

SWAHILI WORD ORDER CHOICES: INSIGHTS FROM INFORMATION  
STRUCTURE

by

MOHAMED YUSUF MWAMZANDI

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Abstract

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Mohamed Yusuf Mwamzandi, PhD

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Supervising Professor: Laurel Smith Stvan

Cross-linguistic pragmatic studies have shown non-canonical word order can often be explained if information structure is taken into consideration. This dissertation explores word order variation in Swahili (SVO, Bantu) adnominal demonstratives and reciprocal constructions under the auspices of information structure. I investigate how the notion of topic may explain word order variation in these two structures.

The term ‘adnominal demonstrative’ refers to demonstratives that co-occur with nouns such as *huyu mtu* ‘this person’ as distinguished from pronominal demonstratives such as *huyu* ‘this’. The issue to be determined is what influences the demonstrative use in pre or postnominal position. The data consists of Class 1 (animate nouns) adnominal demonstratives from the Helsinki Corpus of Swahili. Contextual and statistical analyses indicate that the NP+DEM order is used for active topics (continued from previous sentence) while the DEM+NP order reactivates semiactive/inactive topics.

The second area explored was that of Swahili Discontinuous Reciprocal (DR) vs. the Simple Reciprocal (SR). While some studies explain the DR and SR as derivatives of

the same underlying form, or the DR and SR as distinct structures in the grammar, or the DR as a syntactic strategy to resolve unbalanced coordination, I argue that the variation is motivated by the principle of givenness which requires familiar information to precede new information in a sentence. Corpus examples from conversation and “marry” verbs were analyzed to investigate the effect of givenness and verb category on reciprocal variation. In addition, native speaker judgments on grammatical constructions were elicited using questionnaires administered via the DMDX software. The corpus and acceptability rating results indicated that givenness is the main predictor of Swahili reciprocal variation.

This research will benefit those studying pragmatics, deictics, reciprocals and syntax. Further, the study will help Swahili second language learners and instructors to understand the different pragmatic value of the Swahili reciprocal and adnominal demonstrative variants.

## Table of Contents

Acknowledgements .....	v
Abstract .....	vi
List of Figures .....	xiii
List of Tables .....	vi
List of Tags and Abbreviations .....	viii
Chapter 1 Introduction .....	1
1.1 Overview .....	1
1.2 The Swahili Language .....	5
1.3 Swahili Morphosyntax .....	7
1.3.1 Nouns and the Noun Class System .....	7
1.3.2 Noun Modifiers .....	10
1.3.3 The Swahili Main Verb .....	17
1.3.4 The Auxiliary – kuwa .....	18
1.3.5 Word Order .....	19
1.4 Research Questions .....	21
1.5 Methodology .....	21
1.5.1 Corpus .....	22
1.5.2 Grammaticality Judgments .....	22

1.5.3 Qualitative and Quantitative Analysis .....	23
1.6 Justification of the Study .....	23
Chapter 2 Theoretical Perspective .....	27
2.1 Information Structure and Word Order.....	27
2.2 Referential Givenness .....	33
2.2.1 Chafe’s (1987) Activation States .....	33
2.2.2 Prince’s (1981, 1992) Familiarity Model.....	36
2.2.3 The Accessibility Hierarchy .....	39
2.2.4 The Givenness Hierarchy.....	41
2.3 Relational Givenness .....	46
2.3.1 Theme-Rheme.....	47
2.3.2 Topic-Comment .....	48
2.3.3 Focus-Presupposition.....	51
2.4 Centering Theory .....	53
2.5 Summary .....	57
Chapter 3 The pragmatics of Swahili Demonstrative Position.....	59
3.1 Introduction.....	59
3.2 Scope of this Study .....	62
3.3 Demonstrative Function.....	65

3.3.1 Gestural .....	66
3.3.2 Anaphoric.....	68
3.3.3 Recognitional .....	76
3.4 Adnominal Demonstrative Position.....	79
3.5 Methodology.....	81
3.5.1 The Corpus.....	82
3.5.2 Manual Postediting .....	86
3.6 Coding the Data .....	88
3.6.1 Demonstrative Function.....	89
3.6.2 Referential Distance.....	96
3.6.3 Activation States .....	99
3.7 Results and Discussion .....	105
3.7.1 Demonstrative Function.....	105
3.7.2 Demonstrative Function and Position.....	106
3.7.3 Activation States .....	123
3.8 Summary and Conclusions .....	128
Chapter 4 Swahili Reciprocal Constructions .....	130
4.1 Introduction.....	130
4.2 Swahili Reciprocal Constructions.....	133

4.2.1 Reciprocal Marking .....	134
4.2.2 Reciprocal Situation.....	136
4.2.3 Reciprocal Variation .....	137
4.3 Cross-linguistic Studies on Reciprocal Variation.....	138
4.3.1 Semantics .....	139
4.3.2 Unbalanced Coordination .....	148
4.3.3 Syntactic Account .....	152
4.4 Methodology .....	160
4.4.1 The Verbs.....	161
4.4.2 The Corpus Analysis.....	166
4.4.3 The Acceptability Ratings.....	181
4.5 Discussion of the Corpus Analysis and Acceptability Ratings Results .....	188
4.6 Summary and Conclusions .....	194
Chapter 5 Conclusion.....	196
5.1 Summary of Findings.....	196
5.2 Theoretical Implications .....	202
Appendix A Acceptability Ratings Items .....	207
Appendix B A DMDX Screenshot with a Questionnaire Item.....	211
References.....	213

Biographical Information..... 224

## List of Figures

Figure 1: Map of the East African coast showing Swahili settlements .....	6
Figure 2: Caption of a concordance list .....	83
Figure 3: Wider context for the concordance line 1 in Figure 2 .....	83
Figure 4: Initial frequencies of pre and postnominal demonstratives .....	85
Figure 5: Frequency of adnominal demonstrative function .....	105
Figure 6: Pre and postnominal position of gestural demonstratives .....	107
Figure 7: Pre and postnominal position in anaphoric demonstratives .....	112
Figure 8: Pre and postnominal position in recognitional demonstratives .....	121
Figure 9: Vitale's (1981) reciprocal derivation .....	155
Figure 10: Screenshot of the coded corpus reciprocal data .....	172
Figure 11: Frequencies of discontinuous and simple reciprocals based on verb semantics .....	173
Figure 12: Frequencies of discontinuous and simple reciprocals based on givenness ...	175
Figure 13: Reciprocal variation based on verb semantics for 'equal' cases .....	176
Figure 14: Reciprocal variation when preferred center is the two reciprocal participants or a non-participant in equal cases .....	177
Figure 15: Reciprocal variation when the preferred center is one of the reciprocal participants in equal cases.....	179

## List of Tables

Table 1: Swahili noun classes .....	7
Table 2: Noun adjective concord .....	11
Table 3: The pronominal possessors.....	13
Table 4: Personal pronouns and the pronominal possessor .....	14
Table 5: Swahili proximal and distal demonstratives .....	15
Table 6: Referential demonstratives .....	15
Table 7: Hearer-discourse based givenness .....	37
Table 8: The Accessibility Hierarchy .....	39
Table 9: The Givenness Hierarchy .....	42
Table 10: Proximal and distal demonstrative forms of the first six noun classes.....	59
Table 11: Adnominal demonstratives before and after postediting .....	88
Table 12: Demonstrative position.....	106
Table 13: Mean referential distance and standard deviation of raw data .....	114
Table 14: Mean referential distance and standard deviation of log-transformed data....	114
Table 15: Semiactive gestural demonstrative .....	124
Table 16: Active anaphoric demonstratives.....	125
Table 17: Semiactive anaphoric demonstratives.....	125
Table 18: Descriptive statistics of anaphoric demonstratives (raw data) .....	126
Table 19: Descriptive statistics of anaphoric demonstratives (log-transformed data)....	126
Table 20: Inactive recognitional demonstratives .....	127
Table 21: Predicate verbs of reciprocal constructions used in the analysis .....	168

Table 22: Results of the 'unequal' cases.....	186
Table 23: Mean acceptability ratings of response types .....	187
Table 24: Results of the 'equal' cases.....	188

## List of Tags and Abbreviations

AGR	agreement
APPL	applicative
AUX	auxiliary
CAUS	causative
COMP	complementizer
CONJ	conjunction
D.DEM	distal demonstrative
DIM	diminutive
FUT	future
FV	final vowel
IMPFTV	imperfective
IMPTV	imperative
INFTV	infinitive
LOC	locative
NEG	negation
Numerals such as 1	noun class, person
OM	object marker
P.DEM	proximal demonstrative
PASS	passive
PERF	perfect tense
PL	plural

POSS	possessive
PREP	preposition
PROG	progressive
PRT	past tense
PST	present tense
PSV	passive
Q	question particle
R.DEM	referential demonstrative
REC	reciprocal
REFL	reflexive
REL	relative marker
SEQ	sequential
SG	singular
SM	subject marker
STV	stative
SUBTV	subjunctive

## Chapter 1

### Introduction

#### 1.1 Overview

Several factors have been associated with word order variation in diverse linguistic fields such as syntax, syntax-phonology interface, generative metrical theory and pragmatics. In pragmatics, cross-linguistic studies have shown that the felicity of sentences with non-canonical word order can often be explained if information structure is taken into consideration. Examples of studies which show the relationship between word order and information structure include subject inversion in Bantu languages (Bresnan & Mchombo 1987; Demuth 1990; Bresnan 1994; Demuth & Harford 1999; Marten 2007, 2011; Buell et al. 2011; Yoneda 2011); postposing, preposing, and dislocations in English (Birner & Ward 2009; Bresnan 1994; Givon 1983, 1984), preposing of prepositional phrases in Farsi (Birner & Mahootian 1996), and postverbal subject constructions in Italian (Fesenmeier 2009; Suzuki 2009). In this dissertation, I explore the role of information structure on word order in Swahili, as informed by a corpus-based analysis. In particular, I investigate how the notion of topic may explain word order variation in adnominal demonstratives<sup>1</sup> phrases and reciprocal constructions. Though these constructions display variation that warrants an explanation, they have received little attention in information structure studies. Moreover, African languages in general, and Swahili in particular, are under-represented in the study of information structure (cf. Aboh et al. 2007).

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<sup>1</sup> The term ‘adnominal demonstrative’ is used to distinguish pronominal demonstratives such as *huyu* ‘this’ from demonstratives that co-occur with nouns such as *huyu mtu* ‘this person’.

Swahili has various forms of proximal and distal demonstratives that obligatorily agree with the noun class of the referent they modify. There are eighteen noun classes in Swahili. In this study, due to the “importance” hence “persistence in subsequent discourse” of animates (Givon 1983), I examine class1 (animate nouns) proximal (*huyu*) and distal (*yule*) adnominal demonstratives. There are two attested word orders for adnominal demonstrative constructions in Swahili: NP + DEM (1) and DEM + NP (2). In the examples the adnominal demonstrative expression is bracketed.

- (1) [Msichana      yule]              a-li-ingia  
*Igirl              ID.DEM              ISM-PT-enter*  
 ‘That girl entered.’
- (2) [Yule              msichana]              a-li-ingia  
*ID.DEM              Igirl              ISM-PT-enter*  
 ‘That girl entered’

In (1), which is truth conditionally equivalent to (2) because demonstratives are generally intended to make salient what the speaker intends to refer to at the time of utterance (Recanati 2006), the distal demonstrative *yule* is postnominal (1), but prenominal in (2). I posit that the NP + DEM word order in (1) signals that the NP is “situationally” or “textually” given (Prince 1981, 1992). Specifically, the postnominal demonstrative deictically points to a referent within the conversational context or discourse text. On the other hand, the DEM + NP word order in (2) is used to (re)activate a cognitive or visual referent. A discourse entity is introduced in discourse in its first mention. Thereafter the discourse entity becomes becomes active. Later in the discourse, the discourse entity may become semiactive or inactive due to topic shift and/or time shift (Chafe 1987). It is in

this semiactive/inactive state that the pronominal demonstrative is used to reintroduce the discourse entity in the discourse.

Another instance where word order variation rests on information structure is in Swahili reciprocal constructions. In Swahili, participants of reciprocal verbs are either expressed via the discontinuous reciprocal construction (DR), or the simple reciprocal construction (SR). In DR one participant occurs in subject position while the other participant occurs in a postverbal PP position (3). In SR, the participants occur as a conjoined subject NP (4).

(3) [NP<sub>1</sub> Juma] [v a-na-pend-an-a] [PP[na] [NP<sub>2</sub>Halima]]  
*I-Juma ISM-PRT-love-REC-FV with I-Halima*  
 “Juma and Halima love each other.”

(4) [NP[NP<sub>1</sub> Juma] [na] [NP<sub>2</sub>Halima]] [v wa-na-pend-an-a]  
*2 (Juma and Halima) 2SM-PRT-love-REC-FV*  
 “Juma and Halima love each other.” (Vitale 1981: 145)

Though the two reciprocal constructions above have distinct syntactic structures, they have the same truth conditions. The PP argument within which NP<sub>2</sub>, *Halima*, is contained in (3) is an oblique argument, while both participants in (4) are part of the conjoined NP argument. Some studies have discussed the DR as a corresponding syntactic derivative of the SR (Vitale 1981); or the DR as a syntactic strategy to resolve an agreement clash in “unbalanced coordination”<sup>2</sup> (Mchombo & Ngalande 1980; Mchombo 1993; Mchombo & Ngunga 1994); or the DR and SR as two syntactic structures that are semantically distinct and underivable from each other (Maslova 2000; Dimitriadis & Seidl 2002). Instead, I

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<sup>2</sup> The term “unbalanced coordination” (Jennessen 1996) here refers to coordinate structures whose conjuncts belong to distinct noun classes, for example, *mtu na kiti* ‘person’ (class 1) and ‘chair’ (class 8).

argue that the two variants of the reciprocal constructions are pragmatically motivated. More particularly, the choice of either the DR or SR is motivated by the principle of ‘givenness’ which calls for the organization of information in a way that more familiar information comes first in a sentence, that is, before new information. I show that the linear order of participants in Swahili reciprocal constructions can be best explained by looking at the givenness status of participants (cf. Prince 1981, 1992; Gundel et al. 1993; Ariel 1988, 1991, 2001). Thus, the discontinuous reciprocal in (3) is used if the NP *Juma* is more given than *Halima* in the ‘discourse model’<sup>3</sup>. On the other hand, the simple reciprocal construction in (4) is used in the event that *Juma* and *Halima* have equal givenness status.

Gundel and Fretheim (2006) discuss two types of givenness status in discourse. These are referential givenness and relational givenness. Referential givenness makes reference to givenness status of referents independent of linguistic structures. Thus an element X is given because it is familiar to the speaker or has been mentioned in prior discourse. Based on referential givenness of individual linguistic expressions, relational givenness divides utterances into two parts. One part, the given information referred to as topic/presupposition/theme, occurs in sentence initial position, while the second part, the new information referred to as comment/focus/rheme, represents what is predicated of the topic (Halliday 1967; Chafe 1976, 1987; Givon 1976, 1983, 1984; Prince 1981, 1992; Gundel & Fretheim 2006). In this dissertation, referential givenness is used to explain the word order variation of the adnominal demonstrative constructions, as seen in (1) and (2),

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<sup>3</sup> The term ‘discourse model’ here refers to text, written or spoken, with discourse referents that may be linked via referring expressions (Prince 1981: 235).

while relational givenness is used to explain the Swahili discontinuous reciprocal and simple reciprocal variants as seen in (3) and (4).

The rest of this chapter is organized as follows. Section 1.2 gives a brief account of the Swahili language. Section 1.3 outlines Swahili morphosyntax. I list the research questions in section 1.4. Section 1.5 briefly discusses the methodology. I explain the justification of the study in Section 1.6.

## 1.2 The Swahili Language

Swahili is an SVO language belonging to the Bantu branch of the Niger-Congo languages. Swahili is the national language of Kenya and Tanzania and is also the Lingua Franca in these two countries and other countries in the East African region which include Uganda, the Democratic Republic of Congo, Rwanda, Burundi, Malawi, Comoros, Zambia, Malawi and Mozambique. In addition to Swahili, the people in these countries also speak their own indigenous languages.

Swahili native speakers mainly inhabit the islands of the East Coast of Africa which include Lamu, Mvita (Mombasa), Pemba, and Unguja (Zanzibar) (See map in Figure 1). The variety spoken in each of these islands is named after the island with a class morpheme prefix *ki-* to derive names, such as Kilamu and Kimvita. However, all Swahili speakers have competence in the Kiunguja variety which is the standard variety and the official language in Kenya and Tanzania. The data used for this study is drawn from the Helsinki Corpus of Swahili which contains edited material in standard Swahili; although I suggest that it has applications to the rest of the varieties as well.

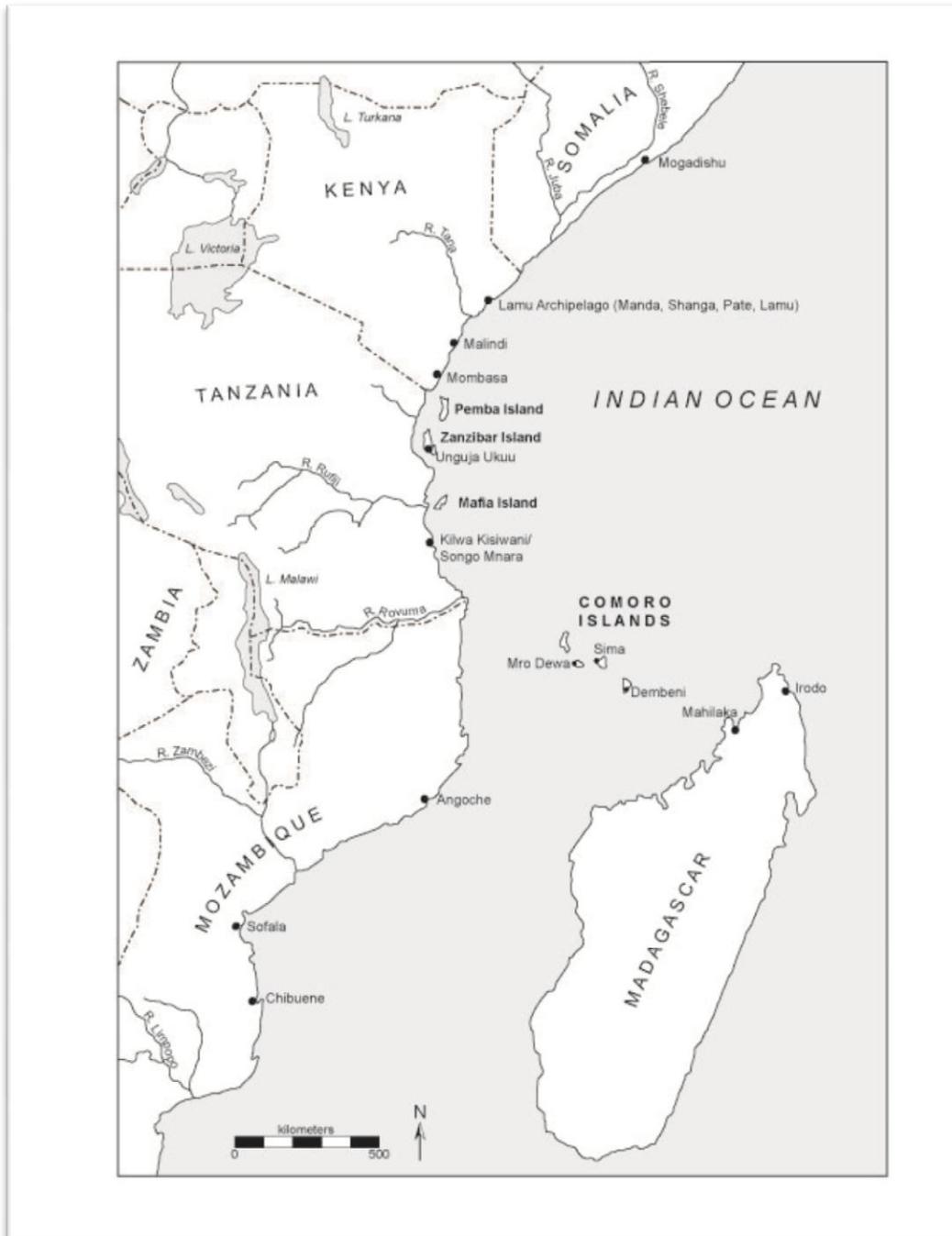


Figure 1: Map of the East African coast showing Swahili settlements (<http://www.songomnara.rice.edu/songo.htm>)

### 1.3 Swahili Morphosyntax

A discussion of the Swahili nouns and the noun class system common to Bantu languages is necessary for the understanding of the examples and arguments raised in this dissertation on the role of information structure on word order. In this section, I focus on the following aspects. In section 1.3.1 I discuss nouns. In section 1.3.2 I discuss noun modifiers including descriptive adjectives (1.3.2.1), possessives (1.3.2.2) and demonstratives (1.3.2.3). I then explain how verbs (section 1.3.3) and an auxiliary *kuwa* (section 1.3.4) disambiguate tense, number and person of the nouns they predicate. In section 1.3.5 I discuss word order.

#### 1.3.1 Nouns and the Noun Class System

In Swahili nouns are categorized into singular and plural class morphemes attached to the root of the noun in question. Understanding the noun class system is important because other word categories such as verbs and adjectives obligatorily agree with the noun class that functions as the head of a noun phrase or argument of a predicate word. Table 1 lists Swahili noun classes and their respective semantic categories that may help in the understanding of the Swahili nominal class system (Ashton 1944; Mbaabu 1985).

Table 1: Swahili noun classes

Noun class no.	Semantic category	Noun class prefix	Examples
1	animate (singular)	<i>m-</i>	<i>m-toto</i> ‘child’
2	animate (plural)	<i>wa-</i>	<i>wa-toto</i> ‘children’
3	trees/plants, some body parts, nouns derived from verbs	<i>m-</i>	<i>m-ti</i> ‘tree’ <i>m-kono</i> ‘hand’, <i>m-chezo</i> ‘sport’

Table 1–Continued

4	Plural form of class 3	mi-	<i>mi-ti</i> ‘trees’ <i>mi-kono</i> ‘hands’ <i>mi-chezo</i> ‘sports’
5	some parts of the body, parts of a tree, some field tools, plant products, augmentative forms, plural forms of some abstract nouns (class 14)	Ø, but <i>ji-</i> in monosyllabic roots	<i>ji-no</i> ‘tooth’ Ø- <i>tawi</i> ‘branch’, Ø- <i>jembe</i> ‘hoe’ Ø- <i>chungwa</i> ‘orange’ <i>ji-toto</i> ‘big child’ <i>ma-chovu</i> ‘tiredness’
6	Plural form of class 5	<i>ma-</i>	<i>ma-tawi</i> ‘leaves’ <i>me-no</i> ‘teeth’ <i>ma-jembe</i> ‘hoes’ <i>ma-toto</i> ‘big children’
7	inanimates thought of as ‘things’, diminutive forms	<i>ki-</i> but <i>ch-</i> before a vowel	<i>ki-ti</i> ‘chair’ <i>ch-umba</i> ‘room’ <i>ki-toto</i> ‘small child’
8	Plural form of class 7	<i>vi-</i> but <i>vy-</i> before a vowel	<i>vi-ti</i> ‘chairs’ <i>vy-umba</i> ‘rooms’ <i>vi-toto</i> ‘small children’
9	inanimate nouns with nasals as initial segment	<i>n</i>	<i>nyumba</i> ‘house’ <i>mvua</i> ‘rain’, <i>ndizi</i> ‘banana’ <i>ngoma</i> ‘drum’
10	Plural forms of class 9, plural forms class 11	<i>n</i>	<i>nyumba</i> ‘houses’ <i>nywele</i> ‘hair’
11	some ‘mass’ nouns or their constituents if separable, some cooked foods, instrumental nouns,	<i>u-</i>	<i>udongo</i> ‘clay’ <i>unywele</i> ‘one hair’, <i>uji</i> ‘porridge’ <i>ufunguo</i> ‘key’
14	Abstract nouns	<i>u-</i>	<i>u-chovu</i> ‘tiredness’
15	Nominalized verbs	<i>ku-</i>	<i>ku-cheza</i> ‘playing’
16	specific place	<i>pa-</i>	<i>pa-hali</i>
17	Unspecified place	<i>ku-</i>	<i>kw-ahali</i>
18	inside	<i>mu-</i>	<i>mw-ahali</i>

Several works have discussed the traditional classification as shown in Table 1 but a few clarifications are worth mentioning. Table 1 does not list class 12 and 13 which are unattested in Swahili. This listing has however been maintained in Swahili studies to adhere to Meinhof's reconstruction of proto-Bantu noun classes. In Table 1, I assume that class 5 has a null class prefix and that *ji-* is an expletive attached to the stem to avoid a violation of a minimum bisyllabic word condition in Swahili (Carstens 1991). I also assume that class 9 and 10 nouns have a distinct but homophonous class prefix *n-* which gets deleted on the head noun due to phonological reasons (Mbaabu 1985). Further, due to the homophonous nature of the class prefix for class 11 and 14 nouns as well as their similarity in their agreement morphology with modifiers, complements and predicates, it has been suggested these two classes be treated as one in Swahili (Wesana 2003; Carstens 1991). This merge is however not without problems since abstract nouns (class 14) such as *u-chovu* 'tiredness' and *u-gonjwa* 'disease' have class 6 prefix in their plural forms *ma-chovu* 'tiredness' / *ma-gonjwa* 'diseases'. In this dissertation, I maintain the traditional noun classification and refer the reader to the cited works for a further discussion on Swahili noun classification and suggestions for reclassification.

It should be noted that the semantics of the noun classes presents a rough idea but not absolute grouping of the nouns within each nominal class. A good example here is the names of animates with disabilities which have class 8 prefix *ki-* such as *ki-ziwi* 'deaf', *ki-pofu* 'blind', *ki-wete* 'cripple' but are categorized as class 1 whose prefix is *m-*. Further, while names of animals such as *ng'ombe* 'cow(s)', *twiga* 'giraffe(s)', *simba* 'lion(s)' are generally regarded as class 1 nouns, their form is the same in both singular

and plural. There are also some nouns which may belong to different classes in their singular forms but the same class in their plural forms. For example, some nouns in class 11 with the class prefix *u-* are grouped under class 10 in their plural forms, not because of their semantics, but rather for the common agreement affixation on predicates. This is illustrated by the singular examples of class 9 and 11 in (5) and their plural examples in (6).

- (5) a. *ndizi*        *i-me-kat-w-a*  
*9banana*    *9SM-PERF-cut-PASS-FV*  
‘A banana has been cut (into pieces).’
- b. *Unyoya*    *u-me-kat-w-a*  
*11feather*   *11SM- PERF-cut-PASS-FV*  
‘A feather has been cut.’
- (6) a. *Ndizi*        *zi-me-kat-w-a*  
*10bananas*   *10SM-PERF-cut-PASS-FV*  
‘Bananas have been cut.’
- b. *Nyoya*        *zi-me-kat-w-a*  
*10feathers*   *10SM-PERF-cut-PASS-FV*  
‘Feathers have been cut.’

In (5) the subject agreement marker for *ndizi* ‘banana’ is that of class 9 while in (5) the subject agreement marker for *unyoya* ‘feather’ is that of class 11. However, the two nouns belonging to distinct noun classes in their singular forms (5), are in their plural forms (6) regarded as nouns of the same class because the agreement marker for both *ndizi* ‘bananas’ and *nyoya* ‘feathers’ is that of class 10.

### 1.3.2 Noun Modifiers

In Swahili, demonstratives being an exception, nouns generally precede their modifiers and complements (Carstens 1991, Rugemalira 2007). In this section, I present a

brief account of descriptive adjectives (section 1.3.2.1), possession (section 1.3.2.2), and demonstratives (section 1.3.2.3).

### 1.3.2.1 Descriptive Adjectives

Most descriptive adjectives in Swahili are formed by attaching a class prefix which agrees in class with the noun being modified to the root of the adjective in question. Examples of these adjectives include *-zuri* ‘good’, *-refu* ‘long’, *fupi* ‘short’, *kubwa* ‘big’, *-dogo* ‘small’ and *-erevu*. In this dissertation, I assume that number agreement is taken care of by the traditional classification which lists singular and plural forms as distinct classes. Thus, the noun *m-toto* ‘child’ is considered as class 1 but its plural form *wa-toto* is considered class 2. Table 2 lists examples of a noun in each class and the corresponding adjective *-zuri* ‘good’:

Table 2: Noun adjective concord

Noun Class	Noun + Adj	Gloss
1	<i>m-toto m-zuri</i>	good child
2	<i>wa-toto wa-zuri</i>	good children
3	<i>m-ti m-zuri</i>	good tree
4	<i>mi-ti mi-zuri</i>	good trees
5	<i>tunda Ø-zuri/ ji-we Ø-zuri</i>	good fruit/ good stone
6	<i>ma-we ma-zuri</i>	good stones
7	<i>ki-su ki-zuri</i>	good knife
8	<i>vi-su vi-zuri</i>	good knives
9	<i>nyumba n-zuri</i>	good house
10	<i>nyumba n-zuri</i> <i>kuta n-zuri</i>	good houses good walls
11	<i>u-kuta m-zuri</i>	good wall
14	<i>u-levi m-zuri</i>	good drinking
15	<i>ku-cheza ku-zuri</i>	good playing
16	<i>pa-hali pa-zuri</i>	good place (specific)
17	<i>kwa-hali ku-zuri</i>	good place (unspecified)
18	<i>ma-hali mu-zuri</i>	good place (inside)

In Table 2, class 5 adjectives take a null agreement prefix since it is assumed in this dissertation that the class 5 noun prefix is null. Class 5 *ji-* prefix is exclusively attached as an expletive in nouns with a monosyllabic stem. Further, the class prefix *n-* for the head nouns of the examples for class 9 and 10 is deleted due to phonological reasons. Evidence of its characterization as *n-* is provided by the agreement morphology on modifiers such as *n-zuri* ‘good’. However, in some modifiers such as *kubwa* ‘big’ and *fupi* ‘short’, the agreement morpheme *n-* also deletes as illustrated in (7):

- (7) *nyumba*      (\**n*)-*kubwa*  
       *9/10house*    *big*  
       ‘big house’

A few adjectives borrowed from other languages, mainly Arabic, such as *ghali* ‘expensive’, and *baridi* ‘cold’ occur without the class prefix. This is illustrated in (8) and (9).

- (8) *mti*      (\**m*)-*ghali*  
       *3tree*    *expensive*  
       ‘expensive tree’

- (9) *miti*      (\**mi*)-*ghali*  
       *4trees*    *expensive*  
       ‘expensive trees’

Realization of the class agreement prefix in (8) and (9) renders the structures ungrammatical.

### 1.3.2.2 Possession

In Swahili, the possessum, which is realized as a full NP, generally precedes the possessor while the possessor is expressed as a pronoun. The form of the pronominal

possessor (also called possessor adjectives) varies due to the agreement morphology requirements of the possessum, and number and person of the possessor. Table 3 shows examples of nouns representing the possessum and their respective pronominal possessors.

Table 3: The pronominal possessors

Possessum	1 <sup>st</sup> person		2 <sup>nd</sup> person		3 <sup>rd</sup> person	
	SG	PL	SG	PL	SG	PL
1 <i>m-toto</i> ‘child’	<i>w-angu</i>	<i>w-etu</i>	<i>w-ako</i>	<i>w-enu</i>	<i>w-ake</i>	<i>w-ao</i>
2 <i>wa-toto</i> , ‘children’	<i>w-angu</i>	<i>w-etu</i>	<i>w-ako</i>	<i>w-enu</i>	<i>w-ake</i>	<i>w-ao</i>
3 <i>mti</i> ‘tree’	<i>w-angu</i>	<i>w-etu</i>	<i>w-ako</i>	<i>w-enu</i>	<i>w-ake</i>	<i>w-ao</i>
4 <i>miti</i> ‘trees’	<i>y-angu</i>	<i>y-etu</i>	<i>y-ako</i>	<i>y-enu</i>	<i>y-ake</i>	<i>y-ao</i>
5 <i>jiwe</i> ‘stone’	<i>l-angu</i>	<i>l-etu</i>	<i>l-ako</i>	<i>l-enu</i>	<i>l-ake</i>	<i>l-ao</i>
6 <i>mawe</i> ‘stones’	<i>y-angu</i>	<i>y-etu</i>	<i>y-ako</i>	<i>y-enu</i>	<i>y-ake</i>	<i>y-ao</i>
7 <i>kisu</i> ‘knife’	<i>ch-angu</i>	<i>ch-etu</i>	<i>ch-ako</i>	<i>ch-enu</i>	<i>ch-ake</i>	<i>ch-ao</i>
8 <i>visu</i> ‘knives’	<i>vy-angu</i>	<i>vy-etu</i>	<i>vy-ako</i>	<i>vy-enu</i>	<i>vy-ake</i>	<i>vy-ao</i>
9 <i>nyumba</i> ‘house’	<i>y-angu</i>	<i>y-etu</i>	<i>y-ako</i>	<i>y-enu</i>	<i>y-ake</i>	<i>y-ao</i>
10 <i>nyumba</i> ‘houses’ <i>kuta</i> ‘walls’	<i>z-angu</i>	<i>z-etu</i>	<i>z-ako</i>	<i>z-enu</i>	<i>z-ake</i>	<i>z-ao</i>
11 <i>ukuta</i> ‘wall’	<i>w-angu</i>	<i>w-etu</i>	<i>w-ako</i>	<i>w-enu</i>	<i>w-ake</i>	<i>w-ao</i>
14 <i>uvivu</i> ‘lazyness’	<i>w-angu</i>	<i>w-etu</i>	<i>w-ako</i>	<i>w-enu</i>	<i>w-ake</i>	<i>w-ao</i>
15 <i>kucheza</i> ‘playing’	<i>kw-angu</i>	<i>kw-etu</i>	<i>kw-ako</i>	<i>kw-enu</i>	<i>k-wake</i>	<i>kw-ao</i>
16 <i>pahali</i> ‘place’	<i>p-angu</i>	<i>p-etu</i>	<i>p-ako</i>	<i>p-enu</i>	<i>p-ake</i>	<i>p-ao</i>
17 <i>kwahali</i> ‘non-specific place’	<i>kw-angu</i>	<i>kw-etu</i>	<i>kw-ako</i>	<i>kw-enu</i>	<i>kw-ake</i>	<i>kw-ao</i>
18 <i>mahali</i> ‘inside’	<i>mw-angu</i>	<i>mw-etu</i>	<i>mw-ako</i>	<i>mw-enu</i>	<i>mw-ake</i>	<i>Mw-ao</i>

The possession paradigm illustrated in Table 3 is used when the possessor is animate. Notice that each column has a recurring stem in the possessor paradigm. Each of the possessor pronominal stems corresponds to the personal pronouns as seen in Table 4.

