quad +O_{action}{:}VP_{desid}$

Examples:	S_{act}	P_t	O_{action}
	Juma	alitaka	aende
	Juma	he-wanted	that-he-might-go

3.2. Etic Variants of Derived Clauses:

3.2.1. Concessional Clause Variant Class: The concessional class is a class of variants of the protasis clause class. It differs from the protasis clause class, in the first form in that the relator is distinct from that of the first form of the protasis clause class, and in the second form in that the predicate tagmeme class is distinct from that of the second form of the protasis clause class. The second form is not in frequent use.

$+R_{conc}$: ijapokuwa / ingawa $+^{**}$Axis: (any basic clause)

or else

$\pm^{*}$S:NP $+^{**}P_{conc}$:VP_{conc} $\pm^{*}$(other nuclear tagmemes of basic clauses)

Examples:	R_{conc}	S_{act}	P_t	O_g
	ijapokuwa	Ali	atafunga	mlango ....
	even-though	Ali	he-will-close	door ....

S_{act}	P_{conc-t}	O_g
Ali	ajapofunga	mlango ...
Ali	even-though-he-closes	door ...

3.3. Group Y Etic Clause Variants: Members of the Y Group form a group in the sense of the term "group" as applied to Groups A, B, and C, in that clause variants formed by multiplying a basic clause or a derived clause of Group A, B, or C by a Group Y feature cannot be multiplied by another Group Y feature.

3.3.1. Emphatic Equative Clause Variant:

A formula for the emphatic clause type may be given thus:

$\pm^{S}(item)$:NP $+P_{eq\text{-}emph}$:Cop_{emph} +Eq:NP

The emphatic equative predicate manifested by an obligatory emphatic copula plus noun-phrase is the only structural feature which contrasts with the equative clause from which this clause class is derived. It is therefore only an etic variant of the equative clause type.

Example:	S_{it}	$P_{eq\text{-}emph}$		Eq	
	Ali	ndiye	mtu	aliyefunga	mlango
	Ali	it-is-indeed-he	person	he-who-closed	door

3.3.2. Interrogative - of - Manner Clause Variants: A formula for clause variants may be given thus:

$\pm$*S:NP $\left\{P_{i\text{-}m}:VP_{i\text{-}m}\right.$ $\pm$(other nuclear tagmemes of basic clauses, or of clauses of Group A, B, and C)

These clause variants differ etically from the basic clause types from which they are derived only in their characteristic interrogative-of-manner derived predicate, manifested by an interrogative-of-manner derived verb-phrase.[1]

Example:	S_{act}	$P_{i\text{-}m\text{-}t}$	O_g
	Ali	alifungaje	mlango?
	Ali	how-did-he-close	door?

3.3.3. Negative Clause Variants: In the case of an overwhelming majority of the derived clause types, -- and of all basic types -- the clause can be negated by means of a negative predicate. In all cases, however, the negative predicate is the only contrastive feature which separates the positive from the negative clause; thus all negative clauses (except those to be mentioned) are etic variants of positive clause types.

Over-all formula:

$\pm$*S:NP $\leftrightarrow$*$P_{neg}:VP_{neg}$ $\pm$(other nuclear tagmemes of basic clauses, or of clauses of Group A, B, and C)

---

[1] In terms of distribution within the sentence, these clause variants would not be considered contrastive; in terms of distribution on higher levels, however, they might well be considered contrastive.

Examples: S_{act} P_{t} O_{j} — S_{act} $P_{neg\text{-}t}$ O_{j}

Ali alifunga mlango — Ali hakufunga mlango

Ali he-closed door — Ali he-did-not-close door

$S_{voc\text{-}act}$ $P_{imp\text{-}t}$ O_{j} — $S_{voc\text{-}act}$ $P_{neg\text{-}imp\text{-}t}$ O_{j}

Ali, funga mlango! — Ali, usifunge mlango!

Ali, close door! — Ali, don't-close door!

S_{act} $P_{cond\text{-}t}$ O_{j} — S_{act} $P_{neg\text{-}cond\text{-}t}$ O_{j}

Ali akifunga mlango — Ali asipofunga mlango

Ali if-he-closes door — Ali if-he-does-not-close door

3.3.4. Group Y Multiplication Possibilities: The multiplication possibilities of Group Y are more amenable to description by statement than by presentation of matrices.

Two of the features of Group Y have extremely limited multiplication possibilities:

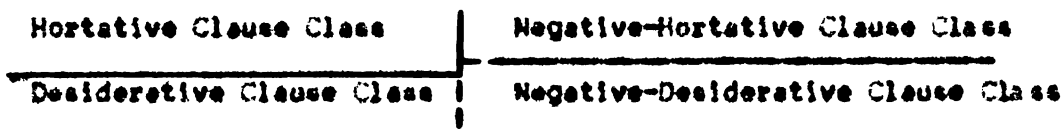
1. The Emphatic feature can multiply only the Equative (basic) clause, in order to produce the Emphatic Equative clause, an etic variant of the equative clause.
2. The Interrogative-of-Manner feature can multiply only:
   (a) all basic clause types except the Locative and Possessive;
   (b) all the Group A clause types
   (c) the (Group B) Hypothetical Apodosis clause type.