Table 4: Personal pronouns and the pronominal possessor

Person and Number	Possessor Stem	Personal Pronoun
1, SG	<i>-angu</i>	<i>mimi</i>
1, PL	<i>-etu</i>	<i>sisi</i>
2, SG	<i>-ako</i>	<i>wewe</i>
2, PL	<i>-enu</i>	<i>nyinyi</i>
3,SG	<i>-ake</i>	<i>yeye</i>
3, PL	<i>-ao</i>	<i>wao</i>

In yet another another strategy of expressing possession, the possessum is realized as a full NP preceded by a “nominal copula predicate” (Amidu 2006) also referred to as “*-a* of association” (Ashton 1944). Examples of this type of possessum-possessor expressions are illustrated in (10) and (11).

(10) kikombe      ch-a              mwalimu  
       7cup            7AGR-a          1teacher  
       ‘teacher’s cup’.

(11) tagaa            y-a              mti  
       5branch        5AGR-a        3tree  
       ‘Lit: a branch belonging to a tree’

In both (10) and (11) the *-a* of association has a subject agreement prefix corresponding to class 7 and class 5 respectively.

### 1.3.2.3 Demonstratives

There are mainly two forms of demonstratives in Swahili corresponding to the physical distance between the addresser and the relevant referent: the proximal and distal demonstratives. The proximal demonstrative in Swahili have been analyzed as having a root *hV* (V is a vowel that varies because of phonological reasons) and a class agreement

suffix, while the distal demonstrative has a root *-le* and a class agreement prefix. Table 5 lists the forms of Swahili demonstratives:

Table 5: Swahili proximal and distal demonstratives

Noun Class	Proximal Dem	Distal Dem
1	<i>hu-yu</i>	<i>yu-le</i>
2	<i>ha-wa</i>	<i>wa-le</i>
3	<i>hu-u</i>	<i>u-le</i>
4	<i>hi-i</i>	<i>i-le</i>
5	<i>hi-li</i>	<i>li-le</i>
6	<i>ha-ya</i>	<i>ya-le</i>
7	<i>hi-ki</i>	<i>ki-le</i>
8	<i>hi-vi</i>	<i>vi-le</i>
9	<i>hi-i</i>	<i>i-le</i>
10	<i>hi-zi</i>	<i>zi-le</i>
11	<i>hu-u</i>	<i>u-le</i>
14	<i>hu-u</i>	<i>u-le</i>
15	<i>hu-ku</i>	<i>ku-le</i>
16	<i>ha-pa</i>	<i>pa-le</i>
17	<i>hu-ku</i>	<i>ku-le</i>
18	<i>hu-mu</i>	<i>mu-le</i>

The set of proximal and distal demonstratives listed in Table 5 are the typical demonstrative expressions in Swahili. There is yet another type of demonstrative which is formed by suffixing the “*o* of reference”, also used as a relative marker, to the proximal demonstrative (Ashton 1944). Table 6 lists the form of demonstratives of reference in class 1 through 18.

Table 6: Referential demonstratives

Noun class	Proximal dem. + ‘ <i>o</i> ’ of reference	Demonstrative of reference
1	<i>huyu + o</i>	<i>huyo</i>
2	<i>hawa + o</i>	<i>hao</i>
3	<i>huu + o</i>	<i>huo</i>
4	<i>hii + o</i>	<i>hiyo</i>

Table 6–Continued

5	<i>hili + o</i>	<i>hilo</i>
6	<i>haya + o</i>	<i>hayo</i>
7	<i>hiki + o</i>	<i>hicho</i>
8	<i>hivi + o</i>	<i>hivyo</i>
9	<i>hii + o</i>	<i>hiyo</i>
10	<i>hizi + o</i>	<i>hizo</i>
11	<i>huu + o</i>	<i>huo</i>
14	<i>huu + o</i>	<i>huo</i>
15	<i>huku + o</i>	<i>huko</i>
16	<i>hapa + o</i>	<i>hapo</i>
17	<i>huku + o</i>	<i>huko</i>
18	<i>humu + o</i>	<i>humo</i>

The demonstrative of reference is used in discourse to indicate that a discourse entity that has been mentioned is “textually evoked” or “situationally evoked” (Prince 1981).

- (12) [Mbwa huyo] a-li-kuwa a-me-fung-w-a kamba shingo-ni.  
*Dog D.REF SM-PST-AUX SM-PERF-tie-PASS-FV leash neck-LOC*  
 ‘That dog had a leash on its neck.’

- (13) U-na-kwend-a wapi na chakula hicho?  
*2SG-PRT-go-FV where with food D.REF?*  
 ‘Where are you going with that food?’

In (12), the referential demonstrative *huyo* occurring after the NP *mbwa* ‘dog’ indicates that the dog has been mentioned in previous discourse. In (13), the referential demonstrative *hicho* following the noun *chakula* ‘food’ is used to refer to the food when both the addresser and addressee are aware of its presence in the utterance situation. In this dissertation, I focus on the regular proximal and distal demonstratives. The function of the demonstrative of reference and its distribution are left for future research.

### 1.3.3 The Swahili Main Verb

Swahili has a basic SVO word order. Agreement markers corresponding to the noun class of the subject NP and the object NP, are prefixed to verb stem. Other inflectional morphemes prefixed to the verb stem are negation, tense, reflexivization, and the relative marker. Derivational morphemes that mark reciprocal, causative, passive, static, stative, reversive, and benefactive relations are suffixed to the verb stem. Thus, in Swahili inflectional morphemes are generally prefixal while derivational morphemes are suffixal. In addition, all Swahili verbs have a vowel *a* in word final position that is traditionally regarded as a verb ending morpheme, though, some borrowed words such as *sahau* ‘forget’, are an exception.

A basic Swahili main verb, for example *chek-a* ‘laugh’, may have the morphological structure in (14) and (15):

- (14) a-li-wa-chek-esh-a  
*SM.3SG-PST-OM-stem-CAUS-FV*  
‘He made them laugh’
- (15) ha-ku-wa-chek-esh-a  
*SM.3SG.NEG-PST-OM-laugh-CAUS-FV*  
‘He did not make them laugh.’

The prefixes attached to the stem *chek* are inflectional morphemes and the suffixes are a derivational morpheme *-esh-* and a final vowel *-a*. In (14), *a-* is a subject marker corresponding to class 1, third person, singular, animate noun. Following the subject marker is a tense, aspect or modality (TAM) marker, in this case *-li-*, a past tense morpheme. This second spot can accommodate only one TAM marker. Following the TAM is an object marker. If the verb is negated - as in (15), the initial spot is taken by the

negation prefix *ha-* and the other inflectional morphemes follow in the order explained. Derivational morphemes such as the causative *-esh-* in (14) and (15) occur after the verb stem.

#### 1.3.4 The Auxiliary – *kuwa*

I mentioned above that a predicate verb may only accommodate one TAM marker. In the event that more than one TAM marker is needed, the auxiliary *kuwa* is used to form a compound tense without any additional meaning to the utterance. The lexical expression *kuwa*<sup>4</sup> in Swahili has been analyzed as an ambiguous grammatical element that functions as an auxiliary as well as a copula (Ashton 1944); as an independent verb (but not an auxiliary) whose function is to supplement deictic orientation of the following verb, noun or adjective (Contini-Morava 1991:290); as a copula expression in the form *kuwa* in past and future tenses but in the form *ni* and *yu* in present tense (Vitale 1981; Wesana 2001). In this dissertation, I assume that *kuwa* is an auxiliary verb that carries the temporal, aspectual or modality information of the main verb or copula it modifies.

The lexical element *ku-w-a* is derived from the root *-w-*. The prefix *ku-* is an expletive that gives the expression a disyllabic foot. Other examples of one syllable lexical expressions that take the expletive prefix *ku-* are *ku-l-a* ‘to eat’ and *ku-f-a* ‘to die’.

The use of *kuwa* as an auxiliary is illustrated in (16) and (17).

- (16) **A**-li-kuwa    a-ki-angali-a            kalenda    kila    siku  
*SM-PST-Aux SM-IMPFTV-look-FV calendar    every    day*  
 ‘He looked at the calendar every day.’

---

<sup>4</sup> There is another *kuwa* in Swahili that mainly functions as a complementizer. This *kuwa* does not take any affixes and mostly introduces embedded clauses.

- (17) Mamba            a-li-ye-kuwa            a-ki-m-nyemelea  
*crocodile        SM-PST-REL-AUX    SM-IMPFTV-OM-stalk*  
 ‘The crocodile which was stalking him’

In (16) *kuwa* has the class 1 noun agreement marker in initial position followed by the past tense marker *li*. There may be a third inflectional prefix after the tense marker, the relative marker, corresponding to the head NP of the relative clause as seen in (17). The auxiliary *kuwa* is obligatorily used whenever an additional TAM marker is introduced on the main verb. Thus in (17) the imperfective aspect marker *-ki-* takes the place of the past tense prefix *-li-*, which in turn gets prefixed to the auxiliary *kuwa*. However, no derivational morphemes get suffixed to the auxiliary *kuwa* since the main verb can accommodate more than one derivational suffix in case a need arises.

### 1.3.5 Word Order

While Swahili nouns are marked for class and number via the nominal class prefixes, they are not marked for case. Thus, a basic SVO word order and crossreference via an agreement system where alternative word orders are used, are the main strategies used to disambiguate grammatical functions and relations.

- (18) Pandu            a-li-m-tazam-a            Bi Pili  
*Pandu            SM-PST-OM-look-FV        Ms Pili*  
 ‘Pandur looked at Ms. Pili.’ (Mohamed 1980: 61)

In (18), the NP *Pandu* is assigned the agent semantic role while the NP *Bi Pili* is assigned the theme theta role. As expected, everything being equal, Bakari occupies the canonical subject position while *Bi Pili* occupies the object position. This grammatical relation is reflected by the agreement prefixes on the verb. The prefix *a-*, occurring before the tense

prefix *-li-*, indicates that Bakari is the subject. The object marker (OM) prefix *-m-* after the past tense morpheme *-li-* indicates that the postverbal NP *Bi Pili* is the object.

Reversal of the NP positions, as in (19) impacts on the grammatical roles and relations of the NP arguments.

- (19) *Bi Pili*            *a-li-m-tazam-a*            *Pandu*  
*1Ms Pili*        *ISM-PST-1OM-look-FV*        *1Pandu*  
 ‘*Bi Pili* looked at *Pandu*.’ (Mohamed 1980: 61)

In (19), the NP *Bi pili* in preverbal position is the subject while the postverbal NP *Pandu* is the object. Notice that both *Bi Pili* and *Pandu* belong to noun class 1. In the event that the nouns belong to different noun classes, then reversal of the NP positions may have no effect on the grammatical relations if the subject and object agreement prefix positions are not altered. This is illustrated in (20) and (21).

- (20) *Mambosasa*    *a-li-i-tazam-a*            *hospitali*  
*1Mambosasa* *ISM-PST-9OM-look-FV*        *9hospital*  
 ‘*Mambosasa* looked at the hospital.’

- (21) *Hospitali*        *a-li-i-tazam-a*            *1Mambosasa*  
*9hospital*        *ISM-PST-9OM-look-FV*        *1Mambosasa*  
 ‘*Mambosasa* looked at the hospital.’

While both word order and cross-reference strategy express the grammatical function in (20), it is the cross-reference strategy that expresses the grammatical function in (21).

Notice that in (21), the subject prefix agrees with the class 1 postverbal NP *Mambosasa*, while the object marker agrees with the class 9 preverbal NP *hospitali* ‘hospital’.

Sentence (20) and (21) have the same truth-conditions but differ in terms of “information structure” (Halliday 1967), that is, the organization of information. In essence, the presence of object marker prefix, *-i-* in (20) and (21), transforms the object NP to a topic

status out of VP scope (cf. Bresnan & Mchombo 1987; Bresnan 1994; Marten 2007; Marten 2011). Thus, all six word order permutations (SOV, SVO, VOS, VSO, OSV, and OVS) are possible. In the event that only subject marker is prefixed, only SVO and VOS word orders, in which the verb and the object form a constituent, are possible.

#### 1.4 Research Questions

The primary questions that I will be investigating in this general research area for Swahili are the following:

- (i) With which kinds of referents does information structure influence word order?
- (ii) There are several concepts with subtle differences associated with the study of information structure. These include: given-new, theme-rheme, topic-comment, focus-presupposition and topic-focus. What different outcomes are achieved by using each of these distinctions in analyzing information structure?
- (iii) Which of these sets is the most relevant in explaining word order variation in Swahili reciprocals and adnominal demonstrative constructions?
- (iv) What information structure considerations are responsible for the prenominal and postnominal position of the demonstrative in Swahili adnominal demonstrative constructions?
- (v) What information structure considerations influence the choice of either the simple reciprocal or discontinuous reciprocal in Swahili?

#### 1.5 Methodology

This study used two main methodologies, corpus analysis and acceptability ratings. The corpus analysis is used to find and analyze instances of word order variation in Swahili adnominal demonstratives as well as reciprocal constructions. The acceptability ratings were specifically used to further augment the findings of reciprocal analysis due to scarcity of reciprocal constructions in the corpus. Each of these methods is briefly described in turn in section 1.5.1 and 1.5.2.

### *1.5.1 Corpus*

Language studies need to be based on “spontaneous data or semi-spontaneous data production of any kind, either conversations or monologues, formal or informal, written or spoken, even if our aim is to study information structure of single utterances” (Mereu 2009: 3). To this end, the source of data is the Helsinki Corpus of Swahili (HCS) which has 14 annotated corpora with a total of 12.5 million words. The corpora contain current Swahili newspaper articles as well as excerpts of literary texts, education and science material written in the mid 20<sup>th</sup> century to late 20<sup>th</sup> century.

In chapter 3 and 4, I present a more detailed explanation of how the HCS is used in this research to facilitate quantitative and qualitative analysis of adnominal demonstratives and reciprocal constructions respectively.

### *1.5.2 Grammaticality Judgments*

Due to the low frequency of reciprocal constructions in the corpora, a questionnaire was used to obtain grammaticality judgments from Swahili native speakers to supplement the findings of the corpus study (cf. Downing 1995 who encourages manipulation of the relevant functional factors to supplement text-based methodology). The questionnaire had question-answer pairs, a method viewed as “one of the more reliable contextual tests for relational givenness-newness concept” in the study of information structure (Gundel & Fretheim 2006: 178). To facilitate data collection and analysis, the DMDX software was used to administer the questionnaire to 47 Swahili native speakers in Mombasa, Kenya.

### *1.5.3 Qualitative and Quantitative Analysis*

The data obtained from the corpus and questionnaire was then quantitatively and qualitatively analyzed. Qualitative analysis involved displaying adnominal demonstrative and reciprocal constructions in concordance lists and displaying the wider context of the constructions. Quantitative analysis involved statistical analysis of the data obtained from the Helsinki Corpus of Swahili and the questionnaire administered to Swahili native speakers. The details of the analysis, parameters used, and coding of data are presented in the methodology sections of chapter 3 (adnominal demonstratives) and chapter 4 (reciprocal constructions).

### 1.6 Justification of the Study

As previously mentioned, this is a corpus-based study on the role of information structure on Swahili word order with a focus on reciprocal and adnominal demonstrative constructions. The importance of contextual investigations of linguistic forms via corpora cannot be overemphasized. Corpus studies offer opportunities for understanding language forms through authentic data (cf. Fillmore 1992). However, most studies on Swahili reciprocals and adnominal demonstratives have been based on constructed examples; a few examples extracted from Swahili literary texts; and native speaker intuitions (see for example Ashton 1944; Vitale 1981; Opalka 1982; Wilt 1987; Leonardo 1985, 1987; Amidu 2011). It is also notable that most recent major reciprocal typological studies such as those conducted by Nedjalkov (2007) and Evans et al. (2011) are based on questionnaires and video clips aimed at eliciting reciprocal constructions more naturally from native speakers. When used as the sole means of data collection, such methods have

been criticized as being centered on the researcher's perspective of language phenomena and ignoring language-specific construal of linguistic structures (Wierzbicka 2009).

In this study, therefore, I use a mixed approach in the methodology. I query the Helsinki Corpus of Swahili to discern whether word order variation is driven by information structure. The Helsinki Corpus of Swahili is an annotated corpus with a wide variety of written texts from various genres including literary texts, academic documents, religious texts, and news sites such as *Nipashe* and *Uhuru*. The diversity of the texts and the size of the corpus provide an excellent resource in the study of structural differences of Swahili constructions. To complement the tokens found in the corpus, I have also set about eliciting native speaker judgments on controlled sets of grammatical constructions using questionnaires.

There has been a recent increase in typological studies aimed at explaining reciprocal construction variation within and across languages (Belikova 2008; Nedjalkov 2007; Wierzbicka 2009; Evans et al. 2011, Amidu 2011). In most of these studies, syntax, verb class semantics and language-specific metalinguistic factors have been claimed to play a role in determining reciprocal variation. In Japanese, for example, the DR and SR are both felicitous for *korosi-a-u* 'to kill each other', (an activity verb) whereas the SR is preferred for *aisi-a-u* 'to love each other' and *nikumi-a-u* 'to hate each other' (stative verbs) (Alpatov & Nedjalkov 2007: 1041). However, semantic verb classes or metalinguistic factors alone cannot account for all cases of Swahili simple reciprocal and discontinuous reciprocal variants. In examples (3) and (4) (repeated here as (22) and

(23)), for example, the DR (22) and SR (23) are both felicitous for the Swahili stative reciprocal verb *pend-an-a* ‘love each other’.

(22) [NP<sub>1</sub> Juma] [v a-na-pend-an-a] [PP[na] [NP<sub>2</sub>Halima]]  
*1-Juma ISM-PRT-love-REC-FV with 1-Halima*  
 “Juma and Halima love each other.”

(23) [NP[NP<sub>1</sub> Juma] [na] [NP<sub>2</sub>Halima]] [v wa-na-pend-an-a]  
*2 (Juma CONJ Halima) 2SM-PRT-love-REC-FV*  
 “Juma and Halima love each other.” (Vitale 1981: 145)

Unlike Japanese, examples of Swahili DR and SR constructions involving other verbs belonging to different semantic categories are widely attested. The present research, therefore, contributes to the ongoing efforts aimed at understanding the variation of reciprocal constructions.

There are several studies on the pragmatic function of demonstratives across languages, some of them based on corpus analysis (Ariel 1988; Himmelmann 1996; Diessel 1999; Fillmore 1975 [1971], 1982, 1997; Wolvengrey 2003). But aside from a brief mention (Leonardo 1985, 1987; Wilt 1987), the pragmatic function and syntactic position of adnominal demonstratives have not yet been investigated in Swahili via corpus analysis. Using examples from a wide range of texts, I explore the pragmatic function of Swahili adnominal demonstratives. Further, most studies on demonstratives have used the concepts of givenness and “activation state” (Chafe 1987) in the choice of either the proximal or distal demonstrative (Diesel 1999, Himmelmann 1996, Ariel 1988). Here, I show that the same concepts associated with topichood, that is givenness and activation state, can also be used to explain the syntactic position of Swahili adnominal demonstratives.

While some word order variations driven by information structure such as postverbal subject constructions, preverbal object constructions, focus marking, locative inversion, and clefts have received considerable attention, there are some syntactic constructions that are generally ignored. In this study, I analyze reciprocal and adnominal demonstrative word order variation, which to the best of my knowledge have not been analyzed under the auspices of information structure, or approached via corpus analysis. This research will be of interest to those studying information structure, deictics, reciprocals and reciprocity typology, and syntax.

## Chapter 2

### Theoretical Perspective

#### 2.1 Information Structure and Word Order

In this chapter I discuss the relevant concepts of information structure under which word order variation involving two sets of Swahili constructions is examined in this thesis. Information structure, a term originally introduced by Halliday (1967), deals with formal properties of semantically equivalent but pragmatically divergent propositions in their textual environments (Lambrecht 1994). More specifically, information structure studies focus on how the interlocutors' consciousness level of discourse entities impacts the choice of referring expressions and, the distribution of linguistic expressions within the sentence domain.

According to Gundel & Fretheim (2006), information structure studies tend to conflate two distinct notions of givenness, namely referential givenness and relational givenness. Referential givenness refers to the consciousness level of the speaker and hearer to discourse entities. In other words, the extent to which the hearer and listener are aware of the discourse entity referred to by a linguistic expression. If the linguistic entity has been previously mentioned or is already familiar to the participants due to community membership, then it is given. On the other hand, if there is no previous mention of the discourse entity and there is no preexisting information in the participants' memory, then it is new. Relational givenness involves the partitioning of a sentence into two linguistic expressions according to the individual referential givenness status of linguistic expressions and their related referents. In the unmarked case, the first part (mostly the

subject of the sentence) is given or presupposed information while the second part (mostly the predicate and its internal arguments) is the new or informative part of the utterance (Gundel & Fretheim 2006).

To analyze the role of information structure on word order choice, Swahili adnominal demonstrative constructions are analyzed. Swahili demonstratives may occur in the pre or postnominal position. I argue that the position of the demonstrative reveals the referential givenness status (or “accessibility”) (Givon 1983; Ariel 1988, 1991, 2001) of the intended referent as illustrated in (24) and (25).

(24) *kwa mbali ni-li-mw-on-a [yule mwanamke]*  
*from distance ISG-PST-OM-see-FV D.DEM lady*  
*a-me-ka-a mchanga-ni a-ki-ni-tizam-a*  
*SM-PERF-sit-FV soil-LOC SM-IMPFTV-OM-look-FV*  
 ‘From a distance, I saw that lady sitting on the soil staring at me.’

(25) *kwa mbali ni-li-mw-on-a [mwanamke yule]*  
*from distance SM.1SG-PST-OM-see-FV lady D.DEM*  
*a-me-ka-a mchangani a-ki-ni-tizam-a*  
*SM.3SG-PERF-sit-FV soil-LOC SM.3SG-IMPFTV-OM.1SG-look-FV*  
 ‘From a distance, I saw that lady sitting on the soil staring at me.’

In (24) the lady is reintroduced in the discourse after a gap of absence measured in terms of number of clauses. In this case, the number of clauses from the previous mention to the following mention in (24), or the “referential distance”, is 77 clauses. The prenominal position of the demonstrative as seen in (24) signals the (re)introduction of activated and familiar entities in the discourse; and is also used to refer to discourse entities with “immediate physical copresence”<sup>5</sup>. The postnominal demonstrative as seen in (25) is used

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<sup>5</sup> When participants in a conversation are actually focusing on a referent within the utterance situation, this is a case of “immediate physical copresence”. In the “potential physical copresence” situation, the

in a situation where the intended referent is a recently activated discourse referent; and may also be used to refer to a discourse entity with “potential physical copresence” in the utterance situation.

In the second set of constructions, I examine two distinct variants of Swahili reciprocal expressions, the “simple reciprocal” (26) and the “discontinuous reciprocal” (27).

(26) Embe Dodo na John Check-bob wa-li-kuwa  
*Embe Dodo and John Check-bob 2SM-PST-AUX*  
 wa-ki-pend-an-a sana  
*2SM-IMPFTV-love-REC-FV very much*  
 ‘Embe Dodo and John Check-bob used to love each other very much’

(27) Embe Dodo a-li-kuwa a-ki-pend-an-a sana  
*Embe Dodo 1SM-PST-AUX 1SM-PROG-love-REC-FV very much*  
 na John Check-bob  
*with John Check-bob*  
 ‘Embe Dodo and John Check-bob used to love each other very much’

Within the Bantu languages, it has been claimed that the simple reciprocal in (26) is the unmarked form while the discontinuous reciprocal variant as shown in (27) is sparingly used to avoid noun class agreement clash in cases where the reciprocal participants belong to two different noun classes (Mchombo & Ngunga 1994; Mchombo 1993; Mchombo & Ngalande 1980). In other languages such as English reciprocal variation is analyzed as a consequence of the semantics of the reciprocal predicates and reciprocal situation (Fiengo & Lasnik 1973; Knjazev 2007; Dimitriadis 2008; Hurst & Nordlinger

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addresser is aware of the physical presence of an entity within the conversational context but the addressee is not. (Clark & Marshall 1981: 38)



- c. #<sub>[NP2]</sub> *tajiri mwenye shamba na Sulubu Ngufumali*  
*richman owner field and Sulubu Ngufumali*  
 [<sub>v</sub> wa-me-kosana]  
*2SM-PERF-disagree*  
 ‘The landlord and Sulubu Ngufumali have disagreed with each other.’
- d. #<sub>[NP2,1]</sub> *Sulubu Ngufumali na tajiri mwenye shamba*  
*Sulubu Ngufumali and richman owner field*  
 [<sub>v</sub> wa-me-kosana]  
*SM.3PL-PERF-disagree*  
 ‘Sulubu Ngufumali and the landlord have disagreed with each other.’

Example (30) is a request for information about the whereabouts of a character in the source novel, namely *Sulubu Ngufumali*. Note that although the NP *nyumba ya bwana mmoja aitwaye Sulubu*, ‘house belonging to Sulubu’ is the questioned entity, Sulubu is actually the focus of attention in the utterance. What the addresser is actually looking for is *Sulubu* and not the house that belongs to him. Sentence (31a) is the hearer response in the source novel implicating that *Sulubu* had disagreed with his landlord and therefore had moved to an address further away from the current location. While it is syntactically possible to have either the NP *Sulubu Ngufumali* or *tajiri mwenye shamba*, or both occupy the subject position, speaker judgments on question-answer items presented to Swahili native speakers and statistical analysis of reciprocal expressions from the Helsinki Corpus of Swahili suggest that the Textually Evoked NP, *Sulubu Ngufumali*, is preferred in the discontinuous reciprocal. The reciprocal construction in (31b) is infelicitous because the given NP, *Sulubu Ngumali*, is postverbal while the new NP, *tajiri mwenye shamba* ‘the landord’ is postverbal. The simple reciprocal constructions in (31c-d) are also infelicitous because the given NP, *Sulubu Ngufumali*, and the relationally new information, *tajiri mwenye shamba* ‘the landlord’ are in preverbal position.

The partitioning of sentences into information units based on givenness is further clarified by the “Centering Theory” which attempts to determine the topical entity amongst other possible given entities (Grosz et al. 1995, Grosz et al. 1998; Walker et al. 1998). Under the centering theory, various parameters such as pronominalization, subjecthood and givenness are used as salience markers in discourse where more than one entity is a possible candidate for topic. In (30), for example, *Sulubu* is the only entity mentioned. Thus *Sulubu* is the “expected focus” (and therefore the center (topic)) of the following sentence (Sidner 1983).

The organization of the rest of the chapter is as follows. The two concepts of givenness, that is, referential givenness and relational givenness are discussed in section 2.2 and 2.3 respectively. In section 2.2, four models that have been developed to explain referential givenness are discussed. They are the Activation States (Chafe 1987) (section 2.2.1), the Familiarity Model (Prince 1981, 1992) (section 2.2.2), the Accessibility Hierarchy (Ariel 1988, 1991, 2001) (section 2.2.3) and the Givenness Hierarchy (Gundel et al. 1993) (section 2.2.4). Section 2.3 discusses three interrelated relational givenness pairwise terminologies. Section 2.3.1 outlines the Theme-Rheme information units. Section 2.3.2 outlines the Topic-Comment information units. Section 2.3.3 outlines the Focus-Presupposition information units. The Centering Theory (Grosz et al. 1995) with its relevance as a parametric tool explaining word order variation in utterances is discussed in section 2.4.

## 2.2 Referential Givenness

There has been an observation that the terminologies used in partitioning of sentences into information units conflate two distinct phenomena: givenness and topic (Halliday 1967, Gundel & Fretheim 2006). Givenness (or the old-new distinction) is what Gundel and Fretheim (2006) calls Referential Givenness. It is Referential Givenness status of discourse entities that is responsible for the topic (or non-topic status) of linguistic expressions. Referential Givenness involves the relationship between a referring expression and the consciousness level of the hearer to a corresponding non-linguistic entity (Gundel & Fretheim 2006). Whether givenness is a matter of dichotomy, that is, whether an entity is given or not given, or a matter of degree, has been a controversial and elusive subject in information structure studies. This has led to the development of models that attempt to describe how referential choice and information partitioning may be driven by the cognitive level of interlocutors to discourse entities. These models include Chafe's (1987) Activation Statuses, Prince's (1981, 1992) Familiarity Model, Ariel's (1988, 1991, 2001) Accessibility Hierarchy, and Gundel's et al. (1993) Givenness Hierarchy. Each of these models is discussed in turn in the following sections.

### *2.2.1 Chafe's (1987) Activation States*

Activation state refers to the speaker's assumption about the mental awareness of the hearer on the discourse entities at the time of speech (Chafe 1987; Lambrecht 1994). With respect to various cognitive processes, a discourse entity may be active, semi-active, or inactive. Chafe (1987: 22) uses the term "active" to represent a given discourse

entity mentioned in the immediately preceding discourse, and therefore lit up in the short term memory of the hearer. On the other hand, the term “inactive” corresponds to a newly (re)introduced element in the discourse. In the intermediate cognitive level is an “accessible” or a “semi-active” entity which is mentioned in previous discourse but had been briefly overtaken by other discourse entities; or the mention of an entity whose identity can be inferred from the mention of other related entities in preceding discourse.

Most studies on cognitive statuses present phonological, morphological and syntactic parameters of the phenomenon they describe. Chafe (1987) discusses parameters of active entities in English to include attenuated intonation, pronominalization, or zero coding, that is, discourse entities who are phonologically null. In the following example from a transcribed recorded conversation about a university instructor the pronoun *he* in (33) is in a coreferential relationship with the definite referent *the instructor* in (32) (Chafe 1987: 23).

- (32) Where ... everybody loved the instructor,  
(33) ...a—nd ... he was a ... real..uh .. óld world ... Swiss-- ... guy,

In (32), the discourse entity *the instructor* is introduced and thus is an active concept in the minds of the interlocutors. Consequently, the pronoun *he* in (33) is used to code the same referent previously introduced with the lexical expression *the instructor*.

Chafe (1987) mentions two ways that the cognitive status of a discourse entity can be semi-active. One way can be through deactivation of an active referent. An active referent can cease to be active, but because of its mention in earlier discourse, it can still be accessible (semi-active) in the discourse. Another way that an entity becomes semi-

active is when concepts become accessible from the mention of a member of a schema. A schema is “regarded as a cluster of interrelated expectations” (Chafe’s 1987: 29). In example (32) above, the definite reference *the instructor* is used because of a previous mention of *a big undergraduate class that I had* from which the presence of an instructor can be inferred. Though not directly mentioned in previous discourse, the mention of *a big undergraduate class* makes *the instructor* an accessible (semi-active) referent because an instructor “belong to the set of expectations associated with a schema” of an undergraduate class which include “students, an instructor, teaching assistants, the instructor’s notes, a classroom, a lecture” (Chafe 1987: 30; cf. Prince’s “inferables” 1981, 1992; and Clark & Marshall’s “bridging” 1981).

Chafe’s activation statuses have important consequences on the differences of interpretation achieved due to the position of the demonstrative relative to the noun being modified. Further, it is claimed in this dissertation that the activation status of reciprocal participants may impact on their linear position in the reciprocal construction hence the simple reciprocal and discontinuous reciprocal variants in Swahili. In Chafe’s (1987: 28) description, however, the cognitive status of inactive discourse entities is equated with the notion of “new”. These two notions of the “inactive” status, that is ‘inactive’ and ‘new’, have different consequences on the information organization of linguistic expressions in utterances. In the next section, Prince’s (1981, 1992) familiarity model distinguishes the two activation concepts referred to as “inactive” under Chafe’s (1987) activation states as ‘unused’ (inactive) and ‘brand-new’ (new).

### 2.2.2 Prince's (1981, 1992) Familiarity Model

According to Prince (1981, 1992), givenness can be best understood by making reference to the hearer's consciousness and discourse perspectives of information status. With respect to the speaker's beliefs about the hearer's consciousness of discourse entities, a referent may be hearer-old or hearer-new. Hearer-old information entails that both the speaker and the hearer know some information, and that they are both aware of each other's knowledge of that information due to "community membership" (cf. Clark and Marshall 1981). Discourse-old information is accessible to the hearer because of its coreferential relationship with a previously mentioned entity in the discourse. Subsequently, discourse-old information also becomes hearer old information, that is, after its initial introduction in the discourse. The term discourse-new, hearer-new is used for first mention of discourse entities that the speaker believes are not known to the hearer.

Prince (1992) uses other terms she used in her "Familiarity Model" (Prince 1981) for the description of the hearer and discourse perspectives of information status. The term 'Unused' represents discourse-new but hearer-old entities as is the case with referents of referring expressions such as *President Barack Obama, the sun, your wife/husband/son/daughter* or any other newly introduced discourse entity that is already familiar to both the speaker and the hearer. In order for this definition to reflect what Prince (1992) meant by 'hearer-old, discourse-new' entities, it should be added that the entity should not be recoverable from preceding discourse or the conversational context. The term 'Brand-new' represents discourse-new, hearer-new entities. These are

informationally new entities to the hearer. The term ‘Textually Evoked’ is used for discourse old, hearer old entities. These are accessible to the discourse participants because of their anaphoric relationship to previously mentioned referents. ‘Inferrable’ is a discourse entity which is hearer new but whose familiarity can be inferred from a previously evoked entity, hence, as Birner & Ward (2009) show, inferrables pattern like discourse old, hearer new entities. An example here is the fact that the presence of a driver can be inferred from the mention of a bus (Prince 1981).

Table 7 shows the hearer and discourse perspectives of givenness with their related discourse entity labels (Prince 1992). The category ‘hearer new, discourse old’ added by Birner and Ward (2009) was not in Prince’s (1992) categorization.

Table 7: Hearer-discourse based givenness

	DISCOURSE NEW	DISCOURSE OLD
HEARER NEW	Brand-new	Inferrable
HEARER OLD	Unused	Evoked

For the purpose of this dissertation, it is important to note that the different hearer and discourse statuses of referents impact on the choice of referring expressions. The distinction between ‘brand-new’ and ‘unused’ discourse entities, for example, makes a prediction that different referential forms will be used to represent the two types of assumed familiarity. The activation of brand-new discourse entities, thus, may require the use of a clearly identifiable referential expression such as a full name. On the other hand, ‘unused’ discourse entities may be represented via a definite referring expression. This is illustrated in example (34) and (35) (Prince 1992: 6).

- (34) In the park yesterday, *a kid* threw up on me  
(35) In the park yesterday, *the kid* threw up on me.

In (34), the referent of the indefinite expression *a kid* is brand new (discourse new, hearer new) while in (35) the definite expression *the kid* indicates that the referent is unused (discourse new, hearer old). While hearer status is formally marked in English via definite reference, discourse status (discourse new/discourse old) is generally unmarked (Prince 1992). Further, pronominalization as well as definite reference implies that an entity has been mentioned in previous discourse.

The rigorous description of activation statuses by Prince (1981, 1992) facilitates the analysis of the Swahili adnominal demonstrative variants and the reciprocal variants as a consequence of differences in the referential givenness of discourse participants. However, Prince's (1981, 1992) familiarity model does not make specific claims on the relationship between givenness and forms of referring expressions. The use of a pronoun, for example, may indicate that the intended referent is discourse old, hearer old while the use of a full name may indicate that the intended referent is discourse new, hearer new. Moreover, although entities within the conversational context (including the discourse participants) are categorized as Evoked in Prince's (1981) familiarity model, Prince's (1992) 'hearer, discourse' based givenness model is silent about the givenness statuses of these discourse entities. To tackle this absence of matching givenness level with specific referring expression, sections 2.1.3 and 2.1.4 discuss the accessibility hierarchy (Ariel 1988, 1991, 2001) and the Givenness Hierarchy (Gundel et al. 1995) which makes specific predictions on givenness and referential choice.

### 2.2.3 The Accessibility Hierarchy

The main claim of the Accessibility Hierarchy is that a language referring system reflects the activation status of referents in the hearer's memory (Ariel 1988, 1991, 2001). Accessibility is defined as 'the degree of difficulty that speakers/hearers may experience in identifying a topic in discourse' (Givon 1983: 11). According to Ariel (1988, 1991, 2001), a referring expression may be a high accessibility marker, mid-accessibility marker, or a low accessibility marker. The choice of the referring expression *she* in English, for example, not only means 3rd person, singular, female; but also signals to the hearer that the intended referent is highly accessible. The Accessibility Hierarchy (Ariel 1988, 1991, 2001) as shown in Table 8 matches English referring expressions with the accessibility level of the relevant referent in the addressee's memory.

Table 8: The Accessibility Hierarchy

Accessibility	Referring expression
Low Accessibility 	full name+modifier full name long definite description short definite description last name first name
Mid Accessibility	distal demonstrative+modifier proximate demonstrative+modifier distal demonstrative + NP proximate demonstrative + NP distal demonstrative (-NP) proximate demonstrative (-NP)
High Accessibility 	stressed pronoun+gesture stressed pronoun unstressed pronoun cliticized pronoun verbal person inflections zero

According to Ariel (2001), factors affecting referents' accessibility and hence referential choice include: interference from other possible topical referents; referential distance whose measuring units may be words, clauses or paragraphs; grammatical role (subject > object > oblique)<sup>6</sup> and function (agent > theme); the conversational context (1st person > 2nd person > 3rd person); and givenness (cf. Givon 1976, 1983; Prince 1981, 1992).

Furthermore, according to Ariel (2001), three interrelated factors explain why the form of referring expressions code different levels of accessibility. These are the informativeness of the referring expression, the ability of a referring expression to pick a uniquely identifiable referent (rigidity), and prosodic prominence (cf. Givon (1983:18-19) who identify these factors as “coding material”, “NPs modified by restrictive modifiers” and “stress” respectively). When the addresser uses an explicit referent in discourse, which is more informative and more rigid than a personal pronoun, he signals to the addressee that the intended referent has a low degree of accessibility. On the other hand, a zero anaphor, which is less informative and less rigid in terms of its ability to pick a uniquely identifiable referent, signals to the addressee that the intended referent has a high degree of accessibility. The first two of these factors that explain the correlation between form of referring expressions and accessibility, that is, informativeness and rigidity (Givon's (1983) “coding material” and presence of “restrictive modifiers” respectively) are relevant in the present corpus based study on

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<sup>6</sup> The symbol '>' implies that the leftmost entity is the most accessible and that the entity at the far right is least accessible.

word order variation. The role of prosody in marking accessibility in Swahili is left for future research.

The contribution made by the accessibility hierarchy is evident if the number of studies that have dealt with the relationship between referring expressions and accessibility in various languages is put into consideration<sup>7</sup>. In this study, using referential distance as a measure of accessibility, I explore via corpus analysis, the Swahili demonstrative position relative to the noun being modified. I argue that the pre and postnominal position is driven by the accessibility level of the intended referent. However, the accessibility hierarchy is also not sufficient to account for all the data involving Swahili system of referential choice. Contrary to Ariel's hierarchy that puts demonstrative + Noun as mid accessibility markers, the data shows that depending on demonstrative position, adnominal demonstratives may signal that a referent is more accessible or less accessible.

#### *2.2.4 The Givenness Hierarchy*

While the Accessibility Hierarchy ranks referring expressions according to the accessibility level they encode using general terms high, mid and low, the Givenness Hierarchy matches referring expressions with specific mental representations of the referent in question. Furthermore, while Ariel presents statuses of the accessibility hierarchy as mutually exclusive, Gundel et al. (1993) propose an entailment relationship between referring expressions higher in the hierarchy and those lower in the hierarchy. Thus the use of a referring expression high in the hierarchy entails all lower statuses.

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<sup>7</sup> See Ariel (2001) for some specific details on the languages and aspects of accessibility discussed under these studies.

The main claim in the Givenness Hierarchy is that different referring expressions preclude different cognitive statuses of discourse entities (Gundel et al. 1993). To show the relationship between the selection of referring expressions and cognitive status, six hierarchical cognitive statuses and the respective referring expressions to be used are identified. Table 9 shows the givenness hierarchy with examples of the relevant English referring expressions (Gundel et al. 1993).

Table 9: The Givenness Hierarchy

Hierarchy	Cognitive status	Referring expression
High	in focus	it
↑	activated	this/that, this N
	familiar	that N
	uniquely identifiable	the N
↓	referential	indefinite this N
	Low	type identifiable

In their analysis of the distribution of referring expressions in five languages, English, Japanese, Mandarin Chinese, Russian, and Spanish, Gundel et al. (1993) clarify that the givenness hierarchy as seen in Table 9 cannot be applied across languages. Gundel et al. (1993) observe that Chinese, Japanese and Russian do not need the last three givenness statuses because of the absence of the indefinite *this* and articles. For the same reason, Swahili does not need the last three givenness statuses. I therefore briefly describe the highest three givenness statuses.

Referents whose cognitive status is familiar are uniquely identifiable because the addressee has their representation stored in memory. In the sentence

(36) That dog next door kept me awake (Gundel et al. 2010: 1771)

the determiner *that* implies that the addressee can uniquely identify the *dog* because it is familiar, that is, the addressee has a mental representation of the relevant referent. It should be noted that not all familiar referents are formally marked via definite expressions as is the case with proper names and generic referring expressions (Prince 1992, Lambrecht 1994, Stvan 1998). Consider the example (37) from Stvan (1998).

(37) I'll meet you at school at 4:30.

In (37), *school* is a familiar generic referring expression that is unmarked for definite reference. Furthermore, not all languages grammatically code definiteness. Thus, a good contrast can be seen with the way Bantu languages, Swahili in this case, have developed the adnominal demonstrative construction to mark different levels of the hearer's consciousness of discourse entities at the time of speech.

A referent has an activated status if it is within the short term memory of the addressee because it has been evoked in preceding discourse. Activated referents also include discourse participants as well as any other entities within their physical space.

(38) This dog/that/this kept me awake (Gundel 1998: 184).

The use of the adnominal demonstrative in (38) implies that the dog is in activated status, that is, in working memory of the addressee. This cuts across Clark and Marshall's (1981) categories of linguistic context and physical co-presence but differs from Chafe's (1987) activation state which restricts activated referents to linguistic context.

The use of the referring expression *it*, which represents unstressed pronouns in the givenness hierarchy, implies that the referent in question is 'in focus'. This is illustrated in the example (39).

(39) It kept me awake.

In (39) the use of *it* implies that the referent (*dog*) is the focus of attention. Swahili has no distinct pronouns as is the case with English. However, it has been argued that the subject marker functions as an incorporated pronominal NP in the event that the subject NP is dropped in an utterance (Bresnan & Mchombo 1987). The presence of a subject marker as opposed to an explicit NP is an important marker of a high givenness status and is therefore used in this study as an indicator of the givenness status of reciprocal participants.

Further, the givenness hierarchy predicts that if the necessary conditions for the use of a referring expression marking a certain cognitive status are met, then that referring expression can be used for all lower cognitive statuses. To limit the possibility of speakers using referring expressions representing high cognitive statuses in the hierarchy for lower cognitive statuses, Gundel et al. (1993) invoke Grice's (1975) maxim of quantity. The first part of this maxim (Q1) requires the contribution of an interlocutor to be as informative as is required, while the second part (Q2) requires the contribution not to be more informative than is required.

The associated conversational implicature for Q1 is that the "use of a weaker (entailed) form conversationally implicates that a stronger (entailing) form does not obtain" (Gundel et al. 1993: 295). Thus the use of an indefinite article, for example, conversationally implicates that the referent in question meets the cognitive status 'type identifiable' but not the higher statuses (Gundel 1998). Furthermore, although the use of an expression signifying a higher restrictive status entails all lower less restrictive

statuses, an unstressed pronoun or zero is normally chosen for ‘in focus’ because the use of expressions signifying a lower cognitive status, say ‘uniquely identifiable’, violates the Q1 maxim by being less informative as is required.

On the other hand, Q2 restricts the use of referring expressions high in the hierarchy in the event that the referring expression in question provides more information than is necessary. For example, when full definite NPs are used, the definite article is preferred because other determiners such as ‘this’ (signaling activation) and ‘that’ (signaling familiarity) give more information than is required for identifiability. The example in (40) (Gundel 1998: 188) illustrates this.

(40) The first paper on centering was published in 1983 (Grosz, Joshi and Weinstein 1983). Subsequently, the authors developed a more detailed version of the/that/this original (paper).

Note that in the original quotation in Grosz, Joshi and Weinstein (1993) article, the noun *paper* in *the/that/this original (paper)* is omitted hence the bracket by Gundel (1998).

What the example in (40) illustrates is the observation that the definite description *the original (paper)* is preferred since all that is required by the reader is to ‘uniquely identify’ the referent. The use of *that* (signifying familiarity) and *this* (signifying activation) though appropriate would be more informative as is required and would therefore carry other unwarranted implicatures such as topic shift (cf. Levinson 1987).

Although the givenness hierarchy cannot be applied in its entirety across all languages (Gundel et al. 1993: 284), the precise claims it makes about the forms of referring expressions and their corresponding cognitive statuses present an excellent framework for the analysis of Swahili adnominal demonstrative expressions. A major

claim in this dissertation is that Swahili adnominal demonstratives mark various cognitive statuses via the pre and postnominal position. Further, I claim that the Swahili simple and discontinuous reciprocal variants are driven by the givenness statuses of the reciprocal participants. However, the givenness hierarchy explains the choice of referring expression but not ordering of linguistic expressions in utterances due to givenness levels of the relevant linguistic expressions. It is relational givenness, which I describe in the next section, which explains ordering of linguistic expressions as driven by givenness.

### 2.3 Relational Givenness

While referential givenness addresses how the cognitive statuses of linguistic and non-linguistic discourse entities influences referential choice, relational givenness is mainly concerned with ordering of linguistic expressions in utterances. In this dissertation, I argue that relational givenness, as is determined by the individual referential givenness of linguistic and non-linguistic lexical expressions in utterances, is responsible for the variation of Swahili reciprocal constructions. The principle of givenness predicts that, “all other things being equal, a speaker will prefer to place information that they take to be familiar to their addressee earlier in a sentence” (Birner & Ward 2009: 1168). From this point of view, givenness is what has been evoked in discourse, directly or indirectly, or what is assumed to be familiar from mutual knowledge. On the other hand, what is ‘New’ may not be “factually” new but rather it is the information that is informative and cannot be recovered from the preceding discourse (Halliday 1967). In other words, what is new may be known to the addressee but not in his consciousness at the time of speech (Chafe 1976).

Pairwise terminologies corresponding to the relative cognitive level of interlocutors to linguistic and non-linguistic expressions are used to divide utterances into information units. These pairs include, theme-rheme (Halliday 1967; Firbas 1987), topic-comment (Lambrecht 1994), focus-presupposition (Chomsky 1971; Jackendoff 1972; Engdahl & Vallduvi 1996), given-new (Halliday 1967; Chafe 1976; Prince 1981, 1992; Birner & Ward 2009, Lambrecht 1994). Each of these pairs (but for the pair given-new which is consistently used in information structure literature to distinguish the first three) will be discussed in turn.

### 2.3.1 *Theme-Rheme*

Under the Functional Sentence Perspective (Firbas 1987: 152-3) theme is defined in terms of communicative dynamism (CD), which is the communicative importance of information units, as follows:

*The theme of a sentence or clause lays the foundation upon which the core of the information to be conveyed is to be built up and that on account of this function carries or carry the lowest degree(s) of CD within the sentence or clause.*

Theme is a “context-dependent” element which provides the background information on which the predication holds. Rheme on the other hand is the “context-independent” informative part of the utterance which is irrecoverable from the linguistic or situational context (Firbas 1987: 145).

Being context dependent, theme is associated with givenness although there is no one to one relationship between givenness and thematicity of an element. In more simple terms theme is “what I am talking about now” (which may not necessarily be given), while given is “what I was talking about before” (Halliday 1967: 212). Thus while the

given-new dichotomy is dependent upon preceding discourse, the theme-rheme dichotomy functionally structures a clause such that the first part of a clause, the theme, is what the sentence is about, while the following part, the rheme, “is the informational purpose of the utterance” (Vallauri 2009: 390). Thus in a sentence such as *John saw the play yesterday* (Halliday 1967: 201), *John* is the theme, that is, what the sentence is about, while the following part *saw the play yesterday* is the rheme, the informative part of the sentence. A rearrangement of the sentence such that *the play* or the adverbial phrase *yesterday* occurs first will mean that the theme is no longer *John* but *the play* or *yesterday* respectively.

According to the communicative aspect of utterances, theme and rheme are intrasentential phenomena (Firbas 1987). However, utterances (including reciprocal constructions) mostly occur within discourse units, hence the more discourse oriented terms topic-comment structure discussed in the next subsection.

### 2.3.2 *Topic-Comment*

In many languages, the topic-comment structure is the ‘unmarked pragmatic sentence articulation’ (Lambrecht 1994: 132). The topic is defined as what a proposition is about (Gundel 1985; Lambrecht 1994). In the proposition, the speaker may “increase the addressee’s knowledge about, request information about or otherwise get the addressee to act with respect to E (the entity)” (Gundel 1985: 86). If topic is the entity that a proposition is about, then there must be another part of the proposition ‘which conveys information which is relevant with respect to this topic’ (Lambrecht 1994: 119). This part is the comment.

A great deal of work on information structure mentions an independent correlation between topic and referential givenness (Gundel & Fretheim 2006). According to Halliday (1967), the main distinction between topic and theme is that while the theme is not necessarily given, the topic of a sentence is necessarily given. In other words, the domain of application of the theme is the sentence, while the domain of application of the topic is both the sentence and discourse. Halliday (1967) makes a distinction between the two by using the term ‘topic’ for discourse level entities, and the term ‘theme’ for clause level entities. Similarly, Lambrecht (1994) has distinguished what he calls discourse topic and sentence topic. While sentence topic (theme) is restricted to the clause structure, discourse topic (topic) extends beyond the clause structure and makes reference to previously mentioned entities for text cohesion purposes. Gundel (1985: 87) imposes the “topic familiarity principle” which requires that a topic be familiar to both the speaker and the addressee. The givenness status of topics is also what Chafe (1987: 37) calls the “light starting point constraint” which presupposes that topics are mostly referentially given.

The givenness constraint on topic is in direct opposition with Chafe’s (1987) “one new concept at a time constraint” which requires that “added information” (or the comment) include in its structure not more than one concept that has been inactive (new) in the discourse. In discourse, successive sentences are structured such that new information is added to what is already known to the addresser and the addressee. The focus normally falls on the rheme/comment although it may not necessarily extend over the whole information unit (Halliday 1967). Thus, within the comment, there is an entity

labeled as the “focus of information”, which is new in relation to the topic (Halliday 1967). In this respect, focus is “the information center of the sentence containing the new or non-presupposed part of the utterance” (Molnár & Winkler 2006: 5).

When the terms ‘topic’ and ‘focus’ are used as relational givenness terms for entities in utterances, the preverbal position is the default position for topics while the postverbal position is the default position for focus (Lambrecht 1994, Gundel & Fretheim 2006). This is illustrated by the English example in (41).

(41) Sybil went to the MOVIES (Gundel 1985: 11)

Example (41) is an appropriate response to the question *where did Sybil go?* In such a question-answer item, Sybil, being the given entity is preverbal, while *movies*, being the new element is postverbal. Notice that in English, the focused element (indicated by the capital letters) is prosodically prominent (Chomsky 1971, Jackendoff 1972).

In addition to prosodic prominence other strategies used to mark focus are morphology and word order (Zerbian 2006). In this dissertation, I hypothesize that word order variation as driven by information structure considerations is responsible for the Swahili simple reciprocal and discontinuous reciprocal variants. In the event that the reciprocal participants have an equal givenness status, the simple reciprocal is used to put them in sentence-initial position. In this position, both participants are the sentence topic (or the theme if newly introduced) while the predicate is the comment information unit. If the givenness status of the participants is not the same, the discontinuous construction is used to place the less given participant in sentence-final position as a focused element within the comment. There are, however, instances when the focused element can occur

in sentence-initial position in a focus-presupposition structure explicated in the next section.

### 2.3.3 *Focus-Presupposition*

In discourse, successive sentences are structured such that new information is added to what is already known to the addresser and the addressee. The information that is not shared by the addresser and the addressee is the ‘focus’ of the sentence and the part that is assumed to be shared knowledge is the ‘presupposition’ (Jackendoff 1972: 230). In English, focus may be marked via phonological prominence or syntactic constructions such as clefts (Chomsky 1971; Prince 1992). In the following examples adopted from Jackendoff (1972: 231) the capitalized words represent focused elements in the sentences.

(42) Did Maxwell kill the judge with a HAMMER?

(43) No, he killed him with a ZAPGUN.

In (42) and (43), the presupposition is that *Maxwell killed the judge with an instrument*.

What is not shared knowledge between the addresser and the addressee is the exact instrument used by Maxwell to kill the judge. In (42), the instrument, which is the focused element, is the *HAMMER*, while in (43), it is the *ZAPGUN*.

Vallduvi (1992), proposes a trinomial structure composed of the focus-ground partition, where the ground is further divided into two subsets, the ‘link’ and the ‘tail’. The focus (F) represents new information or “update potential of a sentence S” introduced in the hearer’s consciousness (Vallduvi & Engdahl 1996). The ‘ground’, or presupposition, is that part of the sentence that functions as the anchor to the new information. In other words, it is what the hearer is already aware of from preceding discourse or mutual knowledge. Thus, in syntactic structures where the sentence is

partitioned into focus-ground, the focused element may be preceded by the ‘link’ or followed by the ‘tail’. While the link establishes the locus of focus, the tail designates the record to be modified or completed by focus (Vallduvi & Engdahl 1996). The link is comparable to the ‘topic’ element in a topic-comment structure. The tail is comparable to postposed topics, otherwise referred to as “appendix” (Vallauri 2009) or “antitopic” (Lambrecht 1994) in a focus-comment structure. In this arrangement, the focus precedes the tail in the comment information unit. These distinctions are illustrated in the following English example from Vallduvi and Engdahl (1996: 3).

- (44) a. H1: So tell me about the people in the white House. Anything I should know  
b. S0: The president [<sub>F</sub> hates the Delft CHINA SET].

In (44b) *the president* is the link, while *hates the Delft CHINA SET* is the focus. In the event that the entity *the delft China set* has been introduced in previous discourse, it is also possible for the predicate *hate* to be focused as in

- (45) The president [<sub>F</sub> HATES] the Delft China set.

In (45), *the president* is the tail while *the delft China set* is the tail.

Important in this study is the contrast between topic/theme and focused elements in utterances. While topic/theme is what the utterance is about, focus definition is restricted to discourse entities which are relatively less given than the topic. Furthermore, although focus may be marked via various strategies including syntactic, morphological and phonological, it is syntactic marking I refer to in this dissertation. In Swahili, in the unmarked form, the rightmost position in utterances is reserved for focused elements (Krifka 1985).

## 2.4 Centering Theory

The concepts theme/topic, whether defined in terms of “communication dynamisms” (Firbas 1987) or “aboutness” (Halliday 1967; Chafe 1976, 1987; Gundel 1985), refer to the most salient element at the time of utterance. In the unmarked case, this salient element is coded as the syntactic subject (Tomlin 1995). But what are the parameters under which a discourse element is considered the most salient and therefore the topic amongst other possible topics? This is particularly important in this study because reciprocal constructions involve more than one discourse entity. Moreover, topic is an aspect of discourse and therefore it is subject to issues related to “discourse coherence and discourse salience” (Poesio et al. 2004: 309). This section discusses the centering theory which attempts to predict how parameters such as referential givenness influence salience of discourse entities hence their syntactic position in utterances (Sidner 1983, Grosz et al. 1995).

While givenness explains the choice of referring expressions depending on the cognitive statuses of referents in the addressee’s memory, givenness does not explain how speakers choose the topical entity amongst other possible topics in utterances. As previously mentioned, the salient element is coded as the syntactic subject at the time of utterance (Tomlin 1995). The notion of salience under what has been referred to as the ‘Centering theory’ (Grosz et al. 1995) explains the interaction between the ‘focus of attention’ (also the “backward looking center” or “topic” (Walker et al. 1998)) and the choice of referring expressions. Saliency “defines the degree of relative prominence of a

unit of information, at a specific point in time, in comparison to other units of information” (Chiarcos et al. 2011).

The main claim in Centering Theory is that discourse coherence is enhanced if a discourse entity is mentioned in successive utterances rather than abandoning it and introducing new discourse topics within discourse segments (Poesio et al. 2004). The centering theory attempts to predict using parameters such as pronominalization which amongst other referents is the most salient, hence the most likely “backward looking center” (topic) of the following utterance (cf. Sidner 1983; Grosz et al. 1995; Walker et al. 1998). The central claim in centering theory is that each discourse has constituent parts referred to as discourse segments which are locally and globally linked via referring expressions. Each utterance in discourse, except the first one, has a ‘center’ that links it with the following utterance, or the preceding utterance (Grosz et al. 1995). An utterance ( $U_n$ ) in a discourse segment has a set of forward looking centers,  $C_f$ , (possible topics or what Sidner (1983:283) calls “expected focus”) consisting of discourse referents which can be referred to in subsequent utterances. Within the set of forward looking centers is one member of the set, also referred to as the topic, which the following utterance is about (Walker et al. 1998). In centering this special member in the following utterance is the “backward looking center”,  $C_b$ . Note that the backward looking center refers back to the most salient forward looking center of the preceding utterance,  $U_{n-1}$ .

Further, Centering postulates the following ‘Constraints’:

- (i) each utterance in a discourse segment has precisely one backward looking center
- (ii) Every member of the forward looking centers in an utterance must be realized
- (iii) The backward looking center of an utterance,  $U_{n+1}$ , is the most salient member of the forward looking centers of the preceding utterance,  $U_n$ .

The three constraints simply mean that each utterance has exactly one topic which is the most salient member of the referents realized as pronouns, explicit referring expressions, zero or “inferred” (as used by Prince 1981) in preceding utterance. Some parameters for identifying the most salient member of the forward looking centers of an utterance include pronominalization, subjecthood and information status of the discourse entities in question (Grosz et al. 1995; Walker et al. 1998).

Parameters to determine the salient discourse entity to take the role of the backward looking center are as follows. The subject is ranked higher than the object, and the object is ranked higher than other arguments. Further, an argument in a matrix clause is ranked higher than an argument in a subordinate clause. The pronominalization and information status parameters can be inferred from the following two rules.

- (i) If an element amongst the forward looking centers is represented as a pronoun, then so is the backward looking center of that utterance.
- (ii) Transitions are ordered such that “continue” is preferred over “retain”, and retain is preferred over “shift”.

The first rule, also called the “Pronoun Rule”, captures the intuition that the backward looking center is often realized as zero or pronoun (Walker et al. 1998: 5). The second rule means that the continuity of a backward looking center of the current utterance to the next utterance is preferred. Continue means that the current topic is continued as the topic of the following utterance and is also the most highly ranked forward looking center of that utterance. Retain means that the current topic is retained as the topic of the following utterance but is not the most highly ranked forward looking center of that utterance.

Retaining a backward looking center even if it will not be the most highly ranked forward

looking center of the following utterance is better than a shift transition. A shift transition changes the topic of the previous utterance without mentioning it in the following utterance.

Example (46) and (47) from Poesio et al. (2004: 312) illustrate the parameters, constraints and rules stipulated by the Centering theory.

- (46) a. Something must be wrong with John.
- b. He has been acting quite odd. (He = John)
- c. He called up Mike yesterday.
- d. John wanted to meet him quite urgently.

- (47) a. Something must be wrong with John.
- b. He has been acting quite odd. (He = John)
- c. He called up Mike yesterday.
- d. He wanted to meet him quite urgently.

The propositions in (46) and (47) are truth conditionally equivalent. The only difference between the two discourse segments is that in (46d) *John* is realized as an explicit NP while in (47d) *John* is realized as a pronominal NP. The Centering Theory stipulates that (47) is easier to process than (46) because of the preference to pronominalize a continued backward looking center (topic).

The centering theory and its parameters are relevant in explaining the variation in Swahili reciprocal constructions as a consequence of differences in the salience of reciprocal participants. Most importantly, centering theory presents parameters for assessing the salience of referring expressions in utterances with more than one possible topical entity. Linguistic studies have presented evidence that supports the relevance of salience and topic on the choice of linguistic forms (see for example Prince (1992) on salience and choice of referring expressions; Tomlin (1995) on choice of active versus

passive voice). In this dissertation, I use question-answer pairs to assess the role of salience in the choice between the simple reciprocal and discontinuous reciprocal. I hypothesize that the given NP is realized as the subject in the utterance in question and will function as the topic, while the new NP, the focus, is realized at the right periphery. Further, corpus data is also quantitatively and qualitatively analyzed to show how forms of referring expressions, and the preverbal and postverbal position in reciprocal constructions, which ultimately results in reciprocal variation, may be driven by relative salience of reciprocal participants.

## 2.5 Summary

In this chapter, I have discussed the various facets under which information structure is approached. According to Gundel and Fretheim (2006), information structure is mainly discussed under two broad categories of givenness, namely referential givenness and relational givenness. Theoretical perspectives on information structure such as the familiarity model (Prince 1981, 1992), the activation statuses (Chafe 1987), the accessibility hierarchy (Ariel 1988, 1991, 2001) and the givenness hierarchy (Gundel et al. 1993) are relevant in explaining referential givenness. Referential givenness is also an important factor in relational givenness which involves partitioning sentences into information units.

The explanatory models developed under the umbrella of referential givenness draw a correlation between forms of referring expressions and the consciousness level of the speaker to a corresponding non-linguistic entity. Using Prince's (1981, 1992) terminology, these authors agree that an entity may be textually or situationally evoked,

inferred from other already evoked related entities, used but inactive at the time of utterance, or brand-new; and that the use of various forms of referring expressions mark the accessibility level of the intended referent. In this dissertation, I explore how the choice of Swahili adnominal demonstrative constructions is driven by referential givenness of the intended referent.

As pertaining to relational givenness, Centering Theory provides the tools to measure the salience of discourse entities. Centering Theory stipulates that the more salient discourse entity occurs at the left periphery of utterances as the backward looking center or topic while the less salient discourse entity occurs at the right periphery. Pairwise terminologies have been used in the study of information structure to describe left and right periphery elements in utterances. These include given-new, theme-rheme, topic-focus, and focus-presupposition. To explain the role of relational givenness in the variation of reciprocal constructions, I use the topic-focus distinction borne out of the topic-comment and focus-presupposition structures. I argue that if the reciprocal participants have the same givenness level, the simple reciprocal is used. While on the other hand, if the reciprocal participants have different levels of givenness, the discontinuous reciprocal is used where one of the participants is topic and the other focus. Since the postverbal position is the default position for new information, the discontinuous reciprocal is more suited in highlighting the difference in givenness of the reciprocal participants.

## Chapter 3

### The pragmatics of Swahili Demonstrative Position

#### 3.1 Introduction

The objective of this chapter is to explore via corpus analysis word order variation in Swahili adnominal demonstratives. More specifically, I analyze the pragmatic use of Swahili demonstratives as outlined by Fillmore (1975[1971], 1982, 1997), and present a qualitative and quantitative analysis of the pre and postnominal position of demonstratives. I focus on the relationship that exists between cognitive level of hearer on discourse entities and the choice of referring expressions (Ariel 1988, 1991, 2001; Gundel et al. 1993).

The term ‘adnominal demonstrative’ is used in the literature to distinguish pronominal demonstratives that co-occur with nouns from stand-alone pronominal demonstratives. Of these adnominal forms, Swahili has various forms of proximal and distal demonstratives that obligatorily agree with the nominal class of the noun they modify (Ashton 1944; Vitale 1981). Table 10 presents examples of demonstrative forms of the first six noun classes (for a full list of the demonstrative forms see chapter 1, section 1.3.2.3).