(d) All Group C clauses formed by multiplication of basic clauses by the features of the clauses listed in (b) and (c).

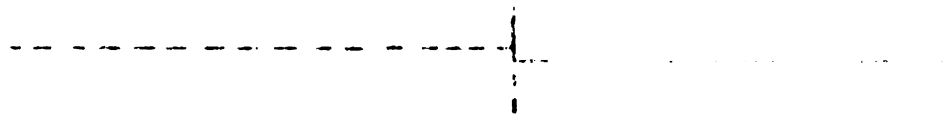
All clauses can be multiplied by the Negative feature--both basic clauses and those of Groups A, B, and C--except those of the clause classes of Groups B and C which have the Consecutive-Hortative or Consecutive-Imperative feature (i.e., the Consecutive-Imperative clause class, the Consecutive-Hortative clause class, the Hortative-Consecutive-Reciprocal clause class, etc.). These last-mentioned clause classes cannot be negated. Of the clauses produced by multiplication by the Negative feature, all are etic variants of the clauses from which they are derived, with the exception of those clauses which contain both the Negative and the Hortative feature. These latter differ emically from the clauses from which they are derived in that members of such clause classes obligatorily omit the Hortative marker tagmeme (manifested by na) which is optionally present in the positive clauses, and in that members of such clause classes contain a negative predicate which is distinct from the predicates of positive clauses. Thus the Negative Hortative clause class is emically distinct from the (positive) Hortative clause class. On the other hand, since such clause classes do not contain the Hortative marker tagmeme, they differ only in distribution from those clause classes with both the negative and the desiderative features. Thus all clauses containing both the Negative and the Hortative features are etic variants of those clauses containing both the Negative and the Desiderative features. For example, the Negative-Hortative clause class is an etic variant of the Negative-Desiderative clause

class which is itself an etic variant of the Desiderative clause class.

Using the examples above, the problem might be represented as follows (with solid lines representing contrast and broken lines representing etic variance):



The Negative-Hortative Clause Class is seen to be an etic variant of the Negative-Desiderative Clause Class, which is, in turn, an etic variant of the Desiderative Clause Class. The Negative-Hortative Clause Class, however, contrasts with the (positive) Desiderative Clause Class. It would seem, then, that if the criteria regarding structural differences set forth in the introductory chapter of this thesis, are followed, such clause classes as the Negative-Hortative cannot be assigned either to the group of etic clause variants or to the group of contrastive clause types. It may be necessary to revise or make more explicit the criteria for structural differences so that such cases as those mentioned above may be handled in a less awkward manner.



CHAPTER FOUR: CLAUSE TRANSFORMS

4.1. Deletion of Subject Tagmeme: The Subject tagmeme is deleted obligatorily in serial clauses following the initial clause of a serial sentence when the Subjects of the serial clauses are identical to the Subject of the initial clause.

Example:	S_{act}	P_i	Loc	S_{act}	P_t	O_3
	*Juma	alikwenda	*mj*ini	Juma	akanunua	chakula
	Juma	he-went	to-town	Juma	he-then-bought	food

becomes:

S_{act}	P_i	Loc	P_t	O_3
Juma	alikwenda	mjini,	akanunua	chakula
Juma	he-went	to-town,	he-then-bought	food

Similarly, the Subject tagmeme of an apodosis clause in a conditional sentence is deleted obligatorily if the Subject is identical to that of the protasis clause.

Example:	S_{act}	P_{cond-i}	Loc	S_{act}	P_t	O_3
	*Juma	akienda	mjini,	Juma	atanunua	chakula
	Juma	if-he-goes	to-town,	Juma	he-will-buy	food

becomes:

S_{act}	P_{cond-i}	Loc	P_t	O_3
Juma	akienda	mjini,	atanunua	chakula
Juma	if-he-goes	to-town,	he-will-buy	food

In dependent clauses other than apodosis clauses, the Subject tagmeme of the dependent clause is obligatorily deleted when it is identical to either the Subject tagmeme, the Object-as-Goal tagmeme, the Object-of-directed-action tagmeme, or Object-as-Actor tagmeme of the main clause of the sentence.