Table 10: Proximal and distal demonstrative forms of the first six noun classes

Noun Class	Proximal Dem	Distal Dem
1	<i>hu-yu</i>	<i>yu-le</i>
2	<i>ha-wa</i>	<i>wa-le</i>
3	<i>hu-u</i>	<i>u-le</i>
4	<i>hi-i</i>	<i>i-le</i>
5	<i>hi-li</i>	<i>li-le</i>
6	<i>ha-ya</i>	<i>ya-le</i>

The differences in the forms of the Swahili demonstratives are due to two factors: (i) relative proximity of the interlocutor to the intended referent, hence the hV- stem for proximal demonstratives and the –le stem for distal demonstratives, and (ii) the agreement affix which varies depending on the noun class being modified. For the proximal demonstrative the agreement affix is a suffix while for the distal demonstrative, the agreement affix is a prefix. The agreement prefix for class 1 and 2, for example is *yu-* and *wa-* while that of class 3 and 4 is *u-* and *i-*. In this dissertation, I examine class 1 (animate nouns) proximal (*hu-yu*) and distal (*yu-le*) adnominal demonstratives. Class 1 is chosen because of the relative prominence of animate nouns as opposed to inanimate nouns (Givon 1976). In addition, animate nouns tend to be sustained for longer periods in discourse than inanimate nouns which are known to “decay” faster (Givon 1983). The applicability of the results of this study is therefore limited to class 1 and extension of the findings to other noun classes is left for future research.

Besides the semantic distinction of distal and proximal, there are two attested adnominal demonstrative constructions that vary in their word order in Swahili: NP + DEM as seen in (1) repeated here as (48) and DEM + NP as seen in (2) repeated here as (49). In the examples, the adnominal demonstrative construction is bracketed.

(48) [Msichana yule] a-li-ingia  
*Igirl ID.DEM ISM-PST-enter*  
 ‘That girl entered.’

(49) [Yule msichana] a-li-ingia  
*ID.DEM Igirl ISM-PST-enter*  
 ‘That girl entered’

The two types of orders can both be found with the same nouns. The distal demonstrative *yule* ‘that’ is postnominal in (48) but prenominal in (49). These two types of adnominal demonstrative constructions are mainly used in discourse to mark topical discourse entities. Topic here is defined as a salient referent in discourse due to its “referential givenness” status (Gundel & Fretheim 2006). I posit that the postnominal demonstrative as seen in (48) signals to the hearer that the intended referent is “activated” (Chafe 1987; Gundel et al. 1993). On the other hand the prenominal demonstrative as seen in (49) signals the hearer that the intended referent is “semi-active” or “inactive” (Chafe 1987). “Semiactive” referents are those discourse entities reintroduced in the discourse after topic shift or discourse entities within the conversational context (Chafe 1987; Lambrecht 1984). “Inactive” referents are discourse entities reintroduced in the discourse after a long gap of absence or are familiar due to community membership.

The organization of the rest of the chapter is as follows. Section 3.2 explains the scope of this study. In section 3.3 and section 3.4, I discuss previous works on demonstrative function and demonstrative position respectively. In section 3.5, I explain the methodology, starting with a discussion of the extraction of data from the Helsinki Corpus of Swahili. In section 3.6, I explain how the data was coded for analysis. In section 3.7 I present the results of the study. Section 3.8 presents the summary and conclusions.



place), *huku/kule* ‘here/there’ (class 17- non-specific place) and *humu/mule* ‘in here/in there’ (class 18 – enclosed location). The demonstrative used as manner adverb is mostly *hivi* ‘this way’ occurring in postverbal position as in

- (52) a-li-cheza                      hivi  
*SM-PST-dance-FV*    *8P.DEM*  
 ‘He danced this way’.

In addition to the three types of demonstratives discussed above (determiner, pronominal and adverbial), there is another demonstrative in Swahili referred to as “referential demonstrative” (see section 1.3.2.3). Example (53) illustrates the use of referential demonstratives.

- (53) a. ni-li-ach-a                      [mke]                      wangu katika pango hili  
*SM.ISG-PST-leave-FV*    *woman*                      *mine in 5cave 5P.DEM*  
 ‘I left my woman (wife) in this cave.’
- b. Jina                      la                      [mke huyo]                      ni                      Nkambora  
*name                      of                      woman R.DEM*                      *is                      Nkambora*  
 ‘The name of the woman is Nkambora.’

It is important to mention here that although the referential demonstrative is mostly in postnominal position as in (53b), it is also possible that it occurs in prenominal position. In (53a) the speaker introduces in the discourse a woman whom he left in a cave (also introduced in the discourse via the adnominal demonstrative construction *pango hili* ‘this cave’). In the second mention in (53b), the referential demonstrative *huyo* occurring after the noun *mke* ‘woman’ is used to mark the referent as definite. While the referential demonstrative has a limited function of marking definiteness of activated NPs as seen in (53b), the proximal and distal adnominal demonstratives have a wider range of functions including gestural and marking of activation levels of discourse entities. Thus the use of a

referential demonstrative *hilo* in place of *hili* in the first mention of the cave in (53a) would be infelicitous; but a proximal demonstrative *huyu* in place of the referential demonstrative *huyo* in (53b) would be felicitous.

This study is limited to the analysis of the pre/postnominal proximal and distal adnominal demonstratives. The pronominal, adverbial and referential usage of demonstratives is left for future research.

Further, this study is limited to one sub-corpus of the Helsinki Corpus of Swahili, HSC-books, mainly containing literary works and educational manuscripts published in the mid to late 20<sup>th</sup> century. The Helsinki Corpus of Swahili used to extract data for this study is not tagged for anaphoric chains and distribution at the sentence and discourse levels. One implication of that aspect is that the processing of the data from the corpus was mostly manual, especially in the postediting process of the concordances as well as the quantitative and qualitative analysis of the adnominal demonstrative in their wider contexts. Furthermore, due to the complexity and diverse approaches employed in the study of anaphora, some writers working on anaphora resolution have suggested “restriction to a domain (sublanguage) rather than focus on a particular natural language as a whole” (Mitkov 1994: 1170 cited by Botley & Mcenery 2000: 34), so the claims I present in this paper apply only to the domain of literary and edited prose, leaving the distribution within other genres for future work.

In the next two sections (3.3 and 3.4), I review the literature on the two main aspects within which the demonstrative distribution is discussed: the pragmatic function of the demonstratives and the position of the demonstrative relative to the noun. In

previous works, demonstrative function is mostly studied from a pragmatic perspective while demonstrative position is studied from a syntactic perspective.

### 3.3 Demonstrative Function

Adnominal demonstratives as referring expressions have been most systematically analyzed by looking at the demonstrative function (Fillmore (1975 [1971], 1982, 1997; Himmelmann 1996; Diesell 1999). Demonstratives have been observed to show the following functions:

- (i) Gestural; signaling the physical distance of the relevant noun from the deictic center.
- (ii) Anaphoric; used in tracking of discourse entities in texts
- (iii) Recognitional; used to mark definite reference based on shared knowledge.
- (iv) Discourse Deixis; used to refer to preceding or following portion of ongoing discourse.

The demonstratives are “co-specification” expressions (Sidner 1983) used as cognitive pointers to discourse entities that are given. As cospecification expressions, the gestural demonstratives refer to “situationally evoked” (Prince 1981) discourse entities, that is, discourse entities within the conversational context of the interlocutors. Anaphoric demonstratives refer to discourse entities activated in discourse texts. Recognitional demonstratives refer to discourse entities familiar to interlocutors due to mutual knowledge. Each of the first three types of demonstrative function (gestural, anaphoric, recognitional) will be explained in turn in the following sections<sup>10</sup>.

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<sup>10</sup> As explained under section 3.2 (scope of the study), this study focuses on class 1 nouns. Class 1 demonstratives refer to animate nouns and therefore exclude discourse deixis.

### 3.3.1 Gestural

Gestural adnominal demonstratives are deictic expressions whose interpretation is possible only if the hearer is within the conversational context of the speaker (Fillmore 1975 [1971], 1982, 1997). Most languages have two types of gestural demonstratives: the proximal demonstrative which signals proximity from the deictic center and the distal demonstrative which signals that the relevant entity is away from the deictic center. In English, for example, the proximal demonstrative *this* and the plural counterpart *these* points to entities close to the interlocutors while the distal demonstrative *that* and its plural counterpart *those* point to entities away from the interlocutors.

Earlier studies on Swahili demonstratives discuss the pragmatic function of demonstratives, first, from the traditional standpoint of physical distance as illustrated in example (54) and (55):

(54) Mke wa Sultan a-ka-sema, a,a,a, [huyu] si mtoto wangu  
*Iwife of Sultan SM-SEQ-say no P.DEM NEG child mine*  
'The Sultan's wife said, "No this is not my child."' (Ashton 1944: 181)

(55) Nenda upesi u-ka-m-tazam-e mtu [yule] a-na nini?  
*go quickly 2SG-SEQ-OM-look-IMPTV person ID.DEM SM-have what?*  
'Go quickly find out what is the matter with that person.' (Ashton 1944: 182)

In (54) the proximal demonstrative *huyu* is used by the *Sultan's* wife to point to a child within the conversational context. In (55), the distal demonstrative *yule* signals that referent of the referring expression *mtu* 'man' is away from the speaker.

In addition to the spatio-temporal distinction of the interlocutors' physical space, demonstratives can also be extended to uses expressing the mental domain in terms of proximity or non-proximity from the deictic center. Thus the proximal demonstrative *this*

may show “affection, interest, pride etc.” while the distal demonstrative *that* may show “contempt, disapproval, dislike etc.” (Petch-Tyson 2000: 48). On the same line, Wilt (1987) explains the use of some proximal and distal demonstratives in Swahili texts as a consequence of narrative distance. In this usage, the narrator (author) uses the proximal demonstrative to show that he is part of the narrative context, or uses the distal demonstrative to distance himself from the narrative context. Example (56) illustrates the use of a distal demonstrative expression *yule* ‘that’ to indicate narrative distance. In the example, the main character in the source novel, *Asumini*, is a modest girl flying in a plane for the first time. Her strong Islamic upbringing makes her uncomfortable when a young man sitting next to her named *Sewa* approaches to tighten her seat belt.

- (56) “Ni-ku-saidi-e” , a-li-ongez-a [Sewa]<sub>i</sub>,[1] lakini mwenza-ke  
*ISG-2SG-help-IMPTV SM-PST-add-FV Sewa, but colleague-3SG*  
 ha-ku-m-jibu mbuku wala taire [2]. “Ni-k ...”,[3] sasa  
*SM.NEG-PST-OM-respond intensifier “ISG-2SG... now*  
 harakaharaka [barubaru yule]<sub>i</sub> a-li-m-sogez-e-a  
*quickly young man that SM-PST-OM-approach-APPL-FV*  
 mikono Asumini  
*hands Asumini*  
 “Can I help you?” Sewa insisted, but his seatmate (Asumini) remained silent.  
 “Can I...”, now, the young man’s hands quickly approached Asumini.’

While the short referential distance (3 clauses) between *Sewa* and the anaphor *barubaru yule* ‘that youngman’ (bracketed) in (56), as I will later explain, warrants the use of the proximal demonstrative *huyu*, the distal demonstrative *yule* is used instead. In using the distal adnominal demonstrative *barubaru yule* ‘that young man’, the author distances himself from the context of the narration. In addition, it is also probable that the distal

demonstrative here is used by the author to show contempt or disapproval of Sewa's invasion of Asumini's personal space.

While emotional and narrative proximity may influence the speaker's choice of either the proximal or distal demonstratives, the main function of the adnominal demonstrative as seen in (56) is anaphoric. Full interpretation of the expression *barubaru yule* depends on the antecedent *Sewa*. In the next section, I further explain the anaphoric function of the demonstrative whose difference from the gestural demonstrative is the presence of a linguistic cospecification expression to help the hearer identify the intended referent instead of a non-linguistic entity within the conversational context.

### 3.3.2 Anaphoric

The discourse text provides a context comparable to a deictic field in an utterance situation in which entities are pointed at via anaphoric referring expressions to create cohesion within and across discourse segments (Cornish 1999). Adnominal demonstratives as anaphoric expressions are therefore used to point to previously introduced discourse entities. One question that has been raised in the study of demonstratives as anaphoric expressions is why language users opt for pronominal demonstratives or adnominal demonstratives in situations where other devices such as pronouns and explicit NPs can be used. In the following sections I explain the cognitive account, copresent foci, and Gricean approach which attempt to explain the choice of demonstratives as referring expressions.

### 3.3.2.1 Cognitive Account

Various cognitive theories focusing on referential choice have attempted to account for the use of demonstratives as referential expressions in relation to other referential devices (see chapter 2). The Accessibility Hierarchy by Ariel (2001) ranks demonstrative expressions as mid-accessibility markers. According to this hierarchy, demonstratives are used if the consciousness level of the hearer to the intended referent is neither high nor low. Within the demonstrative expressions, the proximal adnominal demonstrative is ranked higher than the distal adnominal demonstrative. Zero forms and pronouns are ranked higher than adnominal demonstratives in the accessibility hierarchy while explicit NPs are ranked lower.

Gundel's et al. (1993) Givenness Hierarchy presents six hierarchical cognitive statuses matched with referring expressions. They are: in focus > activated > familiar > uniquely identifiable > referential > type identifiable. The highest in the rank is the cognitive status 'in focus' which is the necessary condition for the use of a pronoun. The cognitive status 'activated' is a necessary condition for the use of pronominal demonstratives (this/that) as well as a proximal adnominal demonstrative (this N). The distal adnominal demonstrative signifies the cognitive status 'familiar'. Since the attainment of higher cognitive statuses entail all lower statuses, the pronominal and proximal adnominal demonstratives which mark activated status can also be used for the familiar status.

In addition to relating reference choice with accessibility level, Ariel provides referential distance as the main parameter of measuring accessibility. Within this line of

referential choice, Wilt (1987) points out that the main determiner on the use of either the proximal or distal demonstrative in Swahili is discourse distance. Discourse distance (referential distance in this dissertation) refers to the distance between two coreferential referents in discourse. Using the paragraph as the unit of measurement, Wilt (1987) analyses the variation in the use of the proximal and distal demonstrative as a function of referential distance. In his analysis he argues that the proximal demonstrative is used as an anaphor for antecedents within the same paragraph while the distal demonstrative is used as an anaphor for antecedents across paragraphs. However, the definition of a paragraph makes it an unsuitable measuring unit of referential distance. The Oxford English Dictionary for example defines a paragraph as a ‘distinct passage or section of a text, usually composed of several sentences, dealing with a particular point, a short episode in a narrative, a single piece of direct speech, etc.’

Therefore, in this study, I explore the predictions made by these cognitive theories on the choice of adnominal demonstratives as referring expressions via corpus analysis. In addition to contextual analysis in explaining the demonstrative position, referential distance, with the finite clause as the unit of measurement, is also used to assess the effect of referential distance on demonstrative choice and position. I show that these cognitive theories, though very general in their predictions, can be extended to explain the pre and postnominal position of the Swahili demonstrative.

### 3.3.2.2 Co-present Foci

Recall the discussion on Centering theory in chapter 2 which stipulates that the subject of a clause is the backward looking center (topic) of the clause in question (Grosz

et al. 1995; Walker et al. 1998). Whenever there is more than one possible forward looking center (expected focus), competition arises. Using data from Russian, German, Afrikaans and Dutch, Comrie (2000) argues that demonstratives are marked coreferential expressions used in the event that the backward looking center (topic) of the immediate utterance is unexpected. In German, for example, pronouns are chosen as reference when the backward looking center (topic) is expected to signal topic continuity. In the event that the backward looking center (topic) is not the forward looking center (expected focus) of the previous utterance, anaphoric demonstratives are used to signal topic shift. Example (57) illustrates this (Comrie 2000: 51):

(57) Graf dal baronu pošč eninu, [a tot vyzval ego na duél].

The Count<sub>i</sub> gave the Baron<sub>j</sub> a slap on the face, and HE<sub>j</sub> challenged him<sub>i</sub> to a due

Being the subject of the matrix clause, the expected backward looking center in (57) is *graf* ‘the Count’. However, *graf* is not the backward looking center of the embedded clause (bracketed). The demonstrative *tot* is therefore used to indicate that the less expected antecedent *baronu* ‘baron’, which is postverbal in the matrix clause, is the topic of the embedded clause. On the same lines, Cornish (1999: 31) argue that demonstratives are used in English to make salient “a referent which enjoyed secondary or implicit focus at the point where the processing of the first sentence is complete”.

On the choice between the distal and proximal demonstrative as anaphoric expressions, Sidner (1983: 320) points out that the distal and proximal demonstratives are used to disambiguate “co-present discourse foci” in cases of more than one discourse topics. This is illustrated in example (58) (Sidner 1983: 321).

- (58) a. I am having a party tomorrow night;  
 b. It will be like the one I had last week.  
 c. [That party] was a big success.  
 d. Because everyone danced.  
 e. [This one] will have better food

The use of the distal demonstrative *that party* in (58c) and the proximal demonstrative *this one* in (58e) indicates that the speaker's main focus in this discourse is the current party which will be held the next day as opposed to last week's party. An important question here is whether the choice of the distal and the proximal is due to the time difference between the two parties: the proximal for the one closest to the time of speaking, and the distal for the one furthest from the time of speaking (cf. Ariel's (1988, 1991, 2001) Accessibility Hierarchy which ranks the proximal demonstrative higher than the distal demonstrative.)

On the same line, Leonardo (1985, 1987) argues that the Swahili demonstratives can be more generally analyzed using his proposed hypothesis of focus of attention. The main claim is that the gestural role of demonstratives can be explained if proximal demonstrative are understood as indicators of "high concentration of attention" and the distal demonstratives as indicators of "low concentration of attention". In other words, the proximal demonstrative marks important discourse entities while the distal demonstratives marks less important discourse entities. In example (59), Leonardo (1987: 99) argues that the proximal demonstrative is used instead of the distal demonstrative to mark the intended referent as important.

- (59) Labda            wachawi    hawa        wa-na-tu-ka-li-a                    usiku  
*May be            2sorcerers 2P.DEM 2SM-PRT-OM-sit-APPL-FV            night*  
 'May be these sorcerers visit upon us at night'

The adnominal demonstrative in (59) is a first time mention. Furthermore, the demonstrative does not point to a discourse entity within the conversational context. Thus, according to Leonardo (1987), the proximal adnominal demonstrative *wachawi hawa* is used here to signal the importance of the sorcerers, a “persistent” (Givon 1983) theme in the source novel, as opposed to other less important themes.

According to the co-present foci analysis, demonstratives are generally chosen to mark topic shift. Thus, the proximal demonstrative in English (Sidner 1983) and Swahili (Leonardo 1985, 1987) is used to signal thematic importance. A related phenomenon to the co-present foci analysis is time shift. Specifically, the distal demonstrative is chosen to show that a discourse entity is less accessible due to the passage of time. On the other hand, a proximal demonstrative is chosen to show that the discourse entity in question is more accessible because it is the most recent topic. Furthermore, the co-present foci analysis explains the choice of demonstratives as referring expression but not demonstrative position. In this study, I use corpus data to explain the choice of adnominal demonstratives as referring expressions as well as demonstrative position.

### 3.3.2.3 Gricean Account

Levison (1987) argues that anaphora can be accounted for by the Gricean maxim of Quantity (Grice 1975). Levinson (1987:402) claims that the more minimal a referring expression is, the more likely a coreferential interpretation is favored, hence, the hierarchy of NP realization: Lexical NP > pronoun > Ø. Thus a coreferential interpretation in a sentence such as *John<sub>i</sub> came in and he<sub>i</sub> sat down* (Levinson 1987: 403)

is preferred because such an interpretation is more informative about John than a non-coreferential interpretation which would introduce another entity in the discourse.

Following Levinson (1987), Himmelmann (1996) claims that the choice of adnominal demonstratives is generally guided by the maxim of quantity which requires interlocutors' contribution to be as informative (but not more informative) as is required (Grice 1975). According to Himmelmann (1996: 228), adnominal demonstratives are used "whenever a second full definite NP mention is necessary for a given referent within a discourse node – for whatever reason". Where more than one discourse entity is a possible antecedent, for example, adnominal demonstratives are used to resolve ambiguity as well as to ensure accessibility of the intended referent.

There are a whole range of reasons explaining why demonstratives are used instead of other referring expressions associated with the functional value of demonstratives. For example, demonstratives are generally regarded as having a stronger indexical power than pronouns. While pronouns point to discourse entities within and in the immediate preceding or following textual environments of utterances, demonstrative expressions can refer to discourse entities "expressed or implied in any immediately preceding segment, even in the entire text upto that point" (Myers 1988: 4 cited by Cornish 1999: 59).

In a study that assesses the use of demonstratives in comparison to definite reference in English and Dutch, Maes & Noordman (1995) dismiss the accessibility hierarchy (Ariel 1988, 1991, 2001) and Gundel's et al. (1993) givenness hierarchy in favor of the discourse value of demonstratives. It is claimed that adnominal

demonstratives force a predicative reading of the referent in question whereas a definite article simply implies a repetition of the referent. In other words, adnominal demonstrative constructions provide more coding information than is required for simple identification of the anaphor. In its modifying role, an adnominal demonstrative classifies the antecedent, activates relevant contextual information of the antecedent, and also gives more information attributed to the antecedent. These modifying roles are consecutively illustrated in (60):

- (60) a. *The sparrow<sub>i</sub>* is very common in our Low Countries. *{The / this} bird<sub>i</sub>* doesn't need special protection (Maes & Noordman 1995: 262) - classifying
- b. In the big cities, *air pollution<sub>i</sub>*, is increasing. *{This / that / the} air pollution<sub>i</sub>* is a result of bad policy (Maes & Noordman 1995: 265) – contextual information
- c. Yesterday evening, *the chancellor<sub>i</sub>* had a meeting with representatives of European women's movements. *{The / This} conservative chancellor<sub>i</sub>* repeated his ideas on women and labor (Maes & Noordman 1995: 269). - attributive

In (60a) use of the determiner implies that identification of the DR is taken for granted, while the demonstrative activates inferences related to the category, bird. In (60b) the demonstrative, more than the determiner, enhances activation of the information on air pollution in the previous sentence and therefore effectively contextualizes the present information. In (60c) the demonstrative forces an attributive reading, that is, more attributive information is added to the chancellor, while the use of the determiner simply presupposes the existence of the chancellor (cf. Krasavina 2011 on a similar account using Russian data).

While the Gricean account can explain the choice of demonstratives instead of other referring expressions based on the functional value of the referring expression in question, it cannot explain the position of the demonstrative relative to the noun in Swahili adnominal demonstratives.

### 3.3.3 *Recognitional*

“Recognitional” (Himmelmann 1996) demonstratives point to a referent whose identity is specified via the activation of a cognitive entity in the interlocutors’ memory, or reactivation of a discourse entity whose topicality has been supplanted by other discourse entities (cf. Cornish 1999). In recognitional usage, a speaker believes that the intended referent can be accessed because the hearer has specific shared knowledge about the discourse entity in question. According to Fillmore (1982), the proximal demonstrative *this* in English signal “unshared knowledge” while the distal demonstrative *that* signal “shared knowledge” as illustrated in (61):

- (61) a. I was visiting this friend of mine last night.  
b. That man is an absolute idiot.

Example (61a) is a presentational demonstrative construction for first mention of a topical referent assumed to be unknown to the hearer. In (61b), the distal adnominal demonstrative *that man* indicates that the intended referent is familiar. In his attempt to describe universal functions of demonstratives Himmelmann (1996: 235) goes further to claim that “the distal demonstrative is the typical demonstrative for recognitional use.” However, this claim does not seem to hold for the Swahili data analyzed in this dissertation where both the proximal and distal demonstratives are used to signal familiarity of discourse entities.





### 3.4 Adnominal Demonstrative Position

A few studies on demonstrative position in Bantu have discussed the syntax of the demonstrative position. In these studies the pragmatics of the pre and postnominal position of demonstratives is briefly described to motivate the presence of functional projections in the DP structure such as Focus phrase (FocP) and demonstrative phrase (DemP) (Carstens 1991, 2008; Tamanji 2006). However, data from the Helsinki corpus of Swahili shows that the pre and postnominal demonstratives have a range of cognitive implications in discourse which I discuss in this chapter.

In Swahili, the general tendency is to claim that the postnominal adnominal demonstrative is the unmarked form reserved for the basic gestural function, as seen in (64), while the prenominal position is an innovation aimed at marking definite reference, as seen in (65) (Ashton 1944: 182).

(64) Siku ya nne a-ka-twa-a sufuria ile  
*Four of day 3SG-SEQ.PST-take-FV 9saucepan 9D.DEM*  
'On the fourth day, he took that (gestural) saucepan.'

(65) siku ya nne a-ka-twa-a ile sufuria  
*Four of day 3SG-SEQ.PST-take-FV 9D.DEM 9saucepan*  
On the fourth day, he took that (definite) saucepan.'

According to Ashton, the adnominal demonstrative in (64) points to a *sufuria* 'saucepan' within the conversational context while in (65) the adnominal demonstrative indicates that the referent of the referring expression *sufuria* is definite (cf. Givon 1976).

Ashton's (1944) claim is corroborated by Carsten's (1991, 2008) syntactic analysis where she claims that the postnominal position is the unmarked position of the demonstrative. In this unmarked position, Swahili demonstratives are adjuncts to the

NumP and their main function is the basic gestural function. In the prenominal position, the demonstrative has undergone optional raising to the specifier of DP (cf. Abney 1987). As is the case with languages such as English in which determiners such as *the* mark definite reference, the prenominal syntactic position of the demonstrative is aimed at marking definite reference due to previous mention (cf. Clark and Marshall's (1981) definite reference due "linguistic copresence"). However, my analysis of the corpus data indicates that both the pre and postnominal demonstratives may be used for (re)activation of discourse entities in discourse texts as well as discourse entities within the conversational context.

Amidu (2006) refutes the functional distinction based on the demonstrative syntactic position in Swahili by asserting that both the pre and postnominal positions can be referential (anaphoric due to previous mention). He illustrates his argument by presenting the following examples adapted from Wemba Rashid (1969-1970):

(66) Juma Zaidi a-li-ona [mti m-kubwa]  
*Juma Zaidi SM-PST-see 3tree 3AGR-big*  
 'Juma Zaidi saw a big tree.'

(67) Juma Zaidi a-li-kaa chini ya [mti ule]  
*Juma Zaidi SM-PST-sit under of 3tree 3D.DEM*  
 'Juma Zaidi sat under that tree.'

(68) Juma Zaidi a-li-kaa chini ya [ule mti]  
*Juma Zaidi SM-PST-sit under of 3D.DEM 3tree*  
 'Juma Zaidi sat under that tree.'

Amidu rightly points out that both the postnominal adnominal demonstrative *mti ule* (67) and the prenominal adnominal demonstrative *ule mti* (68) can be felicitously used as coreferential NPs to the NP *mti mkubwa* 'big tree' in (66). However, Amidu (1996: 145)

misses the point when he dismisses this distinction as “trivial and perhaps not very useful”. In this dissertation, I show that this word order variation “is not random, boundless, and unpredictable” (Downing 1995: 1). Using data from the Helsinki Corpus of Swahili, I demonstrate that the pre and postnominal position of the Swahili demonstrative is relevant and is constrained by discourse factors, specifically, referential givenness of discourse entities.

In the two sections above, I have presented studies in which the pragmatic role of adnominal demonstratives and demonstrative syntactic position has been independently analyzed in a number of languages. However there are no synchronic studies I am aware of in which adnominal demonstrative pragmatic function and position relative to the noun being modified are studied in larger discourse contexts. The present study thus fills this gap by exploring word order variation of Swahili adnominal demonstrative constructions under the auspices of information structure. This study is mainly pragmatic in the sense that the demonstrative’s function and position is analyzed after a full consideration of the discourse context under which the adnominal demonstrative in question is used.

### 3.5 Methodology

In this section, I briefly explain how the dataset was collected and present the initial frequencies of the pre and postnominal demonstratives obtained from the Helsinki Corpus of Swahili (section 3.5.1). I then explain the postediting process which involved displaying the concordance lines in context to identify the true demonstrative + noun collocations (section 3.5.2).

### 3.5.1 The Corpus

As mentioned earlier, the source of data in this study is the Helsinki Corpus of Swahili (HCS) which has 14 annotated corpora of 12.5 million words in total. The corpora contain current Swahili newspaper articles as well as excerpts of literary texts, education and science material written in the mid 20<sup>th</sup> century to late 20<sup>th</sup> century. Due to the absence of annotations on anaphora resolution in the corpus, I limit the analysis to the Helsinki Corpus of Swahili books (HSC books), which contains Swahili literary texts and education manuscripts. The HCS books sub-corpus has 1,055,425 words in 71 documents.

In the HCS, concordance searches of the relevant data are done via inbuilt software, namely Lemmie. This software can display concordance lists of the key word based on the following forms:

- (i) base form (bf): only the stem of a word is queried excluding affixes. For example, concordance list of all occurrences involving the stem *cheka* ‘laugh’ can be displayed by typing in the query box: [bf=‘cheka’].
- (ii) word form (wf): The stem and all the affixes of a verb stem can be queried by typing the word form in the query box, for example, [wf=‘alicheka’] (he/she laughed). Both bf and wf queries can be used for the demonstratives (*huyu/yule*) which seem not have been annotated for the proximal hV proximal stem + AGR suffix and the le distal demonstrative stem + AGR prefix.
- (iii) parts of speech (pos): This feature specifies the grammatical category of a query. For example, all occurrences of the basic/word form *huyu* followed by a noun can be displayed by typing in the query box: [bf=‘huyu’] [pos=‘n’]
- (iv) morpho-syntactic description(msd): This feature makes queries by specifying the grammatical functions of the affixes. For example, all occurrences of the verb *-cheka* in past tense can be displayed by typing in the query box: [bf=‘cheka’ msd=‘\*PST\*’].

In addition, the Lemmie software can display concordance lists of the query expression (Figure 2 shows a concordance list for the query [bf='huyu'] [pos='n']) as well as the immediate context of adnominal demonstrative expressions. Figure 3 shows the wider context of the adnominal demonstrative *msichana huyu* 'Lit: girl this' (in red font).

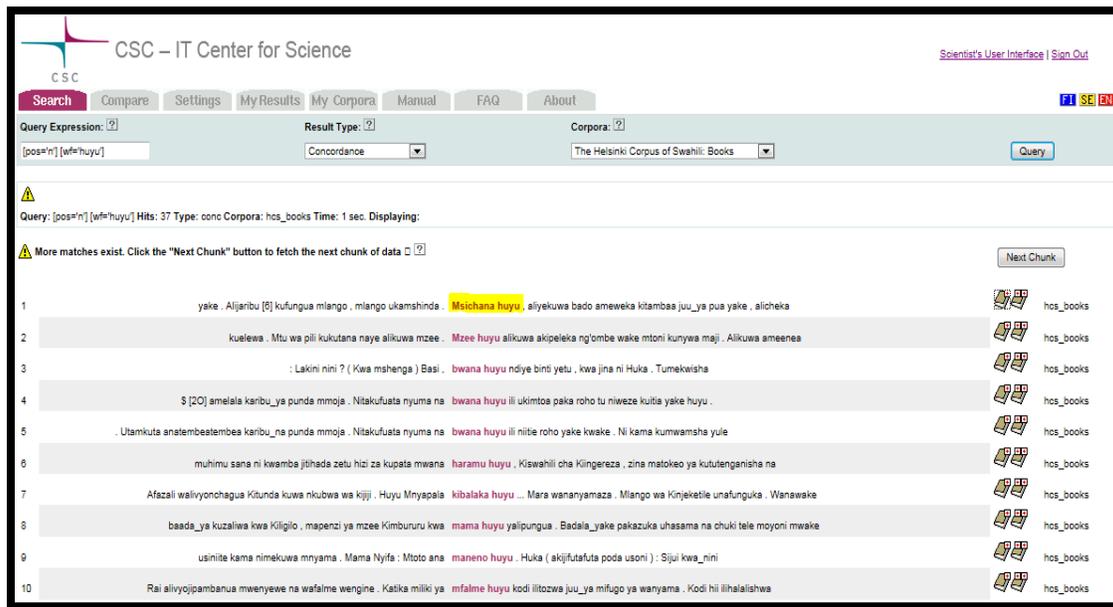


Figure 2: Caption of a concordance list

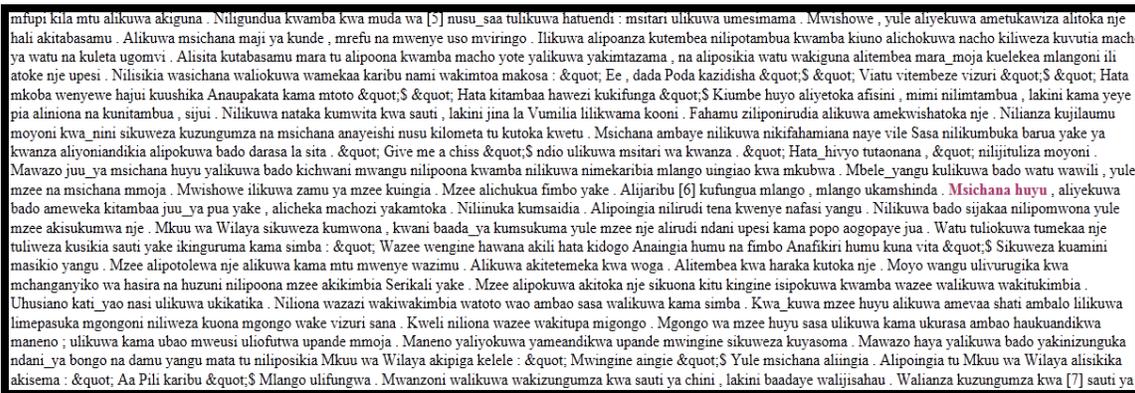


Figure 3: Wider context for the concordance line 1 in Figure 2

In order to collect data involving the proximal and the distal adnominal demonstratives in pre and postnominal positions, four queries were made in the HCS. As mentioned earlier, the corpus analysis was limited to class 1 nouns. The HCS ‘msd’ tag 1/2-SG<sup>11</sup> can limit the query to class 1 nouns. Unfortunately this tag only displays those nouns with the singular prefix *m-* and eliminates other class 1 nouns such as proper names of animates whose initial segment may not be *m-*.