Examples:

S_{act}	P_i	Loc	R_{purp}	S_{act}	$P_{desid-t}$	O_g
*Juma	alikwenda	mjini,	ili	Juma	anunue	chakula
Juma	he-went	to-town,	in-order-that	Juma	he-may-buy	food

becomes:

S_{act}	P_i	Loc	R_{purp}	$P_{desid-t}$	O_g
Juma	alikwenda	mjini	ili	anunue	chakula
Juma	he-went	to-town	in-order-that	he-may-buy	food

S_{act}	P_t	O_g	R_{purp}	S_{act}	P_i
Juma	alimkemea	Ali	ili	Ali	anyamaze
Juma	he-scolded-him	Ali	in-order-that	Ali	he-be-quiet

becomes:

S_{act}	P_t	O_g	R_{purp}	P_i
Juma	alimkemea	Ali	ili	anyamaze
Juma	he-scolded-him	Ali	in-order-that	he-be-quiet

4.2. Deletion of Subject Tagmeme with Replacement of Predicate Tagmeme: Basic action clauses have their subjects deleted and their predicates replaced by an infinitive construction when the subject is identical to that of a preceding clause (in a coordinate sentence) and when the

action represented by the predicate is being performed simultaneously with the first:

S_{act}	P_i	S_{act}	P_i
*Ali	alicheza	Ali	aliimba
Ali	he-played	Ali	he-sang

becomes:

S_{act}	P_i	Acc	
Ali	alicheza	na	kuimba
Ali	he-played	with	singing (to sing)

Similar replacements optionally occur with Desiderative-Transitive etic variants of transitive clauses when the subject of the main clause and the subject of the dependent clause filling the Object-as-Action slot are identical:

S_{act}	P_t	O_{action}	
Ali	alitaka	Ali	aende
Ali	he-wanted	Ali	that-he-go

becomes:

S_{act}	P_i	O_g
Ali	alitaka	kwenda
Ali	he-wanted	going (to go)

CHAPTER FIVE: CLAUSE-LEVEL TAGMEMES

5.1. Nuclear Tagmemes: The manner in which the nuclear tagmemes function in basic clauses has been described earlier in the chapter on derived clauses. Distribution of nuclear tagmemes in various clause types was described in the chapters on basic and derived clauses. A further description of nuclear tagmemes -- specifying their functions and filler classes -- would perhaps be redundant at this point, so that it might be best to present a simple inventory of clause level tagmemes.

An Inventory of Clause Level Nuclear Tagmemes

Basic Clauses

Action Clauses:	S_{act}:NP^1	P_i:VP	I:NP^2	G:NP^1
	S_{init}:NP^2	P_{tr}:VP_{tr}		O_{da}:NP^2
		P_{dir}:VP_{dir}		O_{actor}:NP^2
		P_{di}:VP_{di}		O_g:NP^1
		P_{ca}:VP_{ca}		
Non-Action Clauses:				
	S_{it}:NP^1	P_{eq}:Cop	Eq:NP^1	
	$S_{possessor}$:NP^1			
		P_{loc}:Cop_{loc}	Loc:NP_{loc}	
		P_{poss}:Cop	It_{po}:NP_{ac}	

Clause-Level Nuclear Classes of Tagmemes[1] and Single Tagmemes (in Derived Clauses)

Group A:

*S_g:NP	*P_{pa}:VP_{pa}	Ag:NP^3
*S_{refl}:NP^2	*P_{refl}:VP_{refl}	
*S_{rec}:NP_{ac}	*P_{rec}:VP_{rec}	

Group B:

Independent:	*S_{voc}:NP^2	*P_{imp}:VP_{imp}
		*P_{desid}:VP_{desid}
Dependent:		
R_{cond}:r_{cond}		*$P_{con\ desid}$:$VP_{con\ desid}$
R_{purp}:r_{purp}		*P_{part}:VP_{part}
R_{cause}:r_{cause}		*P_{hypo}:VP_{hypo}
R_{rel}:r_{rel}		*P_{desid}:VP_{desid}
R_{man}:r_{man}		*P_{rel}:VP_{rel}
R_{temp}:r_{temp}		*$P_{rel\text{-}man}$:$VP_{rel\text{-}man}$
		*$P_{rel\text{-}temp}$:$VP_{rel\text{-}temp}$

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[1] Symbols marked with an asterisk represent a whole class of tagmemes, not a single tagmeme.

Etic Clause Variant Tagmemes and Classes of Tagmemes

R_{conc} ~ r_{conc} $\quad$ $*P_{conc}{:}VP_{conc}$ $\quad$ $O_{action}{:}VP_{desid}$

$P_{emph}{:}Cop_{emph}$

$*P_{i-m}{:}VP_{i-m}$

$*P_{neg}{:}VP_{neg}$

5.2. Peripheral Tagmemes: One can postulate at least seven peripheral tagmemes for the Swahili clause.[1]

1. Temporal
2. Locative
3. Manner-Instrumental
4. Associative
5. Cause
6. Purpose
7. Participial

5.2.1. The Relative Order of Peripheral Tagmemes: Regarding their relative order in regard to one another and vis-a-vis the nuclear tagmemes, the following may be advanced.