- (i) [bf='huyu'] [pos='N'] : This command looks for all instances of the base form “huyu” followed directly by a noun
- (ii) [pos='N'] [bf='huyu'] : This command looks for all instances of the base form “huyu” preceded directly by a noun
- (iii) [bf='yule'] [pos='N'] : This command looks for all instances of the base form “yule” followed directly by a noun
- (iv) [pos='N'] [bf='yule'] : This command looks for all instances of the base form “yule” preceded directly by a noun

*Key: bf – base form, pos – parts of speech, N – noun*

The query in (i) searches for the prenominal proximal adnominal demonstrative *huyu*, there were 135 hits. The query in (ii) searches for postnominal proximal demonstrative *huyu*, there were 254 hits. The query in (iii) searches for the prenominal distal adnominal demonstrative *yule*, there were 339 hits. Finally, the query in (iv) searches for the postnominal distal adnominal demonstrative *yule*, there were 114 hits. Figure 4 is a graphic representation of these frequencies.

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<sup>11</sup> The HCS annotates the Swahili nouns using the traditional numbering classification which has class 1-18. At the same time, the annotation recognizes the main weakness in the traditional classification which classifies nouns based on the class prefix rather than the stem. Thus, 1/2-SG and 1/2-PL correspond to class 1 and class 2 nouns such as *m-tu/wa-tu* ‘person/persons’ whose difference according to the traditional classification is the class prefix but have the same stem. Similarly, 3/4-SG and 3/4-PL correspond to class 3 and class 4 nouns such as *m-ti/mi-ti* ‘tree/trees’, and so on.

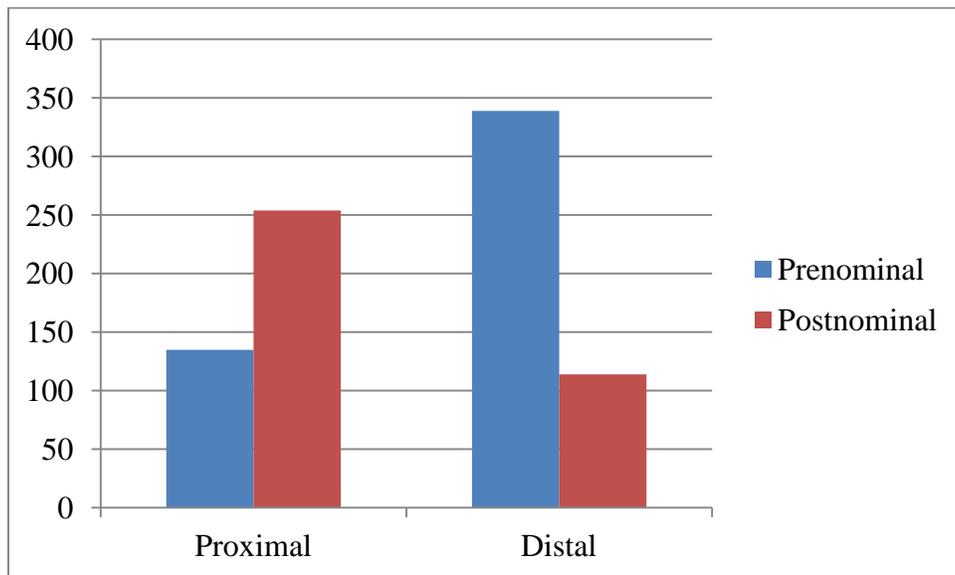


Figure 4: Initial frequencies of pre and postnominal demonstratives

A Chi-squared test revealed that the difference in the frequency between the proximal and distal demonstratives in pre and postnominal position was significant,  $X^2(1, N=842) = 136.99, p < .001$ . Further, the frequency of the postnominal proximal demonstrative *huyu* was significantly higher than that of the prenominal proximal demonstrative,  $X^2(1, N=389) = 36.40, p < 0.001$ . On the other hand, the frequency of the prenominal distal demonstrative *yule* was significantly higher than that of the postnominal distal demonstrative,  $X^2(1, N=453) = 111.76, p < .001$ .

An interesting question that arises from the above statistics is whether the proximal and distal demonstrative has different pragmatic functions in pre and postnominal position. Given that the concordance results show significant difference in the frequencies of demonstrative type (proximal/distal) at pre and postnominal position,

this conclusion is plausible. The initial results are consistent with the initial hypothesis that prenominal demonstratives are used to indicate semiactive or inactive referents. Crosslinguistically, the distal demonstrative is reserved for referents with low accessibility, thus, its higher frequency in prenominal position augments the hypothesis (Ariel 1988, 1991, 2001). On the other hand, I hypothesized that the postnominal demonstrative is reserved for activated referents. In the postnominal the proximal demonstrative has a higher frequency than the distal demonstrative. This frequency difference is also consistent with the hypothesis since proximal demonstratives mark referents with higher accessibility.

However, the validity of the results comes into question because the searches conducted were asking for all nouns adjacent to demonstratives whether the demonstrative and the adjacent noun formed a syntactic unit or not. Thus, a manual postediting process aimed at eliminating all the demonstrative + noun collocations that did not form a syntactic unit was conducted.

### *3.5.2 Manual Postediting*

After retrieving the respective occurrences of the proximal and distal demonstratives in both pre and postnominal position in the concordance lists, each adnominal demonstrative was displayed in its wider context. During the postediting process some demonstrative + noun collocations were dropped from the concordance list generated by the Lemmie concordance. As explained above, the concordancer displayed nouns in proximity to a demonstrative whether they formed a unit or not. Due to the class agreement that exists between the noun and a demonstrative modifier in Swahili, it was

possible to easily identify non-constituent demonstrative + noun collocations. Most of these cases were ditransitive verbs with a demonstrative adjacent to both the direct object and the oblique argument. Other cases that were eliminated include: adjuncts and prepositional phrase with nouns adjacent to a demonstrative; pronominal identificational demonstratives in which the copula introducing the demonstratum was deleted; and adnominal demonstratives from poems whose pre or postnominal position may be driven by metrical requirements.

Here, I give examples with ditransitive verbs to illustrate the disambiguation process. Example (69) presents a case in which the demonstrative is actually postnominal but was also listed as pronominal by the concordancer. Example (70) presents a case in which the demonstrative was actually pronominal but was also listed as postnominal. In the examples the relevant NP arguments are bracketed.

(69) Njoo u-m-pati-e [kijana huyu] [maji ya kunywa]  
*come 2SG-OM-give-IMPTV teenager P.DEM water of drinking*  
 ‘Come and give this teenager some water to drink.’

(70) Mwanandege a-ka-m-fumb-i-a [ki-jicho] [yule barubaru]  
*hostess SM-SEQ-OM-close-APPL-FV DIM-eye D.DEM young man*  
 ‘Then the hostess winked at that teenager.’

In example (69), the proximal demonstrative *huyu* is modifying the direct object *kijana* ‘teenager’ but was also displayed as a pronominal demonstrative modifying the indirect object *maji ya kunywa* ‘drinking water’. In (70) the distal demonstrative is modifying the indirect object *barubaru* ‘young man’ but the concordancer also counted this as a postnominal demonstrative modifying the direct object *kijicho* ‘small eye’.

Table 11 summarizes the number of adnominal demonstratives that were manually disambiguated and the number of adnominal demonstratives remaining after the elimination process.

Table 11: Adnominal demonstratives before and after postediting

Adn-Dem	Adn-Dems before Disambiguation	Adn-Dems after Disambiguation	Difference
Prenominal Proximal	133	109	24
Postnominal Proximal	135	124	11
Prenominal Distal	140	126	14
Postnominal Distal	114	75	39
Total	522	434	88

The goal was to get an equal number of disambiguated adnominal demonstrative for each demonstrative type and position (about 120 for each) but the total number of disambiguated distal postnominal demonstratives was way below this target.

### 3.6 Coding the Data

To facilitate the qualitative and quantitative analysis of the data, each adnominal demonstrative was coded for various variables. The variables were adnominal demonstrative type (`dem_type`), that is, whether the relevant demonstrative was proximal or distal; demonstrative function (`dem_function`), that is, whether the demonstrative was gestural, anaphoric or recognitional; and demonstrative position (`dem_position`), that is, whether the demonstrative was prenominal or postnominal. If there was a coreferential

NP in the immediate context before the adnominal demonstrative under consideration, the adnominal demonstrative was further coded for referential distance (*ref\_dist*), the number of finite clauses between the anaphor (the adnominal demonstrative in question) and the antecedent (the immediately preceding referring expression in a co-specification relationship with the anaphor). The finite clause was chosen as the discourse unit for analyzing referential distance because it is the locus for topic update (cf. Kameyama 1998, Poesio et al. 2004, Taboada & Zabala 2008). The activation status, that is, whether the relevant adnominal demonstrative was active, semiactive or inactive, of all the adnominal demonstratives was also coded.

While coding for most of the variables was straightforward after displaying the wider context during the disambiguation process, coding for the demonstrative function, referential distance and activation states need some elaboration. Each of these three variables is explained in turn in section 3.6.1, 3.6.2 and 3.6.3.

### *3.6.1 Demonstrative Function*

In this dissertation, the demonstrative functions are used as the schema under which the results of this study are presented. A total of 434 adnominal demonstrative constructions were coded for pragmatic function amongst other variables mentioned above. In the following sections, I explain how the adnominal demonstratives were coded for demonstrative function (gestural, anaphoric, and recognitional).

#### *3.6.1.1 Gestural*

Gestural demonstratives are used to pick out a specific referent within the spatial-temporal space of the interlocutors from a deictic center. The deictic center of gestural

demonstratives may be the speaker or some other entity within the surrounding situation of discourse participants. Only first mentions of referents within conversational contexts of discourse participants were coded as gestural. Here, gestural does not necessarily mean actual pointing but rather situations which need ‘pointing’ of some sort to establish reference. In the data set there are instances when a cue word may indicate that the adnominal demonstrative in question is gestural. Example (71) illustrates this.

(71) [Yule bwana] u-na-mu-on-a: Mzalamo yule?  
*D.Dem person 2SG-PRT-OM-see-FV Zaramo D.DEM*  
 ‘Do you see that person – is he a Zaramo (ethnic community)?’

In (71), the adnominal demonstrative expression *yule bwana* ‘that person’ was coded gestural because the verb *on-a* ‘see’ draws the attention of the hearer to a potential discourse entity within the conversational context. Notice that the demonstrative *yule* ‘that’ sentence finally is used pronominally – this is after the hearer’s attention is drawn to the intended referent.

There are however other situations where judgment was solely based on contextual information and absence of a co-specifying NP. Example (72) illustrates this.

(72) mimi na mke wangu Nkambora tu-na-mwaga  
*1SG and wife my Nkambora 1PL-PRT-bid farewell*  
 [huyu mwana wetu Kirwa]  
*P.DEM child our Kirwa*  
 ‘My wife and I are bidding farewell to this child of ours Kirwa’.

In (72) the speaker is referring to an adopted child whose guardianship is being transferred to his biological parents. The child was physically present and in close proximity to the

speaker hence the gestural demonstrative *huyu* which calls for the attention of the listeners to the referent.

Furthermore, there are other cases where speakers can “exploit more mediating links from the current interpersonal context to the intended referent” (Haviland 1993: 36). To explain these situational inferences, Haviland (1993) gives an example of a narrator who points to a collapsed house of a deceased person to enhance accessibility of the intended referent (the deceased person). In (73), I present an example coded as gestural based on Haviland’s (1993) account of accessibility due to “anchored local space”.

(73) [Huyu mtu] a-na-ishi-je msitu-ni humu pekeyake  
*IP.DEM 1person 1SM-PRT-live-Q 18[forest-LOC] 18P.DEM self his*  
 ‘How does this person live all alone in this forest?’

The speaker in (73) uses the adnominal demonstrative *huyu mtu* ‘this person’ to refer to a man leaving alone in a hut amidst a forest.

In general, most of the gestural adnominal demonstrative occurrences in the dataset were from plays or quotations of characters. Example (73) is a direct speech utterance preceded by a reporting clause:

(74) Bapage a-li-uliz-a  
*Bagape SM-PST-ask-FV*  
 ‘Bapage asked’.

In these instances, the writer gives adequate contextual information that enhances interpretation of the deictic expression. In plays, the gestural demonstratives mostly point to discourse participants within the play as seen in (75).

(75) Chiheko: Huyu msichana mwongo sana  
*Chiheko: IP.DEM girl liar very much*  
 ‘Chiheko: This girl is a big liar’

In (75) the name of the speaker is *Chiheko*. The adnominal demonstrative *huyu msichana* ‘this girl’ refers to the main protagonist, a girl named *Huka*. In this case, there is no apparent antecedent to the adnominal demonstrative and the most reasonable interpretation is that the adnominal demonstrative deictically identifies the intended referent.

### 3.6.1.2 Anaphoric Adnominal Demonstratives

Anaphora is a term used to describe two linguistic entities that are in a coreferential relationship. Botley & Mcenery (2000: 2) distinguish between “intra-sentential anaphora” which binds coreferential discourse entities across clauses of the same sentence and “inter-sentential anaphora” which tracks coreferential discourse entities across sentences. Adnominal demonstrative are used to track discourse entities across clauses as seen in (76) as well as across sentences as seen in (77).

(76) a-li-po-fik-a                      kwa [mzee Malongo],      [mzee yule]  
*SM-PST-when-arrive-FV*      at      old man Malongo,      old man D.DEM  
a-ka-shanga-a                      ku-mw-on-a.  
*SM-SEQ-surprise-FV*              *INFTV-OM-see-FV*  
‘When he (Kiligilo) arrived at mzee Malongo’s home, that old man (Malongo) was surprised to see him (Kiligilo)’

(77) a. U-ki-vuka                      bahari saba,      ku-na                      [chewa]; mkubwa.  
*2SG-SUBTV-cross seas*      seven, *17SM-be*              grouper big.  
‘If you cross the seven seas, there is a grouper (type of fish).’

b. [Chewa huyu]; a-ki-vuta                      pumzi...  
*1Grouper this*      *ISM-SUBTV-breath*      air  
‘When this grouper is breathing....’

In (76) the NP *mzee Malongo* in the matrix clause is in a coreferential relationship with the adnominal demonstrative *mzee yule* ‘that mzee’ in the embedded clause. In (77a), the noun *chewa* ‘grouper’ is the antecedent of the adnominal demonstrative *chewa huyu* ‘this grouper’ in (77b).

There were however those cases where the distinction between the anaphoric and recognitional function was fuzzy. Consider the following example.

(78) *Kumbe* [yule mtu mweupe] *amba-ye* *a-li-kuwa*  
*Interjection D.DEM man white COMP-REL SM.3SG-AUX*  
*a-me-nusur-ik-a ku-ua-w-a na wenyeji*  
*SM-PERF-save-STV-FV INFTV-kill-PASS-FV by villagers*  
 ‘Alas, that white man who escaped being killed by the locals...’

In (78), the adnominal demonstrative is followed by a restrictive relative clause describing the specific *mtu mweupe* ‘white man’ intended in the discourse. The referential distance between the adnominal demonstrative and its antecedent was 118 clauses. It is questionable whether accessibility of the ‘white man’ in (78) depends on the antecedent or the memory of the hearer (reader). Adnominal demonstratives whose identification requires, in addition to the antecedent, a restrictive clause to remind the reader that the intended referent was the one in the domain of the discourse were therefore judged as recognitional (See section 3.6.1.3).

It should, however, be emphasized that not all cases with restrictive clauses were judged recognitional. In (79), for example, a restrictive clause is used because of interference from other possible topical referents. The adnominal demonstrative in (79) was coded anaphoric although a restrictive clause is used.

- (79) “Mimi            na-it-w-a                            Nabii”, yule            mzee wa  
       “*ISG*            *SM.PRT-call-PASS-FV*            *Nabii*”, *ID.DEM*            *old man of*  
       kwanza            a-li-sem-a.  
       *first*            *SM-PST-say-FV*  
       ‘My name is Nabii’, that first old man said.

In this example, the restrictive clause is not aimed at activating contextual information to enhance accessibility but is mainly used to establish reference due to interference from another topical referent belonging to the same noun class and with similar characteristics, in this case, sex (male) and age group (elderly). The writer labels one of the possible antecedents as *mzee wa kwanza* ‘the first old man’ and the second as *mzee wa pili* ‘the second old man’. The restrictive clause is thus an instance of narrow focus. Moreover, the anaphoric adnominal demonstrative phrase *yule mzee wa kwanza* in (79) has an apparent antecedent in the discourse 11 clauses away. These borderline anaphoric adnominal demonstratives are thus aimed at reactivating semiactive referents.

### 3.6.1.3 Recognitional Adnominal Demonstratives

When an adnominal demonstrative construction is used recognitionally, the referent cannot be identified via physical presence in the conversational context, or prior mention in discourse. Instead, the speaker believes that the intended referent is accessible to the hearer via “community membership” (Clark and Marshall 1981). Example (80) illustrates an adnominal demonstrative used recognitionally.

- (80) [Huyu            Juma] ka-shindw-a                            ku-kutunz-a  
       *P.DEM*            *Juma*    *SM.PERF-defeat-FV*    *INFTV-take care-FV*  
       ‘This Juma has failed to provide for you.’

The example in (80) expresses the speaker’s concern about her neighbor’s marriage. The speaker believes that *Juma*, the husband to the neighbor, had failed in his role as the

family provider. The proximal adnominal demonstrative *huyu* is used to indicate that *Juma* is the man they all know as the addressee's husband. The use of the adnominal demonstrative expression here is distinct from the anaphoric use since the referring expression *Juma* had no apparent antecedent in the preceding discourse. It is also different from the gestural use because the referent *Juma* was not physically present in the conversational context.

I mentioned above that adnominal demonstratives whose identity depended on the hearer's memory of specific contextual information described by restrictive clauses were coded as recognitional. Interestingly, recognitional demonstratives of this nature can be used to reintroduce topical referents in distinct but related discourse texts as illustrated in (81).

- (81) Yule mwanamke [<sup>‘a-li-ye-jifungu-a’</sup> yai katika hospitali  
*That lady SM-PST-REL-give birth-FV egg in hospital*  
 ya wilaya ya Temeke] ha-wezi ku-shtaki-w-a  
*of district of Temeke NEG-able INFTV -report-PASS-FV*  
 ‘That woman who ‘gave birth’ to an egg at the Temeke District Hospital cannot be prosecuted.’

In (81), the restrictive relative clause (bracketed in the example) establishes the identity of a woman reported in an earlier newspaper article to have claimed to ‘give birth’ to an egg. The writer is aware of the “referential problem” (Auer 1984) caused by time shift and therefore adds more information to the recognitional adnominal demonstrative to ensure successful identification of an “inactive” referent.

While the example in (81) is an obvious case of a recognitional demonstrative because there is no apparent antecedent within the immediate discourse, there are the

anaphoric/recognitional “boarderline” cases (Himmelman 2006). In these instances (see example (78) above), the adnominal demonstrative has an antecedent in the previous discourse but does not depend on the antecedent alone for identification. Rather, the speaker adds additional relevant information in the form of restrictive clauses or descriptive phrases to enhance accessibility of the intended referent. The recognitional demonstratives are therefore “inactive” discourse entities reintroduced in the discourse after a long gap of absence.

### *3.6.2 Referential Distance*

In this section, I explain how referential distance of adnominal demonstratives with coreferential NPs was coded. The forms of referring expressions have been the basis for various works on referential givenness described as the consciousness level of interlocutors to discourse entities (Gundel & Fretheim 2006). Referential distance has been described as the most important diagnostic tool for measuring referential givenness. Givon (1983: 36), for example, explains that the effect of referential givenness on accessibility correlates with other factors such as interference from other possible discourse entities since “a high referential distance would show – all other things being equal - more interfering topics in the preceding register.”

Early works dealing with discourse coherence used the sentence as the discourse unit for the analysis of how the center (topic) is updated (Grosz et al. 1995). However, the intersentential approach turned out to be problematic in handling anaphors with more than one possible antecedent within the same sentence. Thus, referential distance in this study is the number of finite clauses from the relevant adnominal demonstrative

expression to a co-specifying explicit NP to its left. (cf. Kameyama 1998; Poesio et al. 2004; Taboada & Zabala 2008). Further, a non-finite clause counted as a single unit with the matrix clause because “untensed clauses are more grammatically integrated with superordinate clauses” (Kameyama 1998: 102). Kameyama (1998: 104) argues that in this approach, the finite clause is the locus for topic update in discourse text.

Example (82) from Kameyama (1998: 104) shows segmentation of an English sentence into four (4) finite clauses. In the example the *u* (utterance) followed by a number represents demarcation of the sentence into tensed clauses.

(82) (*u1*) *Happy but discriminating operagoers reserved judgment* (*u2*) *as her (her=Sutherland) singing showed signs of strain,* (*u3*) *her musicianship some questionable procedure,* (*u4*) *and her acting uncomfortable stylization*

The segmentation of example (82) into 4 utterances indicates that the finite clause, rather than the sentence as a whole, forms “sequential centering structures” within which the backward looking center is updated (Kameyama 1998: 103). In (*u2*) *Sutherland* is established as the the backward looking center then she is chained as the backward looking center in (*u3*) and (*u4*).

My analysis of the Swahili data followed Kameyama’s (1998) suggested segmentation of discourse texts with the finite clause as the unit of analysis. Furthermore, as mentioned above, the most recent cospecifying explicit NP to the left was considered in calculating the referential distance. The example in (83) illustrates how coding for referential distance using the finite clause as the discourse unit of analysis was done. Each of the finite clause segments is glossed in (83).

(83) (u1)mjumbe wa tano alipotakikana (u2)alitokea bila ya ajizi. (u3)Mjumbe huyu alikuwa Ridhaa .

- a. [mjumbe] wa tano a-li-po-tak-ik-an-a  
*Messenger of five SM-PST-when-want-STV-REC-FV*  
 ‘When the call for the fifth messenger was made’,
- b. a-li-toke-a bila ya ajizi  
*SM-PST-appear-FV without of fail*  
 ‘he came forth without fail.’
- c. [Mjumbe huyu] a-li-kuwa Ridhaa  
*Messenger P.DEM SM-PST-AUX Ridhaa*  
 ‘This messenger was Ridhaa.’

In (83a) the, relevant referential expressions are *mjumbe* ‘messenger’ (bracketed) and the co-specifying adnominal demonstrative *mjumbe huyu* ‘this messenger’ in (83c). The referential distance between the the two cospefying NPs is 2. The clause containing the antecedent was always counted as 1 to eliminate cases of zero referential distance in instances where the anaphor was immediately following the antecedent, as seen in (84).

(84) (u1)Mtu wa pili kukutana naye alikuwa mzee. (u2)Mzee huyu alikuwa akipeleka ng’ombe wake mtoni.

- a. Mtu wa pili ku-kut-an-a na-ye  
*Person of second INFTV -meet-REC-FV with-3SG*  
 a-li-kuwa [mzee].  
*SM-PST-AUX old man*  
 ‘The second person to meet me was an old man.’
- b. [Mzee huyu] a-li-kuwa a-ki-peleka  
*Old man IP.DEM SM-PST-AUX SM-IMPFTV-take*  
 ng’ombe wa-ke mto-ni  
*2cows 2AGR-3SG.POSS river-LOC*  
 ‘This old man was taking his cattle to the river.’

In (84)the example the antedent is the NP *mzee* ‘old man’ in (84a) and the anaphor is the adnominal demonstrative *mzee huyu* ‘this old man’ (84b). Although there are no

intervening clauses between the anaphor and the antecedent, the clause hosting the antecedent, *mzee*, was counted as 1.

### 3.6.3 Activation States

According to Chafe (1987) only a limited amount of information can be activated at a time. Depending on the referential distance between the adnominal demonstrative under consideration and its antecedent, the adnominal demonstrative in question was coded as active, semi-active or inactive (Chafe 1987; Lambrecht 1994). A question that arises under this description adapted from Chafe (1987) is: What is the number of intervening utterances (in this study number of finite clauses) that qualify a discourse entity to be active/semiactive/inactive? In the following sections, I explain how each of these three activation states was coded.

#### 3.6.3.1 Active State

The intended referent of an activated referent is within the immediate consciousness of the discourse participants (Chafe 1987; Lambrecht 1994). Thus, an adnominal demonstrative was coded as ‘active’ if there was an apparent antecedent in the preceding utterance as is the case in (84) repeated here as (85).

(85) a. Mtu        wa        pili        ku-kut-an-a        na-ye        a-li-kuwa  
*Person        of        second INFTV -meet-REC-FV        with-3SG        SM-PST-AUX*  
 [mzee].  
*old man*  
 ‘The second person to meet me was an old man.’

b. [Mzee        huyu]        a-li-kuwa        a-ki-peleka  
*Old man        1P.DEM        SM-PST-AUX        SM-IMPFTV-take*  
 ng’ombe        wa-ke        mto-ni  
*2cows        2AGR-3SG.POSS        river-LOC*  
 ‘This old man was taking his cattle to the river.’

In (85a) the NP *mzee* ‘old man’ is the antecedent of the adnominal expression *mzee huyu* ‘this oldman’ in (85b). Since a single clause separates the two cospecifying referring expressions, the adnominal demonstrative *mzee huyu* ‘this oldman’ in (85b) was coded as active.

Further, discourse units with chunks of direct and indirect speech were considered as independent discourse tiers (Kameyama 1998). This is illustrated in (86).

(86) (u1)Yule msichana alisimama (u2)akamkabili Lumbesi ana kwa ana.  
 “(u3)Mbona wanituma mimi peke yangu. (u4)Kwa nini usiwaombe wengine?”  
 (u5)Msichana yule alitamka maneno yale bila kucheka.

- a. Yule           msichana       a-li-simama  
*D.DEM       girl           SM-PST-stand*  
 ‘That girl stood up’
- b. a-ka-m-kabili                   Lumbesi       ana   kwa   na  
*SM-SEQ-OM-confront       Lumbesi       face   to     face*  
 ‘and confronted Lumbesi without fear.’
- c. Mbona       wa-ni-tuma           mimi   peke   ya-ngu?  
*Why           2SG-1SG-send       me     self   POSS-1SG*  
 “‘Why are you sending me alone?’”
- d. Kwa nini       u-si-wa-omb-e                   wengine?  
*Why           2SG-NEG-OM-request-IMPTV       others*  
 ‘Why are you not presenting your request to the other girls?’”
- e. Msichana       yule           a-li-tamka           maneno   yale  
*Girl           D.DEM       SM-PST-pronounce   6words   6D.DEM*  
 bila           ku-cheka.  
*without       INFNTV-laugh*  
 ‘That girl said those words with some seriousness’

In (86) the finite clauses in (86a), (86b) and (86e) are sequences of indirect speech. The utterances in (86c-d) are quotations of direct speech. The indirect reporting by the author and the character’s direct speech were considered as two different tiers in the discourse.

Thus, the preceding clause for the indirect speech utterance in (86e) is (86b). The relevant indirect speech clauses are repeated below as (87).

- (87) a. [Yule      msichana]      a-li-simama  
*D.DEM girl SM-PST-stand*  
 ‘That girl stood up’,
- b. a-ka-m-kabili              Lumbesi      ana      kwa      na  
*SM-SEQ-OM-confront Lumbesi face to face*  
 ‘and (she) confronted Lumbesi without fear.’
- c. [Msichana      yule]              a-li-tamka              maneno      yale  
*Girl D.DEM SM-PST-pronounce 6words 6D.DEM*  
 bila      ku-cheka.  
*without INFNTV-laugh*  
 ‘That girl said those words with some seriousness’

The adnominal demonstrative *msichana yule* ‘that girl’ in (87e) was coded as active because of the presence of an apparent antecedent *yule msichana* ‘that girl’ in (87a). It is important to mention here that since Swahili is a pro-drop language, in some instances explicit NPs are dropped in embedded clauses as is the case in (87b). The identification of the topic in (87b) is enhanced by the agreement morphology and absence of an intervening topic. Only explicit NPs were considered as cospecifying referring expressions of the adnominal demonstrative expression under consideration. Thus, the cospecifying NP of the adnominal demonstrative *msichana yule* ‘that girl’ in (87c) is the adnominal demonstrative *yule msichana* ‘that girl’ in (87a), which is the matrix clause of the sentence.

### 3.6.3.2 Semiactive State

An activated discourse entity becomes semi-active “through deactivation from an earlier active state” (Chafe 1987: 29). Following Chafe (1987), Lambrecht (1994:100)

explains that semiactive referents are of three types: textual (in discourse texts), situational (in conversational context) and inferential (not directly mentioned but can be inferred from the mention of other related referents, for example, the presence of a *door* can be inferred from the mention of a *house*). Due to the absence of inferential usage of adnominal demonstratives in my dataset, I limited my description of semiactive referents to situational and textual usage.

All gestural adnominal demonstratives were coded as semiactive. As for the textual semiactive adnominal demonstratives, a referent was coded as semiactive if there was an intervening topic or topics from the previous explicit mention of the antecedent NP to the adnominal demonstrative under consideration. This is illustrated in (88).

(88) (u1)Mbele yangu kulikuwa bado watu wawili, yule mzee na msichana mmoja.  
 (u2)Mwishowe ilikuwa zamu ya mzee kuingia. (u3)Mzee alichukua fimbo yake.  
 (u4)Alijaribu kufungua mlango, (u5)mlango ukamshinda. (u6)Msichana huyu,  
 aliyekuwa bado ameweka kitambaa juu ya pua yake (u7)alicheka machozi  
 yakamtoka

- a. Mbele ya-ngu            ku-li-kuwa            bado    watu    wawili  
*Infront POSS-1SG    LOC17-PST-AUX    still    people two*  
 [yule            mzee]            na    [msichana    mmoja].  
*D.DEM            oldman            and    girl            one*  
 ‘Infront of me there were still two people, that oldman and one girl’.
- b. Mwishowe i-li-kuwa            zamu ya            [mzee]            ku-ingia.  
*finally EXP-PST-AUX            turn    of            oldman            INFTV-enter*  
 ‘Finally it was the oldman’s turn to enter (the office).
- c. [Mzee]            a-li-chukua            fimbo ya-ke.  
*Oldman            SM-PST-take    stick    POSS-3SG*  
 ‘The old man took his walking stick.’
- d. A-li-jaribu            ku-fungua            mlango  
*SM-PST-try    INFTV-open    door*  
 ‘He tried to open the door’.

- e. mlango            u-ka-m-shinda.  
*door*                *3SM-SEQ-OM-defeat*  
 ‘the door, he couldn’t open.’
- f. [Msichana    huyu],            a-li-ye-kuwa            bado    a-me-weka  
*girl*                *P.DEM,*            *SM-PST-REL-AUX*    *still*    *SM-PERF-put*  
 kitambaa    juu    ya            pua    ya-ke  
*handkerchief* *ontop* *of*    *5nose* *5AGR-POSS.3SG*  
 ‘This girl, who still had a handkerchief placed on her nose’,
- g. a-li-cheka            machozi            ya-ka-m-toka  
*SM.3SG-PST-laugh*    *6tears*            *6SM-PST.SEQ-OM-come out*  
 ‘laughed until she teared up.’

In example (88a), *yule mzee* ‘that old man’ and *msichana mmoja* ‘a girl’ are the forward looking centers (potential topics) for (88b). In (88b), the oldman is established as the topic and is maintained as the topic through (88e). In (88f), the adnominal demonstrative expression *msichana huyu* ‘this girl’ reintroduces the girl mentioned in (88a). The adnominal demonstrative *msichana huyu* ‘this girl’ in (88f) was therefore coded as semiactive because of the intervening topic, *mzee* ‘oldman’, from the mention of the girl in (88a) to her reintroduction.

### 3.6.3.3 Inactive State

The interpretation of inactive discourse entities does not depend on a previously mentioned cospecifying referring expression. Mostly the interpretation of inactive discourse entities depends on common knowledge. Discourse entities in texts can also be inactive after a long gap of absence. In these cases, the identification of the referent does not depend on the antecedent alone but also requires reactivation of information stored in the long term memory of the addressee.