In Basic Action clauses, the Cause tagmeme tends to occupy the outermost orbit from the nucleus, and tends to follow the nucleus more often than it precedes it. The Temporal tagmeme tends to occupy the next most outermost orbit, and tends to precede the nucleus. The Locative tagmeme tends to occupy the next orbit in toward the nucleus, and typically follows the nucleus when an intransitive predicate is manifested by a verb-phrase containing a verb of motion. Otherwise, it may precede the nucleus. The Manner-Instrumental tagmeme and the Associative

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[1] Those given here are those which occurred in the corpus.

tagmeme typically immediately follow the nucleus. In considering the ordering of these last three tagmemes, one might say that the locative tagmeme tends to precede the other two tagmemes, though the ordering of the three in regard to one another is hard to establish.

The Purpose tagmeme and the Participial tagmeme, in contrast to the relatively freer ordering of the tagmemes described above, obligatorily follow the nucleus in Basic Action clauses. It should be noted that the Purpose, Participial, and Cause tagmemes do not co-occur in any of the clauses of the corpus.

Regarding the peripheral tagmemes in Basic Action clauses as a whole, it is difficult to postulate an ordering. It seems relatively easy with most peripheral tagmemes to advance counterexamples which break a postulated pattern, especially in literary works where elegance (or variety) of speech is sought. More will be said of this in the section on variations in the ordering of tagmemes.

In non-action basic clauses, peripheral tagmemes occur far less frequently than is the case with basic action clauses. The same peripheral tagmemes occur in non-action clauses as in action clauses, but the range of fillers is restricted. This is especially true of the manner tagmeme, which is manifested by only a few fillers, such as "hasa", "especially", "kweli", "truly", "hakika", "certainly", etc.

In the case of the derived clauses also, the peripheral tagmemes occur less frequently than in basic action clauses. Though peripheral tagmemes in derived clauses follow the same general ordering that they follow in basic action clauses, they generally follow the nuclear elements of the clause.

Examples:

Basic Action Clauses:

Temp	S_{act}	P_1	Loc
Jana	watu	walikwenda	mjini
Yesterday	people	they-went	to-town

Derived Clauses:

S_{act}	P_{rel-1}	Loc	Temp
Watu	walionkwenda	mjini	jana
People	they-who-went	to-town	yesterday

P_{imp-1}	Loc	Temp
Nenda	mjini	kesho
Go	to-town	tomorrow!

P_{cond-1}	Loc	Temp	
Tukienda	mjini	kesho	(tutalipwa)
If-we-go	to-town	tomorrow	(we-will-be-paid)--i.e. at any time

	Temp	P_{cond-1}	Loc	
cf.	Kesho	tukienda	mjini	(tutalipwa)
	Tomorrow	if-we-go	to-town	(we-will be paid) --i.e. tomorrow

5.2.2. Fillers of the Peripheral Tagmemes:

5.2.2.1. Temporal Tagmeme: Typically filled by time words, time phrases, and temporal embedded clauses.

"leo" -- "today"

"mpaka alikufa" -- "until he died"

"alipofika" -- "when he arrived"

Example:

Temp		S_{act}	P_1	
Baada	ya kitambo,	vilulimuli	vilianza	Kupungua...
after	little-while,	glow-worms	they-began	to-lessen

5.2.2.2. Locative Tagmeme: filled with a great many noun-phrase types: place names, locative noun-phrases, locative deictics, etc.

"Morogoro" -- (place name)

"katika nyumba" -- "in the house"

"nyumbani humu" -- " " "

"hapa" -- "here"

Example:	P_t	O_3	Loc
	... akamfuata	Bwana Musa	makaburini
	... he-then-followed	Mr. Musa	to-graves

5.2.2.3. Manner-Instrumental Tagmeme: filled by adverbs, adverbial phrases, relative-of-manner clauses, and instrumental phrases. Since no difference in position or internal structure (save for the fact that the heads of adverbial phrases are filled by abstract nouns while those of instrumental phrases are filled by concrete nouns) sufficiently separates instrumental phrases from adverbial phrases, they should be regarded as manifesting a single tagmeme.

"Mbio" -- "quickly"

"Kibavubavu" -- "sideways

"kwa haraka" -- "quickly"

"alivyosema" -- "as he said"

"kwa shoka lake" -- "by means of his axe"

"namna ile" --"(in) that manner"

"vile" -- "thus"

Example:

S_{act}		P_1		O_3	Man	
Bwana	Musa	akaendelea	kuvuta	kiko chake kimya	kimya	
Mr.	Musa	he-then-continued	smoking	pipe his quietly	quietly	

5.2.2.4. Associative Tagmeme: filled by relator-axis noun-phrases with the relator na plus modified noun-phrases with inanimate heads.