Following Himmelmann (1996), adnominal demonstratives whose interpretation depended on common knowledge in this study are referred to as “recognitional” demonstratives (see section 3.6.1.3). All recognitional demonstratives were coded as “inactive” because their identification depends on retrieval from the memory of the discourse participants. Thus, most of the demonstratives used recognitionally have discourse cues in form of descriptive adjectives or relative clauses as seen in (89) and (90). These adnominal demonstrative and the discourse cues (bracketed in the examples) are intended to establish the identity of the intended referent in the discourse.

(89) Ku-geuka a-li-ko-toka, a-li-mw-ona [yule  
*INFTV-turn SM-PST-17LOC-come from, SM-PST-OM-see D.DEM*  
 mbwa mweusi] ka-simama kwa mbali a-ki-m-subiri  
*dog black SEQ-stand from distance SM-IMPFTV-OM-wait*  
 When she (she=Rehema) looked back, she saw that black dog standing at a  
 distance waiting for her.

(90) Baada ya ku-waza hayo yote, a-li-ji-kuta  
*After INFTV-think R.DEM all, SM-PST-REF-meet*  
 fikra za [kiumbe yule a-li-ye-lala kitanda  
*thoughts of creature D.DEM SM-PST-REL-sleep bed*  
 cha chini] zi-na-m-j-i-a tena  
*of down SM-PRT-OM-come-APPL-FV again*  
 ‘After thinking about all that (her childhood), she (she=Asumini) realized that her  
 thoughts were going back once again to that creature sleeping on the lower bed.’

In (89), the descriptive adjective *mweusi* ‘black’ following the adnominal demonstrative *yule mbwa* ‘that dog’ marks the reintroduction of the dog mentioned 69 clauses away. In (90), the relative clause *kiumbe yule a-li-ye-lala kitanda cha chini* ‘that creature who was sleeping on the lower bed’ enhances the identification of the inactive referent mentioned several pages earlier.

### 3.7 Results and Discussion

In this section, I present the frequency counts for each adnominal demonstrative function in the dataset (section 3.7.1). I then present the results of the frequencies of demonstrative position for each of the three demonstrative functions (section 3.7.2). Section 3.7.3 presents the results of the recognitional demonstrative position. I finally discuss the three activation states (active, semiactive, inactive) in section 3.7.4.

#### 3.7.1 Demonstrative Function

The frequency of gestural adnominal demonstratives was 52, anaphoric 308, and recognitional 74. The frequency difference between the gestural and anaphoric adnominal demonstratives is significant,  $X^2(1, N=360)=182.04, p < 0.01$ . Similarly, the difference between the anaphoric and recognitional adnominal demonstratives is significant,  $X^2(1, N=382)=143.34, p < 0.01$ . The difference between the recognitional and gestural adnominal demonstratives is however not significant  $p=0.05$ . Figure 5 summarizes these frequencies.

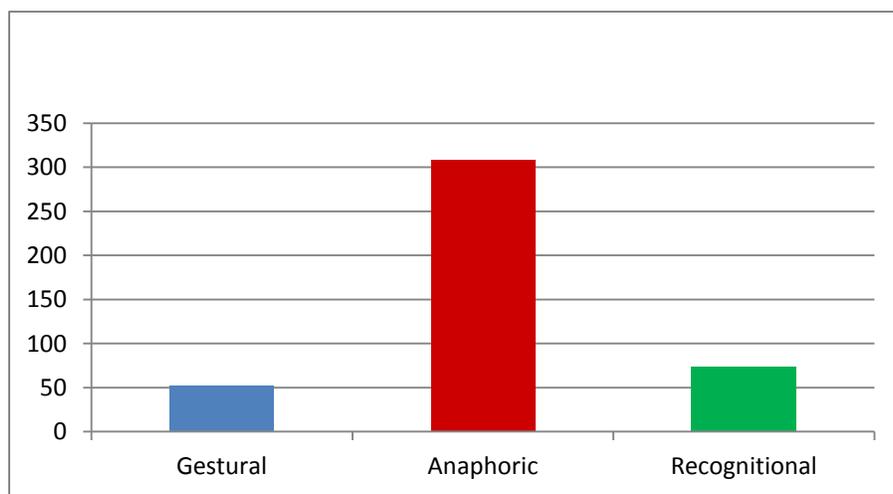


Figure 5: Frequency of adnominal demonstrative function

The frequency differences show that the most frequent function of the adnominal demonstrative is anaphoric. This can be related to its tracking function of discourse entities in texts. As mentioned previously, the demonstrative functions are used as a schema to discuss the demonstrative position hence most of the explanations for these frequencies will be dealt with in the following section.

### 3.7.2 Demonstrative Function and Position

In this section I present the results of the demonstrative pre and postnominal positions relative to the noun being modified. In addition, the frequencies of demonstrative type (proximal and distal) in both the pre and postnominal position are presented. Table 12 summarizes the results.

Table 12: Demonstrative position

Dem Type	Gestural			Anaphoric			Recognitional		
	Pre	Post	Total	Pre	Post	Total	Pre	Post	Total
Proximal	38	9	47	49	110	159	22	5	27
Distal	2	3	5	83	66	149	41	6	47

The demonstrative position of each of the demonstrative will be discussed in turn.

Section 3.7.2.1 presents the results of the demonstrative position in gestural demonstratives. Section 3.7.2.2 presents the results of the demonstrative position in anaphoric demonstratives. Section 3.7.2.3 is devoted to the analyses of referential distance effect on demonstrative position and demonstrative type (proximal/distal). Section 3.7.2.4 presents the results of demonstrative position in recognitional demonstratives.

### 3.7.2.1 Demonstrative Position in Gestural Demonstratives

Table 12 above shows that the proximal gestural demonstratives in prenominal position were 38 and 9 in postnominal. There were 2 distal gestural demonstratives in prenominal position and 3 in postnominal. Figure 6 shows these frequencies.

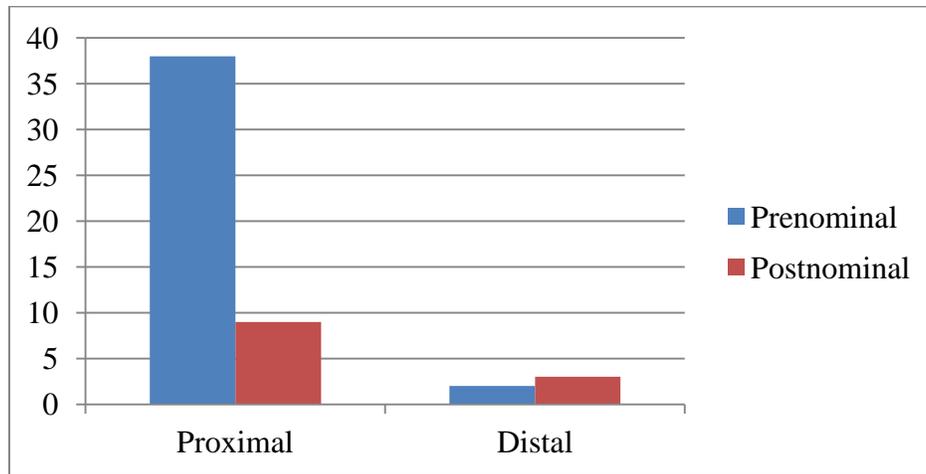


Figure 6: Pre and postnominal position of gestural demonstratives

There are two important observations related to these frequencies. First, the proximal adnominal demonstrative is mostly used as the deictic expression for gestural demonstratives. The total frequency of proximal gestural demonstratives is 47 while the total frequency of the distal gestural demonstratives is 5. This frequency difference is significant ( $X^2(1, N=52)=33.92, p < 0.001$ ). Second, it can be inferred from the corpus data that the gestural demonstratives are preferred in prenominal position than postnominal. The total number of prenominal demonstratives is 40 while in the postnominal position the total number is 12. This frequency difference is indeed significant ( $X^2(1, N=52)=15.08, p < 0.001$ ).

The first observation is borne out of the fact that “humans are egocentric and tend to view their own environs and experiences as noteworthy and important” (Leonardo 1987: 98). Entities that are close to humans attract more attention than entities that are far away hence the high frequency of the proximal gestural demonstrative than the distal gestural demonstratives in the dataset. The belief that what is close to us is more important than what is away from us motivated Leonardo’s (1985, 1987) Concentration of Attention (COA) Hypothesis. According to the COA hypothesis, the importance of what is close to us can be extended to explain the use of the proximal and distal demonstrative in discourse. According to Leonardo, the proximal demonstrative is used when the intended referent is important to the participants while the distal demonstrative is used when the intended referent is less important.

However, a close analysis of the dataset shows that Leonardo’s COA hypothesis, though relevant in explaining the frequency difference in the use of the proximal and distal gestural demonstratives, cannot explain all occurrences of the Swahili proximal and distal demonstrative as referring expressions in discourse texts (cf. Wilt 1987). Consider the examples in (91) and (92) presented by Leonardo (1985, 1987) and Wilt (1987) as evidence and counter-evidence for the COA hypothesis respectively.

(91) Tu-li-po-wa-karibia                      wale                      ng’ombe      tu-li-shangaa  
*1PL-PST-when-OM.3PL-approach 2D.DEM      2cows      1PL-PST-surprise*  
 ‘When we approached the cows, we were surprised’

(92) Ng’ombe      hawa                      wa-li-kuwa      wa-ki-lia                      kwa      sauti  
*2cows                      P.DEM                      SM-PST-be      SM-IMPFTV-cry                      with      loud*  
 ‘The cows were crying loudly.’    (Kezilahabi 1974: 87)

In (91) Leonardo (1985, 1987) argues that the choice of the distal demonstrative is motivated by the speaker's lack of interest to non-human entities. In (92), 3 clauses away, the speaker realizes the thematic importance of the cows and therefore refer to them using the proximal adnominal demonstrative expression *ng'ombe hawa* 'these cows'. The COA hypothesis is however rejected by Wilt (1987) who attributes the choice of the distal adnominal demonstrative expression *wale ng'ombe* 'those cows' in (91) and *ng'ombe hawa* 'these cows' in (92) to referential distance.

While Leonardo (1985, 1987) and Wilt (1987) discussed the effect of 'importance' and referential distance on demonstrative type, they did not mention the relevance of demonstrative position in their analyses. In my analysis, I analyze the effect of referential distance on the choice of demonstrative and also relate the distribution of the adnominal demonstrative in discourse texts to the activation state of the discourse entity in question. Notice that *wale* 'those' is prenominal in (91) while *hawa* 'these' is postnominal in (92).

The second observation, that the gestural demonstratives are preferred in prenominal position, can be explained by recalling the grammaticalization of the Swahili prenominal demonstrative to express definite reference (Ashton 1944; Givon 1976; Carstens 1991, 1998). According to Clark and Marshall (1981: 38), "physical copresence" (presence in conversational contexts) can be "potential", or "immediate". Under "potential physical copresence", the entity is within the conversational context but the discourse participants are not paying attention to its presence. As for the immediate

physical copresence, the discourse participants are actually aware of the presence of the entity within the utterance situation.

Based on the contextual analysis of the corpus data, I posit that the postnominal gestural demonstrative is mainly used to draw the hearer’s attention to potential physical copresent entities. However, I argue contra Ashton (1944), Givon (1976) and Carstens (1991, 2008) that the postnominal demonstrative is not restricted in its usage to the gestural function. Rather, the postnominal demonstrative deictic role in the physical environment has been extended to pointing in discourse texts. The use of the postnominal demonstrative to mark ‘potential physical copresence’ is illustrated in (93) and (94).

(93) Tu-ki-fik-a                      kwenye                      [mti ule]                      tu-ta-pumzik-a  
*1PL-SUBTV-reach-FV*                      *there*                      *3tree 3D.DEM*                      *1PL-FUT-rest-FV*  
 kivuli-ni.  
*shade-LOC*  
 ‘When we reach that tree over there, we will rest under the shade.’

(94) Mwishowe    tu-li-u-fik-i-a                      [ule                      mti]  
*Finally*                      *1PL-PST-3OM-reach-APPL-FV*                      *3D.DEM*                      *3tree*  
 ‘Finally, we reached that tree.’

The demonstrative in (93) is postnominal but prenominal in (94). These two examples are particularly interesting because the referent of the referring expression *mti* ‘tree’ in (93) and (94) is the same. Example (93) is a direct speech quotation said to the character narrator in the source novel by a mysterious person guiding him through an unfamiliar territory. Example (94) is a continuation of the narration by the character narrator after 58 clauses. In (93), the main objective of the speaker is to draw the hearer’s (the character narrator) attention to the tree, thus, the postnominal demonstrative here is purely gestural.

In (94), however, the adnominal demonstrative (anaphoric in this instance) is used to reintroduce the previously mentioned tree in the discourse.

In situations where the discourse participants are conscious of the presence of an entity within their physical environment (what Clark and Marshall (1981) call “immediate physical copresence”), the pronominal demonstrative is used to mark the intended referent as accessible (semi-active). The first mention of these entities, however, still requires a gesture of some sort to draw the hearer’s attention towards the intended referent hence there label as gestural. Once established as topical, the subsequent mention of these entities becomes anaphoric. This difference in function has consequences on the demonstrative position. The example in (95) and (96) illustrates this.

(95) Huyu            kondoo            tu-m-pelek-e            kwa    Mfalme            Ndevu  
*P.DEM            sheep            IPL-OM-take-IMPTV to    King            Ndevu*  
 ‘This sheep, let us take her to King Ndevu.’

(96) Mfalme            a-ki-m-pat-a            kondoo            huyu  
*King            SM- SUBTV -OM-get-FV    sheep            P.DEM*  
 a-ta-furahi            sana  
*SM-FUT-happy            very*  
 ‘If the king gets this sheep, he will be very happy.’

Example (95) and (96) are from a short story in the Helsinki Corpus of Swahili. In (95), the speaker and the discourse participants are all aware of the presence of the sheep which miraculously presents any type of food that they ask for. The use of pronominal proximal demonstrative in *huyu kondoo* ‘this sheep’ marks the intended referent, the sheep, as an “immediate physical copresent” entity in Clark and Marshall’s (1981) terminology. In (96), however, the sheep activation status is ‘active’, hence, the

anaphoric postnominal demonstrative *kondoo huyu* ‘this sheep’ which points back to the previously mentioned sheep.

### 3.7.2.2 Demonstrative Position in Anaphoric Demonstratives

The distribution of the 308 anaphoric demonstratives in pre and postnominal position correlated with the demonstrative type. As for the proximal demonstratives, there were 49 demonstratives in prenominal position but 110 in postnominal position. This frequency difference is statistically significant ( $X^2(1, N=159)=23.40, p < 0.001$ ). On the other hand, the distal demonstratives were 83 in prenominal position but 66 in postnominal position.

This frequency difference is not statistically significant,  $p > 0.05$ ).

Figure 7 presents a graphic representation of these frequency differences.

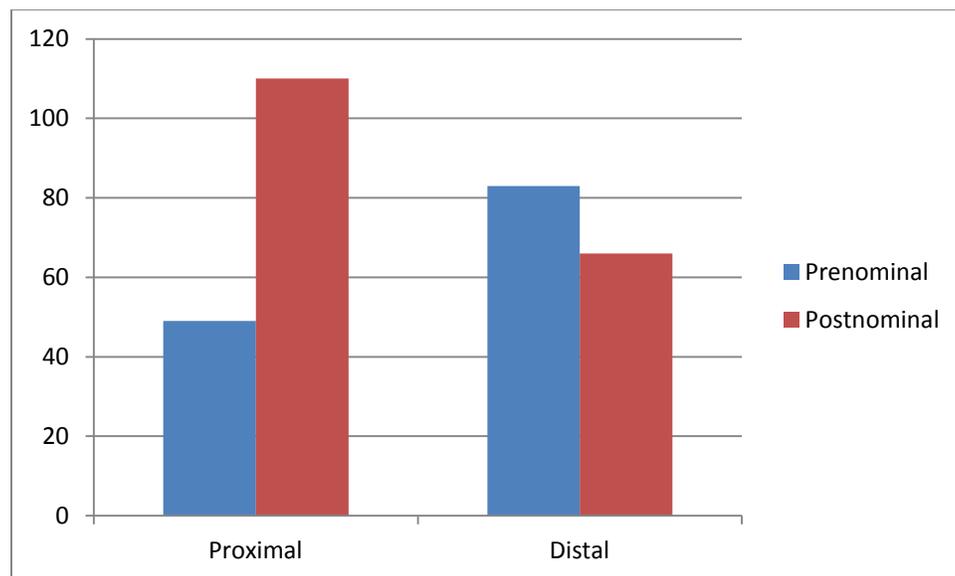


Figure 7: Pre and postnominal position in anaphoric demonstratives

The results show that the proximal demonstrative has a higher frequency in postnominal position than in prenominal position. When contrasted with the distal postnominal demonstrative, the proximal postnominal demonstrative frequency is also significantly

higher ( $\chi^2(1, N=176)=11.00, p < 0.001$ ). In the prenominal position, the distal demonstrative has a significantly higher frequency than the proximal demonstrative, ( $\chi^2(1, N=132)=8.76, p < 0.005$ ). In order to further explore these frequency tendencies, the referential distance, of the adnominal demonstrative expressions in the corpus data was analyzed. Referential distance has been argued to be a major factor in determining the form of referring expressions in Ariels Accessibility Hierarchy (1988, 1991, 2001) as well as Grosz et al. (1993) Centering Theory.

### 3.7.2.3 Referential Distance

It has been argued in previous Swahili studies that the proximal demonstrative is used in discourse texts to signal short referential distance while the distal demonstrative is used to signal long referential distance (Wilt 1987). In this study, I argue that in addition to the effect on the choice of demonstrative type, referential distance also has some effect on the demonstrative position. The distribution of proximal or distal demonstrative as a function of referential distance for the 308 anaphoric adnominal demonstratives was therefore analyzed.

The unit of measurement was the finite clause because it is the locus for topic update. In measuring the referential distance, the number of finite clauses between an adnominal demonstrative and a co-referential NP to its left was counted and recorded in a database. The raw data was then log-transformed to reduce the skewness of the data distribution. After log-transformation, the Shapiro-Wilk test revealed that the data distribution for the distal and proximal prenominal demonstratives was normal,  $p > 0.05$ .

The skewness of the distal and proximal postnomina demonstrative data was greatly reduced but not completely eliminated,  $p < 0.05$ .

Table 13 and Table 14 report the descriptive statistics for the referential distance of the pre and postnominal proximal and distal demonstratives in the raw data and log-transformed data respectively. The number outside the parenthesis is the mean referential distance while the number in parenthesis is the standard deviation.

Table 13: Mean referential distance and standard deviation of raw data

Dem_Type	Prenominal	Postnominal
Proximal	5.55 (5.39)	5.25 (5.06)
Distal	7.40 (6.55)	5.29 (4.35)

Table 14: Mean referential distance and standard deviation of log-transformed data

Dem_Type	Prenominal	Postnominal
Proximal	1.34 (0.87)	1.25 (0.92)
Distal	1.70 (0.77)	1.30 (0.89)

The mean referential distance of the prenominal demonstrative for both the raw data and log transformed data is higher than that of postnominal demonstratives. A non-repeated measures ANOVA with referential distance as the dependent variable, and demonstrative type and demonstrative position as the independent variables reveal that there is a significant main effect of referential distance on demonstrative type,  $F(1,308)=6.09$ ,  $p < .05$ , and demonstrative position  $F(1,308)=5.90$ ,  $p < 0.05$ . There was no significant interaction between demonstrative type and position,  $p > 0.05$ .

Further, a planned comparison using the t.test reveals that the mean referential distance of the distal prenominal demonstrative is higher that of the proximal prenominal



In (97) the NP *msichana mmoja* ‘Lit: one girl’ introduces a new discourse entity. In (98) the postnominal demonstrative in the referring expression *msichana huyu* ‘this girl’ is used to mark the referent as ‘active’ or ‘semiactive’ if there is some interference.

The insignificant difference in referential distance between the proximal and distal postnominal demonstratives further suggests that there are cases when a distal postnominal demonstrative can be used after a short referential distance. This is illustrated in (99). In this example, the referential distance is 2.

(99) (u1)Adili alipotaka kuingia ndani (u2)aliona mtu amesimama mlango.  
 (u3)Kicha kikubwa sana cha funguo kilikuwa mkononi mwake. (u4)Adili alidhani mtu yule alikuwa bawabu

- a. Adili a-li-po-taka ku-ingia ndani,  
*Adili SM-PST-when-want INFTV-enter inside*  
 ‘When Adili was about to go inside (the house),’
- b. a-li-ona [mtu] a-me-simama mlango-ni.  
*SM-PST-see person SM-PERF-stand door-LOC*  
 ‘he saw a person standing by the door.’
- c. Kicha ki-kubwa sana cha funguo ki-li-kuwa  
*8Bunch 8SM-big very of keys 8SM-PST-AUX*  
 mikono-ni mwa-ke  
*hands-18LOC 18AGR-POSS.3SG*  
 ‘A very big bunch of keys was in his hands.’
- d. Adili a-li-dhani [mtu yule] a-li-kuwa bawabu  
*Adili S-PST-assume person D.DEM SM-PST-AUX security officer*  
 ‘Adili thought that the person was a security officer.’

The discourse entity *mtu* ‘person’ introduced in (99b) is continued as the backward looking center (topic) through (99d). In (99c), the third person singular marker suffixed at the right edge of the possessive expression *mikononi mwa-ke* functions as the backward looking center while in (99d) the backward looking center is the adnominal

demonstrative expression *mtu yule* ‘that person’. In (99d) the postnominal position of the demonstrative in *mtu yule* ‘that person’ marks the referent as ‘active’. The use of the distal adnominal demonstrative *yule* ‘that’ in the postnominal position instead of the proximal demonstrative *huyu* ‘this’ have a special effect of marking the “narrative distance” (Wilt 1987), that is, the author is reporting events from a third person’s perspective.

As stated above, the distal prenominal demonstrative is separated from its cospecifying expression by longer referential distance than the postnominal proximal and distal demonstratives as well as the prenominal proximal demonstrative. This is illustrated by the examples in (100) and (101).

- (100) [Msichana huyu], a-li-ye-kuwa bado a-me-weka  
*Girl this SM-PST-REL-AUX still SM-PERF-put*  
 kitambaa juu ya pua yake, a-li-cheka machozi  
*handkerchief up of nose his, SM.3SG-PST-laugh tears*  
 ya-ka-m-toka.  
*SM-SEQ-OM-come out*  
 ‘This girl whose handkerchief was still on her nose laughed until she teared up.’

(After 45 finite clauses)

- (101) [Yule msichana] a-li-ingi-a.  
*D.DEM girl SM-PST-enter-FV*  
 ‘That girl entered’

The postnominal adnominal demonstrative *msichana huyu* ‘this girl’ in (100) marks the intended referent as activated. After this mention, the topic is shifted and later reintroduced in the discourse after 45 finite clauses. At its reintroduction the distal prenominal demonstrative expression *yule msichana* ‘that girl’ is used. Here, the prenominal position of the distal demonstrative marks the intended referent as “inactive”.

A referent becomes inactive if its topicality is shifted to the extent that it loses its active status in the memory of the addressee (Chafe 1987).

It should be mentioned here that most corpus generalizations are based on statistical tendencies. Thus, there are some instances when the demonstrative type and position does not match the expected referential distance. As mentioned above, this unexpected usage of demonstratives in some cases has some special effects. For example, a distal pronominal demonstrative may be used within short referential distance to signal time shift. This is illustrated in (102) and (103).

(102) yule            mwanamke    a-li-ni-uliza            [asubuhi]  
*D.DEM    lady            SM-PST-1SG-ask        morning*  
 ‘That lady asked me in the morning.’

(103) [a-li-m-kumbuka]            yule            ng'ombe            na    sauti    ya  
*SM-PST-OM-remember    D.DEM            cow            and    voice    of*  
 baba            yake    mara kwa mara  
*father            his       quite oftenly*  
 ‘He remembered that cow and the voice of his father quite oftenly.’

In (102) the referential distance between the adnominal demonstrative and the relevant antecedent expression is 10. In (103) the referential distance is 3. Notice the temporal adverb *asubuhi* ‘in the morning’ (bracketed) which signals the passage of time prior to the reintroduction of the entity *mwanamke* in (102) and the verb *-kumbuka* ‘remember’ in (103) which also signals passage of time.

In example (104), while the use of the distal demonstrative is due to third person narration, the pronominal position of the distal demonstrative within short referential distance is also unexpected.

(104) (u1)[Mwanaume] aliyevaa suti (u2)anaingia, (u3)anamwuliza Polisi neno  
(u4)halafu anaendelea. (u5)Issa anamvamia [yule mtu]

- a. [Mwanamume]            a-li-ye-vaa            suti    a-na-ingia  
*man*                        *SM-PST-REL-wear*    *suit*    *SM-PRT-enter*  
 ‘A man who is wearing a suit enters (the stage)’,
- b. a-na-mw-uliza            polisi            neno  
*SM-PRT-OM-ask*        *policeman*        *word*  
 ‘he asks the policeman something’,
- c. halafu a-na-endelea  
*then*    *SM-PRT-continue*  
 ‘then he keeps on walking.’
- d. Issa    a-na-m-vamia            [yule            mtu]  
*Issa*    *SM-PRT-OM-attack*    *D.DEM*            *man*  
 ‘Issa suddenly attacks that man.’

In (104a), the discourse entity *mwanamume* ‘man’ is introduced and continued as the backward looking center through (104d). The referential distance between the first mention of the NP *mwanamume* in (104a) and its subsequent mention via the adnominal demonstrative *yule mtu* ‘that man’ in (104d) is 4 finite clauses<sup>12</sup>. I attribute the use of the distal pronominal demonstrative expression *yule mtu* ‘that person’ in (104d) to the intended theatrical enactment of characters in a play. The author recounts the events in play directions as if he and the reader are eyewitnesses hence the pronominal demonstrative to depict the referent as an “immediate physical copresent” entity (Clark & Marshall 1981). Recall that gestural pronominal demonstratives had a higher frequency than gestural postnominal demonstratives. This explanation can account for the use of the

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<sup>12</sup> The referential distance of this adnominal demonstrative expression is actually 1 if subject agreement markers are considered as pronominal NPs.

proximal pronominal demonstrative within short referential distance in most of the examples in the data set as seen in (105) and (106).

(105) u-si-m-fikiri-e [mtoto] mambo ma-baya namna hiyo.  
*2SG-NEG-OM-think-IMPTV child 6issues 6AGR-bad type R.DEM*  
 ‘You should not think that our child’s character is that bad.’

(106) Hapana, [huyu mtoto] a-me-kwisha anza ku-harib-ik-a  
*No, P.DEM child SM-PERF-finish start INFTV-spoil-STV-FV*  
 ‘No, this child is already spoiled.’

In (105), the speaker thinks that her husband has gone too far in judging their child’s character negatively. In (106), the husband insists that he is right and refers to the physically copresent child with the proximal pronominal demonstrative expression *huyu mtoto* ‘this child’.

In general, anaphoric proximal and distal demonstrative are used postnominally after a short referential distance to mark the intended referent as active. Anaphoric distal demonstrative are used pronominally after topic shift to mark the referent as semiactive. Proximal and distal pronominal demonstratives may also be used to mark active state of discourse entities within the utterance situation. The use of demonstrative position to mark activation states of referents is further discussed in section 3.7.3. where all demonstrative types are considered.

#### 3.7.2.4 Demonstrative Position in Recognitional Demonstratives

The frequency of recognitional proximal demonstratives in pronominal position was 22, and 5 in postnominal position ( $X^2(1,N=27)=10.70, p < 0.01$ ). In pronominal position, the frequency of distal demonstratives was 41, and 6 in postnominal position ( $X^2(1,N=47)=26.06, p < 0.001$ ). The difference between the recognitional demonstratives

in pre and postnominal positions is statistically significant ( $X^2(1, N=74)=36.54, p < 0.001$ ). Figure 8 summarizes these results.

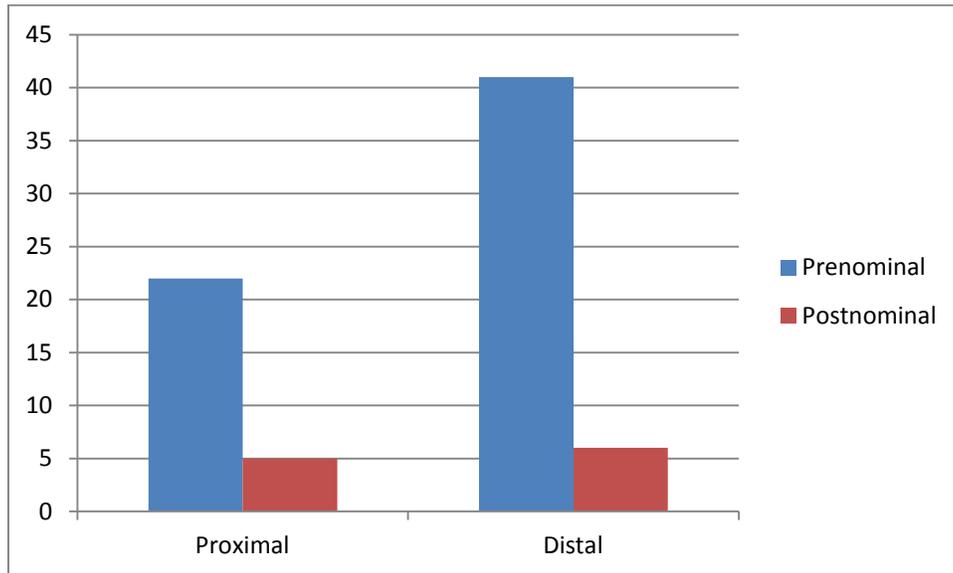


Figure 8: Pre and postnominal position in recognitional demonstratives

It can be inferred from the results that a demonstrative is preferred in prenominal position if used recognitionally.

Contrary to Himmelmann's (1996) claim that only one of the demonstratives, mostly the distal demonstrative, is preserved for the recognitional function across languages; both the distal and proximal demonstratives can be used for this function in Swahili. The examples in (107) and (108) illustrate this. In (107) the speaker's use of the prenominal distal demonstrative in the referring expression [*yule*] *mtoto wako* 'that child of yours' is due to familiarity of the discourse entity. The two relative clauses after the NP *yule mtoto wako* 'that child of yours' are meant to enhance identifiability of the

referent. In (108), the prenominal distal demonstrative in the NP [*huyu*] *mjukuu wa Ndenda* ‘This grandchild of Ndenda’ also signals familiarity. The use of the proximal adnominal demonstrative is intended to emphasize “community membership” of the referent (the referent is a member of the speaker’s neighbourhood) (Clark & Marshall 1981).

(107) [yule] mtoto wako a-na-ye-fundisha Chuo Kikuu ,  
*D.DEM child your SM-PRT-REL-teach university,*  
 amba-ye u-li-mw-acha a-me-chumbia sehemu  
*COMP-REL 2SG-PST-OM-leave SM-PERF-engage area*  
 za Mbangamao uchumba u-me-vunj-ik-a .  
*of Mbangamao 1Iengagement SM-PERF-break-STV-FV*  
 ‘That child of yours who teaches at the university, whom you left while engaged around the area of Mbangamao, the engagement is broken.’

(108) Hii ni kazi ya majirani zetu , hasa huyu  
*9P.DEM is 9work of neighbours our, especially P.DEM*  
 mjukuu wa Ndenda  
*grandchild of Ndanda*  
 ‘This is the work of our neighbours, especially this grandchild of Ndanda.’

I argue that depending on several factors including spatiotemporal space of the speaker, time shift, narrative distance, referential distance, and community membership, a speaker may use either a proximal or distal demonstrative recognitionally. Consider the following example.

(109) Ikiwa [huyu Seyyid Said] a-na-weza ku-tu-miliki akili  
*If P.DEM Seyyid Said SM-PRT-can INTV-OM-own 10mind*  
 ze-tu bila sisi wenyewe kujua,  
*10AGR-POSS.1PL without us ourselves INFTV-know,*  
 a-ka-weza ku-tu-tumia bila ku-jua  
*SM-SEQ-can INFTV-OM-use without INFTV-know,*  
 basi yeye ni adui mkubwa kuliko Njelumani.  
*then he is enemy big than German*  
 ‘If this Seyyid Said can control our thoughts without our knowledge, use us without our knowledge, in deed he is a worse enemy than the German.’

In (109) the pronominal adnominal demonstrative expression *huyu Seyyid Said* is used recognitionally to signal not only “larger situation” familiarity (Hawkins 1978) but also community membership. The original source of this corpus example is the historical play *Kinjeketile* (Hussein 1969). In the play, the author depicts the events leading to the *Majimaji Rebellion* by the African communities of Tanganyika against the Germans in the early 20<sup>th</sup> century. During this time, Tanganyika was a protectorate of the Germans under the then sultan of Zanzibar, Seyyid Said. The speaker here uses the proximal demonstrative to signal the familiarity of the intended referent (*Sultan Seyyid Said*) resulting from “personalized knowledge that is assumed to be shared by the communicating parties due to common interactional history or supposedly shared experiences” (Himmelmann 1996: 233). The use of the distal pronominal demonstrative expression *yule Seyyid Said* in this context would carry the unwarranted implication of “larger situation” familiarity.

### 3.7.3 Activation States

In this section, I discuss the effect of activation state on the form of the adnominal expression, with some focus on demonstrative type and position. As discussed above, the main bases of categorization of the adnominal demonstrative expressions into the active, semiactive (accessible) and an inactive state was based on number of mention, and interference from other possible topics between the anaphor and its cospecifying antecedent. I discuss the activation states of each of the demonstrative functions in turn in the following sections.

### 3.7.3.1 Activation Status of Gestural Demonstratives

Following Chafe (1987) and Lambrecht (1994) all first mentions of referents within the physical environment of the discourse participants via adnominal demonstrative expressions (gestural demonstrative) were coded semi-active. Table 15 presents the frequencies of these demonstratives in pre and postnominal position.

Table 15: Semiactive gestural demonstrative

	Prenominal	Postnominal	Total
Proximal	38	9	47
Distal	2	3	5

I have discussed the significance of these frequencies in section 3.7.2.1. In summary, there is a higher frequency of proximal gestural demonstratives (coded as semiactive) in prenominal position. Little can be said about the gestural distal demonstrative because of the low frequency of these demonstratives in the data set.

### 3.7.3.2 Activation Status of Anaphoric demonstrative

Depending on the referential distance and the presence/absence of an intervening topic(s), anaphoric demonstratives were coded as active or semiactive. The inactive state in anaphoric demonstrative is not represented because all adnominal demonstratives which were coded as recognitional due to long referential distance and other related issues (see section 3.6.1.3), were also coded as inactive.

Subsequent mentions of referents via anaphoric adnominal demonstrative expressions if the intended referent was a continued backward looking center (topic) were

coded as active. Table 16 presents the frequencies of the active anaphoric demonstratives in pre and postnominal position.

Table 16: Active anaphoric demonstratives

	Prenominal	Postnominal	Total
Proximal	42	88	130
Distal	32	47	79

A few things can be said about these frequencies and the distribution of the demonstratives. First, the frequencies show that the proximal demonstrative is used more frequently than the distal demonstrative if the activation state of the intended referent is active, ( $X^2(1, N=209)=12.45, p < 0.001$ ). Second, there is a higher frequency of proximal demonstrative in postnominal position than in prenominal position if the activation status of the intended referent is active, ( $X^2(1, N=130)=16.28, p < 0.001$ ). Third, though insignificant, the frequency of the distal demonstrative in postnominal position is higher than in prenominal position if the activation status of the intended referent is active,  $p > 0.05$ .

As mentioned earlier, in the event that an anaphoric adnominal demonstrative expression was used but there was (an) intervening topic(s) between the anaphor and the antecedent, the relevant adnominal demonstrative expression was coded as semiactive.

Table 17 presents the frequencies of the semiactive anaphoric demonstratives.

Table 17: Semiactive anaphoric demonstratives

	Prenominal	Postnominal	Total
Proximal	7	22	29
Distal	51	19	70

The frequencies show that the distal demonstrative is used more frequently than the proximal demonstrative if the activation state of the intended referent is semiactive, ( $X^2(1, N=99)=16.98, p < 0.001$ ). In the semiactive status, the frequency of proximal postnominal demonstrative used is higher than proximal prenominal demonstratives, ( $X^2(1, N=29)=7.76, p < 0.01$ ). Further, the frequency of distal prenominal demonstratives in semiactive state is higher than distal postnominal demonstratives in semiactive state, ( $X^2(1, N=70)=14.63, p < 0.001$ ).

Since the categorization of anaphoric demonstrative into active and semiactive states was based on referential distance and the presence of an intervening topic, it is important to discuss the descriptive statistics of these demonstratives. Table 18 and Table 19 present the descriptive statistics of the referential distance of the active and semiactive anaphoric adnominal demonstrative expressions. As mentioned earlier, log transforming the data is aimed at normalizing the data distribution because most of the statistical procedures applied assume normal distribution (Baayen 2008).

Table 18: Descriptive statistics of anaphoric demonstratives (raw data)

Dem_Type	Active	Semiactive
Proximal	4.48 (4.88)	9.24 (4.58)
Distal	3.76 (3.27)	9.51 (6.42)

Table 19: Descriptive statistics of anaphoric demonstratives (log-transformed data)

Dem_Type	Active	Semiactive
Proximal	1.06 (0.87)	2.11 (0.48)
Distal	1.04 (0.73)	2.07 (0.61)

The Shapiro Wilk normality test for the log transformed data reveals that demonstratives with active status deviate from normality,  $p < 0.05$ , while the demonstratives with active status are normally distributed,  $p > 0.05$ . The nonparametric Wilcoxon test applied to compare the two distributions shows that the distributions and medians of both active and semiactive demonstratives are in deed different,  $p < 0.001$ . This means that the referential distance of the semiactive demonstratives is higher than that of the active demonstratives. Notice that the mean referential distance of active referents in the raw data is about 4 finite clauses while the mean referential distance of semiactive referents is about 9 finite clauses. The implication of these descriptive statistics is that the longer the referential distance, the more likely it is that there will be interference from other possible topics within the referential distance in consideration (cf. Givon 1983).

### 3.7.3.3 Activation Status of Recognitional Demonstratives

All first mentions of familiar referents and subsequent mentions of discourse entities after a long referential distance via adnominal demonstrative expressions (recognitional demonstratives) were coded as inactive. Table 20 presents the frequencies of the inactive recognitional demonstratives.

Table 20: Inactive recognitional demonstratives

	Prenominal	Postnominal	Total
Proximal	22	5	27
Distal	41	6	47

I have discussed the significance of these frequencies in section 3.7.2.4. The distal demonstrative has a higher frequency than the proximal demonstrative if the activation

status of the intended referent is inactive,  $(1, N=74)=5.41, p < 0.05$ ). The proximal demonstrative has a higher frequency in prenominal position than postnominal position if the activation status is inactive,  $(1, N=27)=10.70, p < 0.01$ ). Similarly, the frequency of the distal demonstrative in prenominal position is higher than the frequency of distal postnominal demonstrative if the activation status of the relevant referent is inactive,  $(1, N=47)=26.06, p < 0.001$ ).

### 3.8 Summary and Conclusions

In this chapter, using the demonstrative function as a schema, I explored the pre and postnominal position of Swahili adnominal demonstratives. The results indicate that adnominal demonstratives prefer certain syntactic positions depending on the pragmatic function of the demonstrative. The prenominal demonstrative is preferred when the pragmatic function of the demonstrative is gestural or recognitional. Gestural demonstratives are used for referents within the conversational context. Recognitional demonstratives are used for familiar referents whose identifiability depends on the hearer's memory. These two types of discourse entities have one common characteristic in discourse; they are all "discourse new, hearer old" entities (Prince 1992). I therefore argue that the prenominal demonstrative is used to reactivate "inactive" or "semiactive" referents after time or topic shift.

The claim that the prenominal demonstrative reactivates discourse entities after time or topic shift is further augmented by the distribution of anaphoric demonstratives. In anaphoric demonstratives there was a significant main effect of referential distance on demonstrative position. The prenominal demonstrative was preferred when the referential

distance was long while the postnominal demonstrative was preferred when the referential distance was short. According to Givon (1983) and Ariel (1988, 1991, 2001), referential distance impacts on the relative accessibility of referents. The longer the referential distance the more likely it is that there are additional discourse entities that interfere with the accessibility of the referent. Thus, to reintroduce an “inactive” discourse entity after a long gap of absence, the prenominal demonstrative is used. On the other hand, the postnominal demonstrative points to an activated referent whose activation/accessibility is comparatively high.

In terms of referential givenness, Gundel et al. (1993) and Ariel (1988, 1991, 2001) both claim that demonstratives are mid-accessibility markers. These cognitive hierarchies provide important theoretical perspectives in the study of referring expressions in language. However, the use of referring expressions in language can only be understood via a detailed analysis of referring expressions in actual language use. The results of this study show that in Ariel’s (1988, 1991, 2001) terminology, postnominal demonstratives are high accessibility marker, prenominal demonstratives are mid-accessibility markers, and prenominal demonstratives followed by a restrictive clause are low accessibility markers. In Gundel’s et al. (1993) terminology, the postnominal demonstratives mark ‘in-focus’ and ‘activated’ referents. On the other hand, prenominal demonstratives indicate that the referent in question is ‘familiar’ or ‘uniquely identifiable’ if a restrictive clause has to be added to enhance identifiability.

## Chapter 4

### Swahili Reciprocal Constructions

#### 4.1 Introduction

In Swahili, participants of reciprocal verbs are expressed via either the Discontinuous Reciprocal construction (DR) as seen in (110), or the Simple Reciprocal construction (SR) as seen in (111).

(110) [NP<sub>1</sub> Juma] [V a-na-pend-an-a] [PP[na] [NP<sub>2</sub>Halima]]  
*Juma SM.3SG-PRT-love-REC-FV with I-Halima*  
“Juma and Halima love each other.”

(111) [NP[NP<sub>1</sub> Juma] [na] [NP<sub>2</sub>Halima]] [V wa-na-pend-an-a]  
*Juma and Halima SM.3PL-PRT-love-REC-FV*  
“Juma and Halima love each other.” (Vitale 1981: 145)

The discontinuous reciprocal in (110) and the simple reciprocal in (111) are truth conditionally equivalent. Apart from anecdotal mentions of pragmatic status as a factor on reciprocal variation (Knjazev 2007; Maldonado (2011)) reciprocal variation has not been analyzed under the auspices of information structure. In this approach, the choice of either the simple reciprocal or discontinuous construction depends on the reciprocal participants’ relational givenness. My main hypothesis is that the simple reciprocal is used if reciprocal participants are of the same givenness status. On the other hand, the discontinuous construction is used if the reciprocal participants are of different givenness status. When the discontinuous construction is used, one participant who is more given than the second participant functions as the topic of the proposition. The less given

participant occurs postverbally within the comment information unit of the utterance in a topic-comment structure.

The example in (30) repeated here as (112) illustrates how the topic-focus distinction under information structure can be helpful in understanding Swahili reciprocal variation. In (112) the speaker requests for information about the whereabouts of a character in the source novel, *Sulubu Ngufumali*. Sentence (112) is the actual hearer response implicating that *Sulubu Ngufumali* had disagreed with his landlord and therefore had moved.

(112) Na-i-tafuta nyumba ya bwana mmoja a-itw-a-ye Sulubu.  
*1SG.PRT-9OM-find 9house of man one 3SG-name-FV-REL Sulubu*  
 ‘I am looking for the house of a man named Sulubu.’ (Mohamed 1976: 93)

a. [<sub>NP1</sub> Sulubu Ngufumali] [<sub>v</sub> a-me-kosana] [<sub>PP</sub>[<sub>P</sub> na]  
*Sulubu Ngufumali SM.3SG-PERF-disagree with*  
 [<sub>NP2</sub> tajiri mwenye shamba]]  
*richman owner field*  
 ‘Sulubu Ngufumali and the landlord have disagreed with each other.’

b. #[<sub>NP2</sub> tajiri mwenye shamba][<sub>v</sub> a-me-kosana] [<sub>PP</sub>[<sub>P</sub> na]  
*richman owner field SM.3SG-PERF-disagree with*  
 [<sub>NP1</sub> Sulubu Ngufumali]]  
*Sulubu Ngufumali*  
 ‘The landlord and Sulubu Ngufumali have disagreed with each other’

c. #[<sub>NP2,1</sub> tajiri mwenye shamba na Sulubu Ngufumali]  
*richman owner field and Sulubu Ngufumali*  
 [<sub>v</sub> wa-me-kosana]  
*SM.3PL-PERF-disagree*  
 ‘The landlord and Sulubu Ngufumali have disagreed with each other’

d. #[<sub>NP2,1</sub> Sulubu Ngufumali na tajiri mwenye shamba]  
*Sulubu Ngufumali and richman owner field*  
 [<sub>v</sub> wa-me-kosana]  
*SM.3PL-PERF-disagree*  
 ‘Sulubu Ngufumali and the landlord have disagreed with each other’

While it is syntactically possible to have either the NP *Sulubu Ngufumali* (112a) or *tajiri mwenye shamba* (112b), or both (112c-d) occupy the subject position, statistical analysis of reciprocal expressions from the Helsinki Corpus and acceptability ratings on question-answer items presented to Swahili native speakers suggest that the activated NP, *Sulubu Ngufumali*, is preferred. Being the most given NP which the utterance is about, *Sulubu Ngufumali* holds the topic status and hence is the preferred subject (112a). On the other hand, *tajiri mwenye shamba* ‘landlord’ is a newly introduced entity (in relation to *Sulubu Ngufumali*) within the response and therefore the focus of the sentence. The reciprocal constructions in (112b-d) are infelicitous because they put the relationally new information, *tajiri mwenye shamba* ‘the landlord’ in preverbal position.

Restrictions on which participant can occupy the pre- or postverbal position in a reciprocal construction can further be clarified by the notion of topic as described under the Centering theory (Grosz et al. 1995; Walker et al. 1998). The central claim under this theory is that each utterance,  $U_n$ , in a discourse segment has a topic referent, also referred to as the ‘backward looking center’. Several parameters have been used to investigate which of the referents in a preceding utterance,  $U_{n-1}$ , is the most salient and therefore the topic of  $U_n$ . Saliency “defines the degree of relative prominence of a unit of information, at a specific point in time, in comparison to other units of information” (Chiaros et al. 2011).

In this dissertation relational givenness is the main measure of saliency used in accounting for the Swahili reciprocal simple reciprocal and discontinuous reciprocal variants. In (112) *Sulubu Ngufumali* is the questioned entity in the utterance. In (112),  $U_n$ ,

*Sulubu Ngufumali* is the backward looking center (topic) because of his givenness status relative to the newly mentioned entity *tajiri mwenye shamba* ‘landlord’. Since topic elements occur in the left peripheral position while focus elements occur in the right peripheral position of utterances in Swahili, the preferred reciprocal construction here would be the discontinuous reciprocal in (112a).

To explore the role of givenness in Swahili reciprocals, I analyze the information status of participants in reciprocal constructions extracted from Helsinki Corpus of Swahili involving conversation verbs and “marry verbs” (a term borrowed from Levin 1993) as well as seven pieces of literature. In addition, controlled sets of reciprocal constructions were presented to Swahili native speakers for acceptability rating via the DMDX software.

The organization of this chapter is as follows. In section 4.2 I explain the morphosyntax of Swahili reciprocal constructions; section 4.3 discusses various studies on reciprocal variation across languages with some focus on lexical semantics (section 4.3.1), unbalanced coordination (section 4.3.2), and syntax 4.3.3). Section 4.4 lays out the methodology which includes corpus analysis (section 4.4.2) and acceptability ratings (section 4.4.3). I then discuss the results in section 4.5 and conclude the chapter in section 4.6.

## 4.2 Swahili Reciprocal Constructions

In this section I focus on three main aspects of reciprocalization: reciprocal marking (4.2.1), reciprocal situation (4.2.2) and reciprocal variation (4.2.3) (cf. Frajzyngier & Curl 2000).

#### 4.2.1 Reciprocal Marking

Studies on reciprocal marking discuss the polysemy of the reciprocal marker, as well as strategies of reciprocal marking including grammatical and lexical marking (Nedjalkov 2007). While in other languages such as Spanish the reciprocal morpheme may also be interpreted as reflexive, Swahili has a different reflexive morpheme *-ji-*. The Spanish example in (113) illustrates the reflexive/reciprocal ambiguity of the morpheme *-se-*.

- (113) Matilde y María se-quemaron  
*Matilde and María REFL-burn.3PL.PST*  
‘Matilde and Maria burned themselves/Matilde and Maria burned each other’  
(Payne 1997: 201)

The Swahili equivalent for the Spanish sentence if reflexive is given in (114) while the reciprocal equivalent is given in (115).

- (114) Matilda na Maria wa-li-ji-chom-a  
*Matilde and Maria SM-PST-REFL-burn-FV*  
‘Matilda and Maria burned themselves.’

- (115) Matilda na Maria wa-li-chom-an-a  
*Matilde and Maria SM-PST-burn-REC-FV*  
‘Matilda and Maria burned each other.’

The reflexive morpheme *-ji-* is prefixed in the immediate position before the verb stem as in *wa-li-[ji]-chom-a* ‘they burned themselves’ in (114). This is also the position that the object marker is prefixed. The examples in (116-119) show that the object marker and the reflexive marker are mutually exclusive.

- (116) Maria a-li-ji-chom-e-a nyama  
*Maria SM-PST-REFL-burn-FV-APPL-FV meat*  
‘Maria grilled meat for herself.’

- |       |                 |  |                         |
|-------|-----------------|--|-------------------------|
| (117) | *Maria<br>Maria | a-li- <i>ji</i> -m-chom-e-a<br>SM-PST-REFL-OM-burn-FV-APPL-FV    | nyama<br>meat           |
| (118) | *Maria<br>Maria | a-li-m- <i>ji</i> -chom-e-a<br>SM-PST-OM-REFL-OM-burn-FV-APPL-FV | nyama<br>meat           |
| (119) | Maria<br>Maria  | a-li-m-chom-e-a<br>SM-PST-REFL-OM-burn-FV-APPL-FV                | Juma nyama<br>Juma meat |
- ‘Maria grilled meat for Juma.’

Notice that both the reflexive marker *-ji-* in (116) and the object marker *-m-* in (119) occur before the verb stem *-chom-* ‘burn’. The object/reflexive marker has been analyzed as a pronominal object in a coreferential relationship with the object NP (Bresnan & Mchombo 1987). In reflexive expressions, the reflexive marker *-ji-* in Swahili, as is the case with other Bantu languages such as Chichewa, takes the position of the object marker (Mchombo 1993). The ungrammaticality of (117) and (118) is therefore due to the occurrence of two pronominal object NPs within the same verb.

Reciprocal grammatical marking may be via affixes or analytical morphemes (for example, the English reciprocal pronoun *each other*) or a combination of these two strategies. There are also some inherently reciprocal predicates that do not need special markers of reciprocity in their form. The main strategy employed in Swahili to express reciprocalization is affixation. The reciprocal morpheme *-an-* is suffixed to the verb radical as in *pend-an-a* ‘love each other’. Unlike the reflexive morpheme which has been interpreted as a pronominal object marker, the reciprocal morpheme has been interpreted as a valence reducing morpheme attached to the verb radical (Mchombo 1993).

There are a few Swahili words belonging to the semantic category of ‘conversation verbs’ which are lexically reciprocal. Lexical reciprocals are verbs whose

semantics include reciprocity (Payne 1997). Examples of English reciprocal verbs include *kiss* and *meet*. Thus, even without the periphrastic phrase *each other*, *John and Mary kissed* is interpreted reciprocal. Similarly Swahili verbs such as *zungumz-a* ‘converse’, and *onge-a* ‘talk’ are inherently reciprocal. Other conversation verbs such as *gomban-a* ‘quarrel’ bear the reciprocal morpheme *-an-* which is considered part of the lexical stem.

#### 4.2.2 Reciprocal Situation

Reciprocal situation looks at the requirement of plurality of participants who are agents-cum-patients of a reciprocal event. The plurality requirement should also be fulfilled in Swahili reciprocals. This is illustrated by the grammatical simple and discontinuous reciprocals in (120) and (121), and the ungrammatical reciprocal construction in (122).

(120) Mama        na        baba    wa-na-tazam-an-a  
       Mum        and     dad    SM-PRT-look-REC-FV  
       ‘Mum and dad are looking at each other.’

(121) Mama        a-na-tazam-an-a                    na        baba  
       Mum        SM-PRT-looking-REC-FV    with    dad  
       ‘Mum and dad are looking at each other.’

(122) \*Mama        a-na-tazam-an-a  
       Mum        SM.3PL-PRT-stare-REC-FV  
       ‘Mum is looking at each other.’

While the examples in (120) and (121) involve two sets of reciprocal participants, the ungrammatical example in (122) does not. In this study most of the examples are prototypical reciprocal situations involving two sets of participants “performing two

identical semantic roles (e.g. agent and patient) each”, as in *John and Bill hit each other* (Nedjalkov 2007: 6-7). In this example, two subevents *John hits Bill* and *Bill hits John* are subsumed as one event involving two reciprocal participants.

#### 4.2.3 Reciprocal Variation

Due to some factors including lexical semantics (Wierzbicka 2009; Evans et al. 2011), unbalanced coordination (Mchombo & Ngalande 1980; Mchombo 1993; Mchombo & Ngunga 1994), reciprocal situation (Dalrymple et al. 1998; Evans et al. 2011), and information structure (cf. Maldonado 2011); languages may represent reciprocity using different reciprocal variants. As mentioned earlier, Swahili expresses reciprocal relationship between participants via two main constructions, the simple reciprocal and the discontinuous reciprocal. Reciprocal participants in a simple reciprocal are represented as a conjoined NP as seen in (123), a plural noun as seen in (124) or a pronominal NP<sup>13</sup> as seen in (125).

(123) Bakari        na        Shomari        wa-li-tazam-an-a  
*Bakari        and        Shomari        3PL.SM-PST-look-REC-FV*  
 Bakari and Shomari looked at each other.’ (Mohamed 1980: 45)

(124) Watu                                wawili wa-li-tazam-an-a  
*People                                two        3PL.SM-PST-look-REC-FV*  
 ‘Two people looked at each other.’

(125) Wa-li-tazam-an-a  
*3PL.SM-PST-look-REC-FV*  
 ‘They looked at each other.’

---

<sup>13</sup> In pro-drop situations, I assume that the subject marker functions as the subject of a sentence if the nominal NP is not overt.

Alternatively, in a discontinuous reciprocal, one set of the participants is represented as an explicit noun while the other set is represented as an oblique PP argument as in (126).

- (126) Asubuhi    yule                    masikini            a-ka-kut-an-a  
*Morning*    *D.DEM*                    *poor man*            *SM.3SG-SEQ-meet-REC-FV*  
na yule                    tajiri  
*with D.DEM*                    *rich man*  
‘In the morning, that poor man met that rich man.’ (Macmillan 1935: 21)

In (126), the first participant *yule masikini* ‘that poor man’ is in subject position as indicated by the singular subject marker prefixed to the verb. The second participant *yule tajiri* ‘that rich man’ is in postverbal position. The first participant may also occur as a pronominal subject prefix while the second participant may be cliticized to the preposition *na* ‘with’ as seen in (127).

- (127) Asubuhi    a-ka-kut-an-a                    na-ye  
*Morning*    *SM.3SG-SEQ-meet-REC-FV*    *with-3SG*  
‘In the morning, he met him.’

In (127) the first participant occurs as the third person subject prefix *a-* while the second participant occurs as a third person singular clitic *-ye*.

While Swahili reciprocity is expressed via the invariant suffix *-an-* in all reciprocal variants and situations, reciprocal marking in other languages may vary. In the following section, I present cross-linguistic explanations for reciprocal variation.

### 4.3 Cross-linguistic Studies on Reciprocal Variation

Various studies have explored the syntactic, lexical, and morphological variation of reciprocal constructions. In this section, I present an overview of cross-linguistic studies on reciprocal variation based on lexical semantics (section 4.3.1), unbalanced coordination (section 4.3.2), and syntax (section 4.3.3).

### 4.3.1 Semantics

Evans et al (2011: 8-12) explains several semantic factors associated with reciprocal predicates that may influence reciprocal variation. These semantic factors which include configurations, initiation, and action type are explained in turn in the following sub-sections.

#### 4.3.1.1 Participants Configurations

Configuration looks at the possible permutations in reciprocal situations involving multiple participants (Dalrymple et al. 1998). The reciprocal situation must satisfy the condition laid out in the description of the relevant configuration. Types of configurations include:

- (i) Pairwise: Pairs of non-interacting reciprocal participants as in *The people at the dinner party were married to one another* (Evans et al. 2011: 8)
- (ii) Strong: Multiple reciprocal participants are involved in a reciprocal event such that the reciprocity of the event is true for any two members of the group as in *The members of this family love one another* (Evans et al. 2011: 8)
- (iii) Melee: Multiple participants are involved in an action such that reciprocal situation holds between some but not all the participants as in *the drunks in the pub were punching one another* (Evans et al. 2011: 8).
- (iv) Chain: Each member in a reciprocal chain event is involved in a bidirectional reciprocal event sustained by a unidirectional arrangement of the members as in *They followed each other*. Each participant except the first and the last one will follow and be followed.
- (v) Ring: Participants are in a unidirectional arrangement in a circle-like configuration such that the bidirectionality of the reciprocal event applies to all the members as in *kids chasing each other in a circle*.

These configurations have been found to be relevant in explaining reciprocal variation across languages. In English, for example, the pair and melee configurations are sufficient for the use of *each other* reciprocal construction as in *The men saw each other* but not *each...the other* construction as in *Each man saw the other* (Hurst & Nordlinger

2011: 77-78). The reciprocal construction *Each man saw the other* is only felicitous in a strong reciprocal configuration.

In Swahili however, the participants' configurations do not impact on the type of reciprocal marking. The Swahili examples in (128) illustrate the first four configurations listed above.

- |       |  |   |          |
|-------|--|---|----------|
| (128) | Wa-na-o-an-a<br><i>SM-PRT-REL-marry-FV</i><br>'Those who get married | wa-na-pend-an-a<br><i>SM-PROG-love-REC-FV</i><br>'love each other.'                       | pairwise |
| (129) | Watoto<br><i>Children</i><br>'Children                               | wa-na-pend-an-a<br><i>SM-PROG-love-REC-FV</i><br>'love each other.'                       | strong   |
| (130) | tu-ta-fuat-an-a<br><i>1PL-FUT-follow-REC-FV</i><br>'we will follow   | 'each other'  | chain    |
| (131) | Wanachama<br><i>Members</i><br>'The members                          | wa-li-nong'on-ez-an-a<br><i>SM-PST-whisper-CAUS-REC-FV</i><br>'whispered to one another.' | melee    |

As the examples show, most of the reciprocal constructions used to express reciprocity in the above configurations are simple reciprocals. I associate the use of the simple reciprocal, not to the configurations per se, but to the need to represent the reciprocal members as single plural NPs. Hence, these reciprocal participants within this single unit have the same givenness status. In the event that these reciprocal situations involve two reciprocants (which may also be two distinct plural NPs) with different relational givenness, the discontinuous construction may be used. This is illustrated by the examples in (132) and (133).

(132) *Lamkila a-li-fuat-an-a na kijana mmoja wa kiume.*  
*Lamkila SM-PST-follow-REC-FV with teenager one of male*  
 ‘LIT: Lamkila followed each other with a certain male teenager.’

(133) [*Wanafunzi hao wa Norway*] *wa-li-fuat-an-a na*  
*Students REF.D of Norway SM-PST-follow-FV with*  
 [*walimu watatu*].  
*teachers three*  
 ‘Lit: Those students from Norway followed each other with three teachers.’

In (132), the reciprocal participants are *Lamkila* and *kijana mmoja wa kiume* ‘a certain male teenager’. In (133) the participants are two distinct plural NP, *wanafunzi hao wa Norway* ‘those students from Norway’ and *walimu watatu* ‘three teachers’. The use of the the proper name *Lamkila* in (132) and the referential demonstrative *hao* in (133) indicate that the reciprocal participants in preverbal position are given. The relationally less given NPs *kijana mmoja wa kiume* ‘a certain male teenager’ and *walimu watatu* ‘three teachers’ are therefore realized postverbally in the discontinuous constructions. When the reciprocal participants have equal givenness the reciprocal situation is expressed via a simple reciprocal as illustrated in (134).

(134) *Rehema na Bikiza wa-li-fuat-an-a*  
*Rehema and Bikiza SM-PST-follow-REC-FV*  
 ‘Reheme and Bikiza followed each other.’

In (134), the chain reciprocal situation involving two equally given reciprocal participants at utterance time, *Rehema* and *Bikiza*, is expressed via the simple reciprocal. Thus, it is not the reciprocal configuration that is responsible for the use of the simple reciprocal in most of the examples, but rather the set semantics of plural NPs. Where more than two distinct NPs (plural/singular) are involved in the reciprocal situations, depending on the

relational givenness of the relevant NPs, either the simple or the discontinuous reciprocal may be used.

#### 4.3.1.2 Action Type

In their cross-linguistic analysis, Evans et al. (2011) demonstrate that the action type influence variation of reciprocal constructions. Action type in this dissertation refers to the categorization of verbs based on aspectual consideration as laid out by Vendler (1957) (see section 4.4.1) as well as the categorization of reciprocal events into simultaneous and sequential reciprocal events (cf. Lakoff & Peters 1969 discussion on symmetric predicates).

Knjazev (2007) demonstrates that in Russian different action types may require different reciprocal marking. Thus, activity verbs that express emotion via physical contact may allow the reflexive reciprocal affix *sja* as in *obnimat'sja* ‘embrace each other’ and *celovat'sja* ‘to kiss each other’, while the reciprocal interpretation of stative verbs such as *ljubit* ‘love’ is achieved via the pronoun *drug druga* ‘each other’. Such a distinction has also been observed in Japanese where the DR and SR are both felicitous for *korosi-a-u* ‘to kill each other’ (an activity verb); but the SR is preferred for *aisi-a-u* ‘to love each other’ and *nikumi-a-u* ‘to hate each other’ (stative verbs) (Alpatov & Nadjalkov 2007: 1041). In Swahili, however, the simple reciprocal and discontinuous reciprocal are felicitous for both the stative and activity verbs as illustrated in (135) and (136) respectively.

- (135) a. Asha na Victor            wa-li-pend-an-a            sana  
*Asha and Victor*            *SM-PST-love-REC-FV*            *very much*  
‘Asha and Victor loved each other very much.’

- b. Asha a-li-pend-an-a sana na Victor  
*Asha SM-PST-love-REC-FV very much with Victor*  
 ‘Asha and Victor loved each other very much.’
- (136) a. Bukoli na Auko wa-li-pig-an-a katika baa ya Boke  
*Bukoli and Auko SM-PST-fight-REC-FV at bar of Boke*  
 ‘Bukoli and Auko fought at the Boke bar.’
- b. Bukoli a-li-pig-an-a na Auko katika baa ya boke  
*Bukoli SM-PST-fight-REC-FV with Auko at bar of Boke*  
 ‘Bukoli and Auko fought at the Boke bar.’

In (135) the stative reciprocal verb *pend-an-a* ‘love each other’ is used to describe *Asha* and *Victor’s* love relationship via a simple reciprocal. In (135) the same reciprocal love relationship is described via a discontinuous reciprocal. The use of the simple reciprocal and discontinuous reciprocal variants is also not restricted when an activity verb *pig-an-a* is used as seen in (136) and (136).

Further, according to Evans et al. (2011), the simultaneity or sequentiality of reciprocal event impacts the variation of reciprocal marking and reciprocal constructions across languages. For example, in Balinese, an Austronesian language, simultaneous reciprocal events are marked via the *ma-* prefix as seen in (137), while sequential events are marked via a free reciprocal morpheme *saling* as seen in (138).

- (137) Nyoman [ma]-diman ajak Ketut  
*Nyoman MID-kiss with Ketut*  
 ‘Nyoman and Ketut kissed each other.’  
 ‘Lit: Nyoman was involved in kissing with Ketut.’

- (138) Nyoman [saling] ø-diman ajak Ketut  
*Nyoman REC undergoer.voice-kiss with Ketut*  
 ‘Nyoman and Ketut kissed each other (in turn).’  
 ‘Lit: Nyoman was involved in kissing with Ketut.’ (Evans et al. 2011: 9)

In (137), the *ma* reciprocal marker implies that the event was symmetric while in (138) the reciprocal marker implies that the reciprocal event was sequential. Similarly, Wierzbicka (2009) attributes reciprocal variation in English symmetric predicates such as *kissed/embraced/hugged* to simultaneity of an action. In contrast, the events of reciprocal construction as in *they hit/kicked/accused/ each other* are construed as separate sequential actions.

While reciprocal marking and reciprocal variation in some languages such as Balinese and English is determined by the simultaneity or sequentiality of reciprocal predicates, Swahili has the same reciprocal marking for both simultaneous and sequential events. Thus, Swahili also allows both the simple reciprocal and discontinuous reciprocal for reciprocal symmetric events such as *kumbati-an-a* ‘embrace’ (139) as well as reciprocal sequential events such as *tembele-an-a* ‘visit each other’ (140).

(139) Mwalimu na mwanafunzi wa-li-kumbati-an-a  
*Teacher and student SM-PST-embrace-REC-FV*  
 ‘The teacher and the student embraced.’

(140) Wakikuyu na Waswahili wa-li-kuwa wa-ki-tembele-an-a  
*Kikuyu and Swahili SM-PST-AUX SM-IMPFTV-visit-REC-FV*  
 ku-fanya biashara  
*INFTV-do trade*  
 ‘The Kikuyu and the Swahili used to visit each other to trade’

In (139) the reciprocal event predicated by the reciprocal verb *kumbati-an-a* is simultaneous. The reciprocal event in (140) is sequential since only one participant, say *wakikuyu*, can visit the *Waswahili* then the *Waswahili* would visit the *Wakikuyu*, or the vice-versa. The discontinuous reciprocal can be used to express reciprocity for the

simultaneous event *kumbati-an-a* as seen in (141) and the sequential event *tembele-an-a* as seen in (142).