"na shoka lake" -- "with his axe"

"na motokaa yake" -- "with his automobile"

Example:

Temp	P_1	Loc	Assoc
Jana	alikwenda	msituni	na shoka lake
Yesterday	he-went	to-forest	with-his-axe

5.2.2.5. Cause Tagmeme: filled by possessive noun-phrases or any clause, either one preceded by a specific relator "(kwa) sababu", (kwa) maana", "kwa kuwa".

Example:

Cause		(Conj)	S_{pt}	P_{eq}	Eq
... Kwa	sababu	kazaliwa	bara,	basi yeye	ni mwana haramu
... because		he-was-born	inland,	well, he	is child illegitimate

5.2.2.6. Purpose Tagmeme: filled by purpose clauses or their infinitive transforms.[1]

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[1] Transforms are described in Chapter Four.

" ili aende nyumbani" -- "so-that he-might-go to-home"

"kusudi tupate chakula" -- "so-that we-might-get food"

"(kwa) kupata chakula" -- "in-order to-get food"

Example:

S_{act}	P_i	Loc	Purp
Juma	alitoka	nyumbani kununua	chakula
Juma	he-left	at-home to-buy	food

5.2.2.7. Participial Tagnemes filled by participial clauses.

"akija" -- "he-coming"

"wakicheza" -- "they-playing"

Examples:

S_{act}	P_t	O_g	Part
Juma	aliwaona	watoto	wakicheza
Juma	he-saw-them	children	they-playing

(Juma saw the children playing)

S_{act}	P_i	Loc	Part
Juma	alikwenda	nyumbani	akiimba
Juma	he-went	to-home	he-singing

(Juma went home singing)

5.3. Variations in the Ordering of Tagnemes: As has been mentioned earlier, variations occur in the ordering of tagnemes, both nuclear and peripheral. In the case of peripheral tagnemes in Basic Action clauses, variations in ordering are quite frequent, so that a statement of the ordering of peripheral tagnemes must in fact state only

a statistically preferred ordering. In the case of nuclear tagmemes, however, variations in ordering are infrequent, and are allowed only when no ambiguity results. According to Mr. Nikundiwe, such variations occur mainly in narrative or rhetorical speech; the corpus on which this study is based contains therefore, more variations of this kind than would be found in normal conversation. Several examples of variations in the ordering of tagmemes will be given. It should be noted that, according to Mr. Nikundiwe, transpositions of the Agent tagmeme and the Subject-As-Goal Tagmeme in a passive clause would not occur.

Examples:

(1) Normal ordering:

S_{it}	P_{loc}		Loc		
mtu	alikuwapo	kwa	upande	wa	kichwani
man	he-was-at	at	side	of	at-head

ordering in corpus:

Loc				P_{loc}	S_{it}
...kwa	upande	wa	kichwani,	alikuwapo	mtu
at	side	of	at-head,	he-was-at	man

(2) Normal ordering:

(conj.)	P_t	O_g	Loc	
...na	kainyosha	miguu	yake	kwa mbele
and	he-stretched	legs	his	at front

ordering in corpus:

(conj.)	O_g	P_t	Loc
... na	miguu yake	kainyosha	kwa mbele
and	legs his	he-stretched-them	at front

(3) Normal ordering:

	S_{act}	P_t	Man
... bega	langu	linauma	kidogo,
shoulder	my	it-hurts	a-little,

ordering in corpus:

Man	S_{act}	P_t
... kidogo bega	langu	linauma...
a-little shoulder	my	it-hurts

(4) Normal ordering:

S_{act}	P_{refl-t}	O_g	M	
Najum	alijitia	ushujaa	kwa nguvu	sana..
Najum	he-put-in-himself	bravery	with strength	much..

ordering in corpus:

S_{act}	M	P_{refl-t}	O
Najum,	kwa nguvu sana	alijitia	ushujaa...

Najum, with strength much, he put-in-himself bravery

APPENDIX

Symbols and Abbreviations Employed[1]

ac = accompaniment

act = actor

ag = agent

assoc = associative tagmeme

ca = causative

cause = cause

cl = clause

con = consecutive

conc = concessional

cond = conditional

cop = copula

desid = desiderative

di = ditransitive

dir = directive

eq = equative

emph = emphatic

g = goal

h-m = hortative marker

hypo = hypothetical

i = intransitive

i-m = interrogative-of-manner

imp = imperative

i = indirect object

It_{po} = item possessed

loc = locative

man = manner

neg = negative

np = noun phrase

np^1 = with any noun as head

np^2 = with only animate nouns as head

o = object

o_{act} = object-as-actor

o_{action} = object-as-action

o_{da} = object-of-directed-action

o_g = object-as-goal

p = predicate

pa = passive

part = participial

poss = possessive

purp = purpose

r = relator

refl = reflexive

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[1] For purposes of clarity only, certain symbols have been represented by upper-case letters in the formulae.

rel = relative

rel-man = relative of manner

s = subject

s_{act} = subject-as-actor

s_{dir} = subject-as-director

s_{g} = subject-as-goal

s_{it} = subject-as-item

$s_{possessor}$ = subject-as-possessor

temp = temporal

t = transitive

voc = vocative

vp = verb-phrase

* = class of tagmemes

** = class of clauses

Minimal Formulae for Swahili Basic Clause Types

Action Clause Types:

Intransitive:

$\pm S_{act}:NP^1$ $+P_i:VP_i$

Transitive:

$\pm S_{act}:NP^1$ $+P_t:VP_t$ $\pm O_g:NP^1$

Directive:

$\pm S_{act}:NP^1$ $+P_{dir}:VP_{dir}$ $\pm O_{da}:NP^2$

Ditransitive:

$\pm S_{act}:NP^1$ $+P_{di}:VP_{di}$ $\pm I:NP^2$ $\pm O_g:NP^1$

Causative:

$\pm S_{\emptyset nit}:NP^1$ $+P_{ca}:VP_{ca}$ $\pm O_{act}:NP^1$ $+G:NP^1$

Non-Action Clause Types:

Equative:

$\pm S_{it}:NP^1$ $+P_{eq}:Cop$ $+Eq:NP^1$

Locative:

$\pm S_{it}:NP^1$ $+P_{loc}:Cop_{loc}$ $\pm Loc:NP_{loc}$

Possessive:

$\pm S_{possessor}:NP^1$ $+P_{poss}:Cop_{poss}$ $+It_{po}:NP_{ac}$

Over-All Formulae for Swahili Derived Clause Classes

Group A:

Passive: $\pm^{*}S_{g}:NP$ $+^{*}P_{pa}:VP_{pa}$ $\pm Ag:NP^{3}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

Sample Individual Clause Formulae:

Passive-Transitive:

$\pm S_{g\text{-}t}:NP^{1}$ $+P_{part}:VP_{pa\text{-}t}$ $\pm Ag:NP^{3}$

Passive-Ditransitive:

$\pm S_{g\text{-}di}:NP^{2}$ $+P_{pa\text{-}di}:VP_{pa\text{-}di}$ $O_{g}:NP^{1}$ $\pm Ag:NP^{3}$

Reflexive: $\pm^{*}S_{refl}:NP$ $+^{*}P_{refl}:VP_{refl}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

Sample Individual Clause Formulae:

Reflexive-Transitive:

$\pm S_{refl\text{-}t}:NP^{2}$ $+P_{refl\text{-}t}:VP_{refl\text{-}t}$ $\pm O_{g}:NP^{1}$

Reflexive-Ditransitive:

$\pm S_{refl\text{-}di}:NP^{2}$ $+P_{refl\text{-}di}:VP_{refl\text{-}di}$ $\pm I:NP^{2}$ $\pm O_{g}:NP^{1}$

Reciprocal: $\pm^{*}S_{rec}:NP$(plural) $+^{*}P_{rec}:VP_{rec}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

or

$\pm^{*}S_{rec}:NP$ $\pm^{*}P_{rec}:VP_{rec}$ $+^{*}S_{rec}:VP_{ac}$ $\pm^{*}$(other nuclear tagmemes of basic clauses)

Sample Individual Clause Formulae:

Reciprocal-Transitive:

$\pm S_{rec\text{-}t}:NP^{1}$(plural) $+P_{rec\text{-}t}:VP_{rec\text{-}t}$

or

$\pm S_{rec\text{-}t}:NP^{1}$ $+P_{rec\text{-}t}:VP_{rec\text{-}t}$ $+S_{rec\text{-}t}:NP_{ac}$

Group B:[1]

Independent

Imperative: $\pm$*S_{voc}:NP $\leftrightarrow$*P_{imp}:VP_{imp} $\pm$*(other nuclear tagmemes of basic clauses)

Hortative: $\pm$*S:NP $\pm$H-m:na $\pm$*P_{desid}:VP_{desid} $\pm$*(other nuclear tagmemes of basic clauses)

Dependent[2]

Consecutive Imperative:

$\pm$*S_{voc}:NP[2] $\leftrightarrow$*$P_{con\text{-}desid}$:$VP_{con\text{-}desid}$ $\pm$*(other nuclear tagmemes of basic clauses)

Consecutive Hortative:

$\pm$*S:NP $\leftrightarrow$*$P_{con\text{-}desid}$:$VP_{con\text{-}desid}$ $\pm$*(other nuclear tagmemes of basic clauses)

Protasis: $\leftrightarrow R_{cond}$:r_{cond} $\leftrightarrow$**Axis:(any basic clause)

or

$\pm R_{cond}$:kama $\pm$*S:NP $\leftrightarrow$*P_{part}:VP_{part} $\pm$*(other nuclear tagmemes of basic clauses)

Hypothetical Protasis:

$\pm R_{cond}$:kama $\pm$*S:NP $\leftrightarrow$*P_{hypo}:VP_{hypo} $\pm$*(other nuclear tagmemes of basic clauses)

Hypothetical Apodosis: $\pm$*S:NP $\leftrightarrow$*P_{hypo}:VP_{hypo} $\pm$*(other nuclear tagmemes of basic clauses)

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[1] From here on, sample individual clause formulae will be omitted.

[2] It should be recalled here that, with the dependent clause classes, distribution may be an identificational-contrastive feature diagnosis of a clause class.

Participial: $\pm$*S:NP +*P_{part}:VP_{part} $\pm$*(other nuclear tagmemes of basic clauses)

Purposes: $\pm R_{purp}$:r_{purp} $\pm$*S:NP +*P_{desid}:VP_{desid} $\pm$*(other nuclear tagmemes of basic clauses)

Desiderative: $\pm$*S:NP +*P_{desid}:VP_{desid} $\pm$*(other nuclear tagmemes of basic clauses)

Relative: +R_{rel}:r_{rel} +**Axis: (Any basic clause)

or

$\pm$*S:NP +*P_{rel}:VP_{rel} $\pm$*(other nuclear tagmemes of basic clauses)

Relative-of-Manners:

$\pm R_{man}$:r_{man} $\pm$*S:NP +*$P_{rel-man}$:$VP_{rel-man}$ $\pm$*(other nuclear tagmemes of basic clauses)

Temporal Relative:

$\pm R_{temp}$:r_{temp} +**Axis:(any basic clause)

or

$\pm$*S:NP +*$P_{rel-temp}$:$VP_{rel-temp}$ $\pm$*(other nuclear tagmemes of basic clauses)

Cause: +R_{cause}:r_{cause} +**Axis: (Any basic clause)

Etic Clause Variants

Desiderative-Transitive:

$\pm S_{act}$:NP^2 $+P_t$:VP_t $+O_{action}$:VP desid

Concessional:

$+R_{conc}$:P_{conc} +**Axis:(any basic clause

or

$\pm$**S:NP +**P_{conc}:VP_{conc} $\pm$(other nuclear tagmemes of basic clauses)

Group Y:

Emphatic Equative:

$\pm S_{(item)}$:NP $+P_{eq\text{-}emph}$:Cop_{emph} Eq:NP

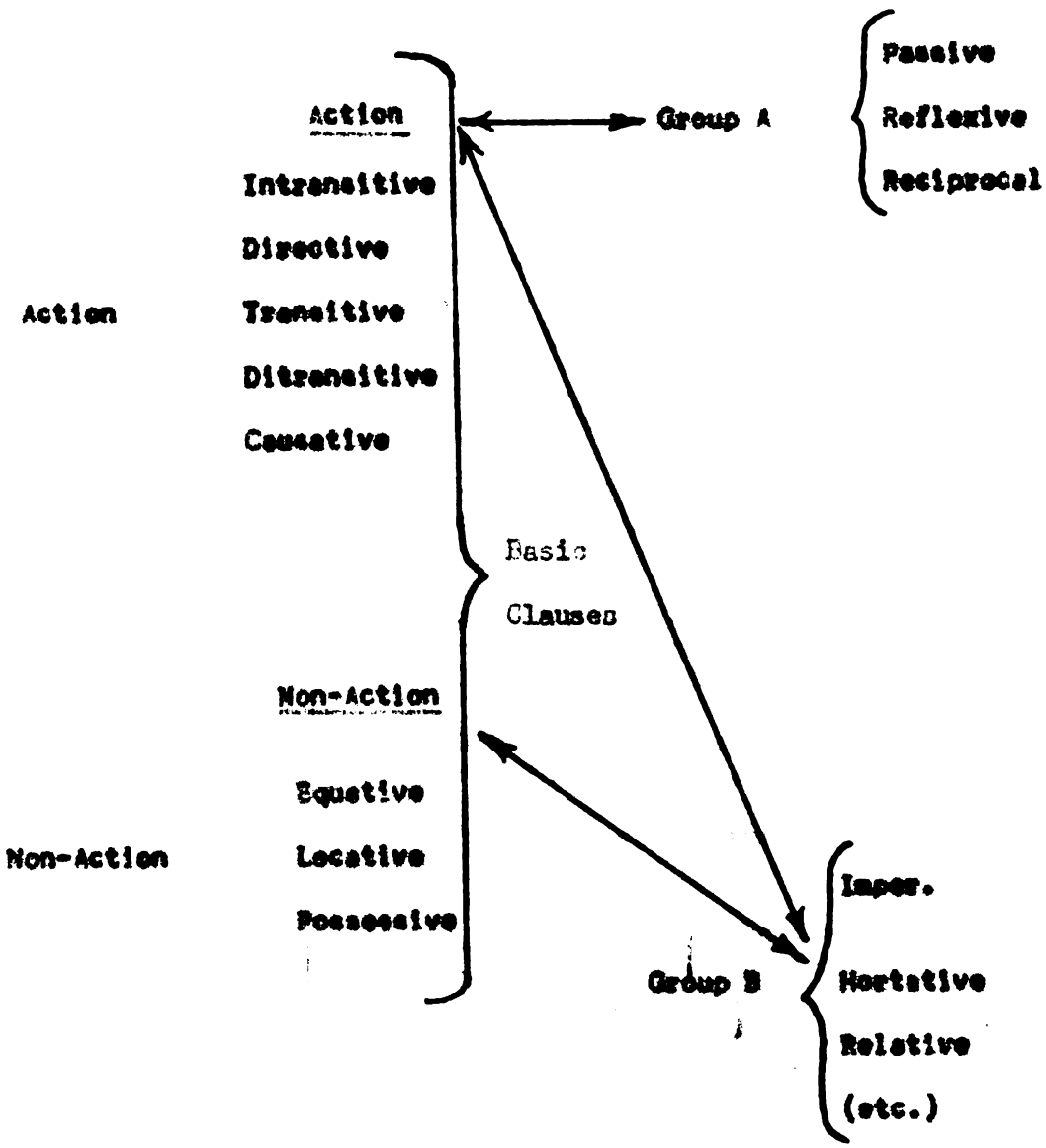
Interrogative-of-Manner:

$\pm$**S:NP +**$P_{i\text{-}m}$:$VP_{i\text{-}m}$ $\pm$(other nuclear tagmemes of basic clauses, or of clauses of Group A, B, or C)

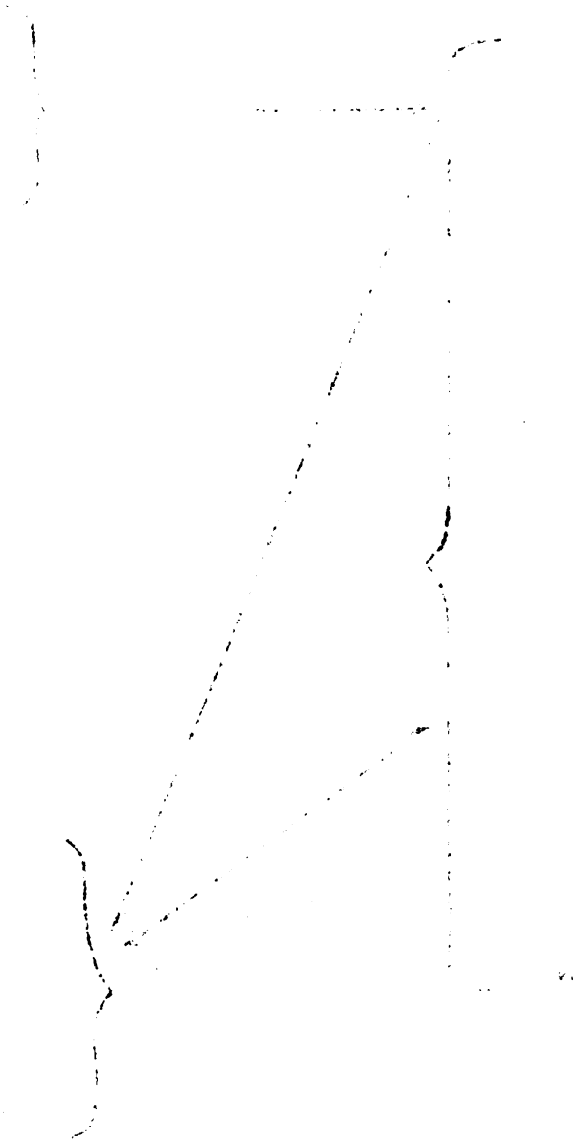
Negative:

$\pm$**S: NP +**P_{neg}:VP_{neg} $\pm$(other nuclear tagmemes of basic clauses, or of clauses of Group A, B, or C)

Clause Derivation in Susbili[1]



[1]The arrows connecting the groups indicate the possible feature-clause multiplication possibilities. Though derivation of Group C clauses is possible by multiplication of basic clauses by both a Group A and a Group B feature, such derivation does not lend itself to presentation on a chart; Group C clauses are, accordingly, not shown.



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