(141) Mwalimu a-li-kumbati-an-a na mwanafunzi  
*Teacher SM-PST-embrace-REC-FV with student*  
 ‘The teacher and the student embraced.’

(142) Wakikuyu wa-li-kuwa wa-ki-tembele-an-a na Waswahili  
*Kikuyu SM-PST-AUX SM-PROG-visit-REC-FV and Swahili*  
 ku-fanya biashara  
*INFTV-do trade*  
 ‘The Kikuyu and the Swahili used to visit each other to trade’

The discontinuous constructions in (141) and (142) are felicitous for the simultaneous reciprocal predicate *kumbati-an-a* ‘embrace’ and the sequential reciprocal predicate *tembele-an-a* ‘visit each other’. Therefore, action type, do not impact the simple reciprocal and discontinuous reciprocal variation in Swahili.

#### 4.3.1.3 Semantics of Initiation

Some languages use different reciprocal constructions to encode reciprocal situations in which there is a clear initiator of the reciprocal event versus a situation where there is equal participation. For example, in Tetun Dili, an Austronesian language, the simple reciprocal as in (143) denotes equal responsibility while the discontinuous reciprocal as in (144) indicates that there is a clear initiator (Evans et al. 2011: 11).

(143) João ho Maria istori malu  
*John and/with Maria quarrel REC*  
 ‘John and Maria quarreled (no indication as to who started it).’

(144) João istori malu ho Maria  
*John quarrel REC and/with Maria*  
 ‘John quarreled with Maria (he started it).’

Within the semantics of initiation, it has been claimed that the Swahili discontinuous reciprocal is used to mark set construal of the reciprocal relation as well as the comitative semantics of the participant set (Maslova 2000). Thus, the participants in a discontinuous reciprocal are construed as a set occupying two different participant slots. The primary participant (or “comitative target” in Maslova’s (2000) terminology) is preverbal while the comitative participant is postverbal. The single participant slot in a simple reciprocal entails the same type of participation in the reciprocal event.

However, there is need to differentiate between reciprocity, and the initiation semantics in discontinuous comitative constructions involving inherent reciprocal verbs. The use of discontinuous reciprocal in these discontinuous constructions also entails an asymmetric relationship between the participants.

(144) Niwe Mugizi	a-li-kuwa	a-na-zungumz-a	na
<i>Niwe Mugizi</i>	<i>SM-PST-AUX</i>	<i>SM-PROG-converse-FV</i>	<i>with</i>
wafanyakazi	wote wa	Tec	
<i>workers</i>	<i>all of</i>	<i>Tec</i>	

‘Niwe Mugizi was talking to all Tec workers.’

If used to also represent the semantics of initiation, *Niwe Mugizi* in (144) is the source of information (the speaker) while *wafanyakazi wote wa Tec* ‘the Tec workers’ are the receivers of the information (listeners) in the conversation act. The main difference between the discontinuous comitative constructions and a true discontinuous reciprocal is that the reciprocal semantics in the former can be dropped but not in the later. The result is a transitive construction with the postverbal participant in object position as seen in (157).

- (145) Niwe Mugizi a-li-kuwa a-na-wa-zungumz-i-a  
*Niwe Mugizi SM-PST-AUX SM-PROG-OM-converse-APP-FV*  
wafanyakazi wote wa Tec  
*workers all of Tec*  
‘Niwe Mugizi was talking to all Tec workers.’

Notice the applicative *-i-* suffixed to the verb *zungumz-i-a* ‘talk to’ which makes an inherently intransitive reciprocal verb *zungumz-a* transitive. However, the initiation semantics in verbs whose basic form is transitive such as *penda* ‘love’, *piga* ‘hit’, *chapa* ‘whip’ is represented via transitive constructions. Discontinuous reciprocal constructions in these constructions simply mean symmetric reciprocal participation in the event (see section 4.4.1. where I give more explanation and examples of inherently reciprocal conversation verbs and the derived reciprocal “marry” verbs such as *pend-an-a* ‘love’).

Furthermore, the semantics of initiation cannot explain Swahili simple and discontinuous reciprocal variation in non-agentive verbs such as *gong-an-a* ‘collide’. In (145) and (146) a simple reciprocal and a discontinuous reciprocal involving the verb *gong-an-a* ‘collide’, a non-agentive verb, is used to represent reciprocal events.

- (145) Treni mbili za mizigo zi-me-gong-an-a  
*10Trains two of cargo 10SM-PERF-hit-REC-FV*  
Two cargo trains collided
- (146) Basi hilo li-li-gong-an-a na gari jingine aina ya Kia  
*5Bus REF.D 5SM-PST-hit-REC-FV with 5car another model of Kia*  
‘The bus collided with another car whose model is Kia.’

In (145) a simple reciprocal is used to express a reciprocal non-agentive event between two trains. In (146) a discontinuous reciprocal is also used in a non-agentive event involving a bus and a car. The motivation for the use of the discontinuous reciprocal in

(146) is not to depict the bus as the initiator of the collision but rather to mark the previous mentioned bus as topical (Notice the referential demonstrative *hilo* occurring after the noun *basi* ‘bus’.).

#### 4.3.2 Unbalanced Coordination

Unbalanced coordination here refers to a coordinate structure whose conjuncts belong to distinct noun classes. I explained in Chapter 1 that Bantu languages, including Swahili, have a noun class system which demands an agreement relationship between nouns and other lexical categories such as verbs and adjectives. In Chichewa and Ciyao (Bantu languages), it has been claimed that the simple reciprocal is the unmarked reciprocal construction while the discontinuous reciprocal is sparingly used to avoid an agreement clash between the conjoined NP of a simple reciprocal and the subject agreement marker (Mchombo & Ngunga 1994; Mchombo 1993; Mchombo & Ngalande 1980). This is illustrated in (147).

- (147) a. #mtengo ndi munthu ?-na-gwer-ana  
           tree       and    person       ?-PST-fall on-REC
- b. mtengo u-na-gwer-ana ndi munthu  
     tree    AGR-PST-fall on-REC   with   person  
     ‘A tree and a person fell on each other.’  
     (Mchombo & Ngalande 1980: 574)

In (147a), *mtengo* ‘tree’ and *munthu* ‘person’ belong to two distinct noun classes (not specified by authors). The discontinuous reciprocal in (147b) is therefore used to avoid a semantic clash of the subject coordinate structure in its agreement relationship with the subject marker. This line of argument predicts that the SR is never used for reciprocal participants whose noun classes are different, and that DR is reserved for NPs that belong

to distinct nominal classes. However, as the examples presented so far have shown, discontinuous constructions in Swahili may involve participants belonging to the same class.

Furthermore, there are instances when Swahili subject conjuncts can involve NPs belonging to different nominal classes as seen in (148) (cf. Ashton 1944; Schadeberg 1992; Jennessen 1996; Marten 2000). In the example, the conjunct and the relevant agreement marker are bracketed.

- (148) Kurwa        a-li-po-kuja                ukumbi-ni                a-li-sikia  
           *Kurwa*        *SM-PST-when-come*    *anteroom-LOC*        *SM-PST-hear*  
           [mazungumzo        na        vicheko]        [ya]-me-uma  
           *6conversation*        *and*        *8laughter*        *[6AGR]-PERF- 'bite'*  
           ‘When Kurwa came to the anteroom, she noticed the conversation and laughter  
           had caught on.’  
           (Farsy 1960: 21 cited by Contini-Morava 1996: 259)

In (148), the subject marker is in agreement with the first conjunct NP *mazungumzo* ‘conversation’ (class 6) while the second conjunct *vicheko* ‘laughter’ (class 8) is ignored. Instances where only one of the conjuncts agrees with predicate (partial agreement) have been studied in a number of languages including Arabic, Czech and German (Johannessen 1996, Progovac 1998). In Swahili, there are also cases where the predicate agrees with the second conjunct. In (149) the first conjunct is the class 9 NP *heshima kubwa* ‘LIT: big courtesy’ and the second conjunct is the class 14 NP *wema mkubwa* ‘LIT: big kindness’. However, the subject marker and the relative marker referencing the virtues as a single entity is that of class 14 *u/-o* (bracketed in the example).

(149) Tu-me-tend-ew-a [heshima kubwa na wema  
*1PL-PERF-do-PASS-FV 9courtesy 9big and 14kindness*  
 Mkubwa] [u]-si-[o] na kifani  
*14AGR-big 14SM-NEG.have-14REL with example*  
 ‘We were shown unparalleled courtesy and kindness.’  
 (Ashton 1944: 311)

Ashton (1944: 311) claims that it is common for the second conjunct, especially if it is abstract, to agree with the predicate. This is incorrect since there are cases when a non-abstract second conjunct NP triggers agreement on the predicate as the examples in (150) and (151) show.

(150) [Serikali na wananchi] [wa]-me-azimi-a  
*9government and 2citizens 2SM-PERF-intend-FV*  
 ku-fanya hivyo kwa dhati  
*INFTV-do 8REF.D with effort*  
 ‘The government and the citizens have decided to do that with all the effort.’

(151) [Fedha na wakati] tu-na-[o]-tumi-a  
*10silver and 14time 1PL-PRT-14REL-use-FV*  
 ‘The money and time that we use.’  
 (Schadeberg 1992)

In (150) the first conjunct is the class 9 NP *serikali* ‘government’ and the second conjunct is the class 2 NP *wananchi* ‘citizens’ but the subject marker is that of class 2 NP *wananchi* (*wa-*). In (151) the first conjunct is the class 10 NP *fedha* ‘money’ and the second conjunct is the class 14 NP *wakati* ‘time’ but the relative marker for the relativised conjoined object NP is that of class 14 NP *wakati* ‘time’, *-o-*. Thus it is possible in Swahili for the predicate to agree with the first conjunct or the second conjunct of an unbalanced coordinate structure.

In addition to partial agreement, Swahili has another type of agreement where none of the conjuncts agree with the predicate. This is mostly the case with coordination

involving concrete NPs (Ashton 1944). In (152) the conjuncts are the class 10 NP *nguo zako* ‘your clothes’ and class 1 NP *farasi* and the predicate subject agreement marker is *vi-* of class 8. In (153) the conjuncts in the coordinated phrase *nyundo na misumari* ‘hammer and nails’ belong to class 10 and class 4 respectively but the corresponding agreement marker for the conjoined NP belongs to class 8.

(152) [Nguo        za-ko                                na        farasi] [vi]-ko        wapi?  
 10clothes 10AGR-POSS.2SG and 1horse 8SM-LOC        where?  
 ‘Where are your clothes and your horse?’  
 (Ashton 1944: 311)

(153) Hivyo        [vi]-na-[vyo]-li-a                                ni        [nyundo na misumari].  
 8REF.D        8SM-PRT-8REL-clatter-FV are        10hammer and 4nails  
 ‘Those (things) which are clattering are a hammer and nails.’  
 (Macmillan 1936: 5)

It follows that NP conjuncts belonging to distinct classes can occur in the subject position of a simple reciprocal as well. This is illustrated in (154).

(154) [ulimi        wa moto na        sigara]                                [vi]-ka-kut-an-a                                njia-ni.  
 11tongue of fire and 9cigarette        8SM-SEQ-meet-REC-FV way-LOC  
 ‘The tongue of fire and the cigarette met midway,’ (Mohamed 1988: 19)

In (154), the subject marker of the conjunct NP of a simple reciprocal construction does not agree with any of the two conjuncts. The reciprocal construction describes the ‘meeting’ of fire from a gas lighter with a cigarette. The noun *ulimi* ‘tongue’ belongs to class 11, while *sigara* ‘cigarette’ belongs to class 9. In this instance, the preferred agreement morpheme on the verb is that of class 8, *vi-* in which most nouns thought of as ‘things’ belong (cf. Contini-Morava 1996).

Furthermore, the discontinuous construction is attested in languages which allow conjuncts belonging to distinct genders such as Arabic, Hebrew and Hungarian (cf. Siloni

2001; Dimitriadis & Seidl 2002). The examples from Hebrew in (155) illustrate this (Siloni 2001: 10).

- (155) a. Dan        ve-Dina        hitnašku.  
           *Dan        and-Dina        kissed.Recip*  
           ‘Dan and Dina kissed.’
- b. Dan        hitnašek        im        Dina.  
           *Dan        kissed.Recip        with        Dina*  
           ‘Dan and Dina kissed.’
- c. Dina        hitnaška        im        Dan.  
           *Dina        kissed.Recip        with        Dan*  
           ‘Dina and Dan kissed.’

The example in (155a) is a simple reciprocal while the examples in (155b-c) are discontinuous constructions. The reciprocal participants, *Dan* and *Dina* belong to distinct genders. As (155a) show, both *Dan* and *Dina* may occur as a conjoined NP in subject position of a simple reciprocal. Following, Dimitriadis and Seidl (2002), I argue that the difference in noun class and gender do not restrict coordination and hence the simple reciprocal or discontinuous reciprocal may be used to express reciprocity between two unbalanced conjuncts. However, I differ in their proposal that the postverbal NP in a discontinuous construction is motivated by initiation semantics and comitative participation.

#### 4.3.3 Syntactic Account

In this section, I discuss the syntactic account of reciprocal constructions with some focus on Swahili simple and discontinuous reciprocals. Typological and language specific studies on reciprocals have suggested that reciprocal constructions are derived from two distinct transitive propositions as in *John loves Mary, and Mary loves John*

which derive *John and Mary love each other* (Evans 2008: 33). In Swahili however, this proposal is complicated by certain Swahili reciprocal predicates whose actors are only construable as males illustrated here by the anomalous sentence in (157) (Amidu 2011: 152)

(156) Mjenzi a-me-m-chumb-i-a binti wa Juma  
*builder SM-PERF-OM-engage-APPL-FV daughter of Juma*  
 ‘The builder has engaged Juma’s daughter.’

(157) #Binti wa Juma a-me-m-chumb-i-a mjenzi  
*daughter of Juma SM-PERF-OM-engage-APPL-FV builder*  
 ‘Juma’s daughter has engaged the builder.’

(158) Binti wa Juma a-me-chumb-iw-a na mjenzi  
*daughter of Juma SM-PERF-OM-engage-PASS-FV by builder*  
 ‘Juma’s daughter has been engaged by the builder.’

In (156), *mjenzi* ‘builder’, who is culturally understood to be a man, is engaged to *binti wa Juma* ‘Juma’s daughter’. Reversing the semantic roles such that *binti wa Juma* becomes the agent, and *mjenzi* the patient produces the infelicitous sentence in (157). If a female NP is in subject position, the verb has to be passivized for the sentence to be felicitous as seen in (158).

The problem with the two transitive sentences for reciprocal derivation in Swahili is that verbs such as *chumbia* ‘engage’, whose transitive forms are culturally restricted to a male agent and a female patient can be reciprocalized as seen in (159) (Amidu 2011: 156). The linear order of the conjuncts does not affect the felicity of the simple reciprocal.

(159) Mjenzi na binti wa Juma wa-me-chumbi-an-a  
*builder and daughter of Juma SM-PERF-engage-REC-FV*  
 ‘The builder and Juma’s daughter are engaged (to each other)’

Reciprocity in these verbs can also be expressed via a discontinuous reciprocal as seen in (160). The linear order of the preverbal and postverbal participants may be reversed as seen in (161).

(160) Mjenzi a-me-chumbi-an-a na binti wa Juma  
*builder SM-PERF-engage-REC-FV with daughter of Juma*  
 ‘The builder and Juma’s daughter are engaged (to each other)’

(161) Binti wa Juma a-me-chumbi-an-a na mjenzi  
*daughter of Juma SM-PERF-engage-REC-FV with builder*  
 ‘The builder and Juma’s daughter are engaged (to each other)’

Amidu (2011: 162) proposes an adjustment to the traditional analysis of reciprocal derivation from two bidirectional transitives and proposes that the demoted agent in Swahili passive constructions is an “object agent” of an “alter transitive”. This proposal would mean that Swahili reciprocal constructions with no corresponding bidirectional constructions are derived by merging a transitive construction with a male subject and an alter transitive with a female subject. Amidu’s (2011) analysis which was meant to modify the traditional bidirectional principle of prototypical reciprocal constructions derivation from two transitive constructions does not however explain why language users opt for a simple as opposed to a discontinuous reciprocal or the vice-versa.

In deriving the Swahili simple and discontinuous reciprocals, Vitale (1981) argues for the same underlying structure where both participants first occupy the postverbal position as members of a set. An “agent preposing” rule then moves one of the reciprocal participants or both to subject position to derive the discontinuous reciprocal or simple reciprocal respectively. This derivation is illustrated in Figure 9 using Vitale’s (1981: 145) examples.

(162) [NP[NP1 Juma]            [CONJ na]            [NP2Halima]] [V<sub>rec</sub> wa-na-pend-an-a]  
*Juma                            and                            Halima                            SM.3PL-PRT-love-REC-FV*  
 “Juma and Halima love each other.”

(163) [NP1 Juma] [V<sub>rec</sub> a-na-pend-an-a]            [PP[pna]            [NP2Halima]]  
*Juma                            SM.3SG-PRT-love-REC-FV            with                            I-Halima*  
 “Juma and Halima love each other.”

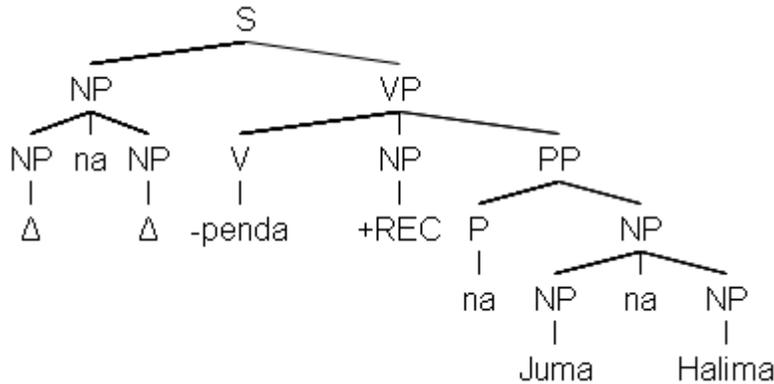


Figure 9: Vitale's (1981) reciprocal derivation

Vitale's (1981) account assumes that the reciprocal morpheme is a pronominal object as is the case with the object marker and the reflexive marker in transitive constructions. His argument is based on the fact that the object marker (including the reflexive marker *-ji-*) and the reciprocal morpheme *-an-* are mutually exclusive with one another. However, this depiction of the reciprocal morpheme *-an-* as an equivalent of the object marker in the reciprocal verbs renders Vitale's (1981) derivation of both the simple and discontinuous reciprocal from the same underlying form incorrect because of their structural and morphosyntactic differences in Swahili. The reciprocal marker *-an-* is a detransitivizing morpheme which takes part in derivational processes of the verb radical while the object marker is an incorporated pronominal argument prefixed to the verb

radical (Bresnan & Mchombo 1987; Mchombo 1993). Thus there are a number of morpholexical processes that affect the reciprocal morpheme because of its constituency with the verb radical but not the object/reflexive marker. For example, Mchombo (1993) demonstrates that while the reciprocal morpheme takes part in reduplication, the inflectional prefixes (including the object marker and reflexive marker) do not. This is also true for Swahili as the examples in (164) through (167) illustrate.

(164) Maelezo            ya-ko            ya-me-kuwa  
*6explanations*        *6AGR-POSS.2SG*    *SM-PERF-AUX*  
ya-ki-ping-an-a                            ping-an-a  
*SM-PROG-contradict-REC-FV*    *contradict-REC-FV*  
‘Your explanations have been contradictory (LIT: contradicting each other).’

(165) \*Maelezo            ya-ko            ya-me-kuwa  
*6explanations*        *6AGR-POSS.2SG*    *SM-PERF-AUX*  
ya-ki-ping-an-a                            ping-a  
*SM-PROG-contradict-REC-FV*    *contradict-FV*

(166) Maelezo            ya-ko            yamekuwa  
*6explanations*        *6AGR-POSS.2SG*    *SM-PERF-AUX*  
ya-ki-ji-ping-a                            ping-a  
*SM-PROG-REF-contradict-FV*    *contradict-FV*  
‘Your explanations have been contradictory (LIT: contradicting themselves).’

(167) \*Maelezo            ya-ko            yamekuwa  
*6explanations*        *6AGR-POSS.2SG*    *SM-PERF-AUX*  
ya-ki-ji-ping-a                            ji-ping-a  
*SM-PROG-REF-contradict-FV*    *REF-contradict-FV*

The example in (164) and (165) shows that *ping-an-a ping-an-a* is grammatical while the examples in (166) and (167) show that *ji-ping-a ji-pinga* is ungrammatical. It follows that the reciprocal marker in Swahili is syntactically different from the reflexive and therefore cannot take the same roles in derivational processes as Vitale (1981) suggests. Thus Vitale’s (1981) account cannot be correct because it would involve treating the reciprocal

morpheme as a pronominal object, a role reserved for inflectional prefixes. To derive the discontinuous construction, his derivation would also violate an independently motivated syntactic constraint on conjunct movement (Ross’s 1967). Additionally, one has to invoke a rule that deletes the reciprocal preposition *na* ‘with’ for the simple reciprocal after agent preposing of the complex NP.

Following Lakoff and Peters (1969), Mchombo and Ngunga (1994: 6) argue that the discontinuous construction (which is marked relative to the simple reciprocal) is derived by extraposing “all but the first conjunct” of a simple reciprocal after conjunct deletion. After extraposition, the postverbal participant is a comitative participant. However, Mchombo and Ngunga (1994) do not present any evidence to show an underlying phrasal conjunction for the subject and the ‘comitative participant’ of a discontinuous reciprocal before the extraposition.

There are other problems with the extraposition analysis. First, the extraposition analysis cannot account for the derivation of a discontinuous reciprocal from a simple reciprocal whose subject is a plural NP as illustrated in (168) and (169).

(168) *Wote*            *wa-ka-kut-an-a*                            *kwa*    *Sultan*  
*All*                *SM.3PL-SEQ-meet-REC-FV*    *at*        *sultan*  
‘They all met at the sultan’s place

(169) *Masikini*    *a-ka-kut-an-a*                            *na*    *Abunuwas*    *kwa*    *Sultan*  
*Poor man*    *SM.3SG-SEQ-meet-REC-FV*    *with*    *Abunuwas*    *at*        *Sultan*  
‘The poor man met Abunuwas at the Sultan’s place.’  
(Adapted from Macmillan 1935: 21-22)

In (168) the quantifier *wote* ‘all’ in subject position of the simple reciprocal represents two reciprocal participants. In (169) the reciprocal participants are the preverbal NP

*masikini* ‘poor man’ and the postverbal NP *Abunuwas*. Since the NP *wote* functioning as the subject in (168) represents two or more reciprocal participants, and that *wote* does not indicate the order in which the constituent NPs occur, it is difficult to explain who amongst the participants will be extraposed to derive the discontinuous construction in (169). It is only through an analysis of the discourse context that the full range of the possibilities that the quantifier *wote* ‘all’ represents can be fully identified.

Second, Mchombo and Ngunga (1994), following Lakoff and Peters (1969) argue that the extraposition of one of the conjuncts is motivated by comitative semantics. However, there is some evidence indicating that the “extraposed” comitative reciprocal participant in Swahili discontinuous constructions is not part of the superficial subject as Lakoff and Peters (1969) demonstrate for true comitative constructions in English. Though similar in structure, there is a marked difference between the comitative reading and the reciprocal reading of these two types of constructions in Swahili. In order to make my argument clear, I start by presenting example (170) which is ambiguous between the simple reciprocal reading and a comitative reading.

- (170) *Mtage*        *na*        *Sekulanga*        *wa-na-pig-an-a*  
           *Mtage*        *and*        *Sekulanga*        *SM-PRT-fight-REC-FV*  
 (i)     *Mtage* and *Sekulanga* are fighting (against each other)  
 (ii)    *Mtage* and *Sekulanga* are fighting (together)

In the first reading, (170) is a simple reciprocal, *Mtage* and *Sekulanga* are reciprocal participants in a fighting event. In the second reading, *Mtage* and *Sekulanga* are comitative participants in a fighting reciprocal event whose second reciprocal participant



(174) Mtage a-na-pig-an-a na Sekulanga  
*Mtage SM.1SG-PRT-fight-REC-FV with (COM) Sekulanga*  
 kwa nguvu sana, [lakini a-na-zid-iw-a].  
*with strength a lot, but SM.3SG-PRT-overpower-PASS-FV*  
 ‘Mtage and Sekulanga fight together with a lot of strength, but he is  
 overpowered.’

(175) Mtage a-na-pig-an-a na Sekulanga  
*Mtage SM.1SG-PRT-fight-REC-FV with (COM) Sekulanga*  
 kwa nguvu sana, [lakini wa-na-zid-iw-a].  
*with strength a lot, but SM.3PL-PRT-overpower-PASS-FV*  
 ‘Mtage and Sekulanga fight together with a lot of strength, but they are  
 overpowered.’

The fact that the plural subject marker is acceptable in the embedded clause in (175) indicates that in true comitative discontinuous constructions, the postverbal participant is part of the superficial subject.

Following Dimitriadis and Seidl (2002), I argue that the simple reciprocal and the discontinuous reciprocal are distinct constructions that are underivable from each other. My proposal however differs from Seidl and Dimitriadis (2002) in that while they explain the difference between the Swahili simple reciprocals and discontinuous reciprocals in terms of Maslova’s (2000) initiation semantics, I explain the difference in terms of information structure considerations.

#### 4.4 Methodology

There has been an increased emphasis on language studies whose results and generalizations are based on contextual analysis of linguistic forms. To this end, the primary source of data for the present study comes from the Helsinki Corpus of Swahili (HCS) which has 14 annotated corpora with a total of 12.5 million words. The HCS is

selected because it is the largest and the only annotated Swahili corpus I am aware of. In the HCS, concordance searches of the relevant data are done via inbuilt software, namely Lemmie 2. The corpora contain current Swahili newspaper articles, excerpts of literary texts, and education and science material written in the mid to late 20<sup>th</sup> century. A few other examples were taken from Swahili literary texts published in the 20<sup>th</sup> century.

Due to the low frequency of reciprocal constructions in corpora, selected examples were used to obtain acceptability ratings from native speakers to validate the results of the corpus data. Prompt questions and reciprocal constructions as responses were presented to 47 Swahili native speakers via the DMDX software. The respondents were native speakers of Swahili from the East African coastal town of Mombasa, Kenya.

The rest of the chapter is organized as follows. In section 4.4.1, I discuss two verb categories were used in the corpus and acceptability ratings. In section 4.4.2 I discuss the corpus analysis. In section 4.4.3 I discuss the procedure and results of the acceptability ratings.

#### *4.4.1 The Verbs*

As mentioned earlier, studies on reciprocals have mainly focused on verb semantics and morphosyntax to explain reciprocal variation across languages. I had hypothesized that information structure is the main predictor of Swahili reciprocal variation. I explore this hypothesis by analyzing corpus examples from two distinct verb categories, namely conversation and “marry” verbs (Levin 1993). These verbs differ in the way they express their arguments in their basic form as well as the type of reciprocity they express.

#### 4.4.1.1 Argument Structure

Swahili conversation verbs in their ‘basic’<sup>14</sup> form are intransitive. Examples of conversation verbs are *zungumza* ‘converse’, *gomb-an-a* ‘quarrel’, *onzea* ‘talk’, *piga soga* ‘chat’ and *bishana* ‘argue’. In the unmarked case, conversation verbs are inherently reciprocal because their semantics meets the plurality requirement of having more than one symmetric participant. Thus conversation verbs such as *zungumza* ‘converse’ are interpreted reciprocal although they do not have a reciprocal suffix *-an-* in their morphology. Those with the reciprocal morpheme such as *gomban-a* ‘quarrel’ have been lexicalized with the reciprocal morpheme *-an-* as part of their structure.

Both the discontinuous reciprocal as seen in (176) and the simple reciprocal as seen in (177) may be used to describe the reciprocal participation in a conversation event.

(176) Deo a-li-zungumz-a                      na        waandishi wa habari  
*Deo SM-PST-converse-FV                      with        reporters        of news*  
‘Deo conversed with news reporters.’

(177) Deo                      na        waandishi wa habari        wa-li-zungumz-a  
*Deo                      and        reporters        of news        SM-PST-converse-FV*  
‘Deo conversed with news reporters.’

It is important to mention here that conversation verbs such as *zungumza* can be transitivised by suffixing an applicative to the verb as seen in (178).

(178) Ibilisi                      a-na-simama                      mbele ya                      jukwaa na  
*Ibilisi                      SM-PRT-stand                      in front of                      stage and*  
ku-wa-zungumz-i-a                      watazamaji  
*IFNTV-OM-converse-APPL-FV                      audience*  
‘Ibilisi stands in front of the stage and then talks to the audience.’

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<sup>14</sup> “Basic” form of a verb in this dissertation means a verb without inflectional or derivational affixes.

The NP *watazamaji* ‘audience’ in (178) is in object position because the applicative *-i-* suffixed to verb stem transitivises the verb. The interpretation in such transitive structures involving conversation verbs is that *Ibilisi* is the source of the information in the conversation act while the entity *watazamaji* ‘audience’ is the receiver of the information.

It is however not uncommon for speakers to use the discontinuous reciprocal even in the asymmetric cases where there is an obvious source (a speaker) and goal (a listener) semantic relationship in the conversation act (cf. Maslova (2000) on the use of discontinuous reciprocal to encode initiation and comitative semantics). However, contextual analysis can be used to identify a true comitative participant in discontinuous reciprocals. In (178), for example, *watazamaji* ‘audience’ in the postverbal position of the discontinuous reciprocal is a true comitative participant because the audience is the goal of a theatrical performance.

No reciprocal denotation is expressed by marry verbs unless the reciprocal morpheme *-an-* is suffixed to the verb. Examples of Swahili marry verbs include *oa* ‘marry’, *kumbatia* ‘embrace’, *busu* ‘kiss’, *acha* ‘divorce’, *penda* ‘love’ and *tongoza* ‘seduce’. In their basic form, marry verbs are transitive as the example in (179) illustrates.

(179)	Rosa	a-li-m-kumbatia	Thomas	
	<i>Rosa</i>	<i>SM-PT-OM-embrace</i>	<i>Thomas</i>	
	‘Rosa embraced Thomas.’			(Kezilahabi 1971: 53)

In (179) *Rosa* is in subject position while *Thomas* is in object position.

Within marry verbs there are those verbs whose emotion is expressed via physical contact such as *kumbatia* ‘embrace’, and those verbs whose expression of emotion is via

an internal state such as *penda* ‘love’. Reciprocity in marry verbs involving physical contact can be expressed via a discontinuous reciprocal as well as the simple reciprocal. In (180) and (181), the reciprocal morpheme *-an-* attached to the marry verb of physical contact *kumbatia* ‘embrace’ derives the reciprocal verb *kumbati-an-a*. In the discontinuous reciprocal in (180) *Rosa* is in subject position while the postverbal PP *na Thomas* ‘with Thomas’ is an oblique argument. In the simple reciprocal in (181) the two participants are in subject position.

(180) *Rosa*            *a-li-kumbati-an-a*            *na*    *Thomas*  
*Rosa*            *SM-PST-embrace-REC-FV*    *with*    *Thomas*  
‘Rosa and Thomas embraced’

(181) *Rosa*            *na*    *Thomas a-li-kumbati-an-a*  
*Rosa*            *with*    *Thomas SM-PST-embrace-REC-FV*  
‘Rosa and Thomas embraced.’

Similarly a discontinuous reciprocal as well as a simple reciprocal may be used to express reciprocity in marry verbs of internal emotions.

(182) *Juma*            *a-na-pend-an-a*            *na*    *Halima*  
*Juma*            *ISM-PRT-love-REC-FV*    *with*    *Halima*  
‘Juma and Halima love each other.’

(183) *Juma*            *na*    *Halima*            *wa-na-pend-an-a*  
*Juma*            *CONJ Halima*            *2SM-PRT-love-REC-FV*  
‘Juma and Halima love each other.’ (Vitale 1981: 145)

In the examples in (182) and (183) the reciprocal verb *pend-an-a* expresses a reciprocal relationship involving two participants in a symmetrical love relationship. If the love relationship is asymmetrical, then the uninflected form *pend-a* must be used with one participant in the subject position and the other in object position.

#### 4.4.1.2 Temporal Aspects of the Verbs

According to Vendler (1957), the use of tense in verbs is not limited to the concepts of future, present and past; but may also presuppose other possible distinctions based on the notion of time. There are verbs that can take continuous tense and verbs that may not take continuous tense. Verbs that take continuous tense but are not bounded in time such as *run* are ‘activities’ while those that “proceed towards a terminus” (Vendler 1957: 146) such as *running a mile* are ‘accomplishments’. On the other hand, verbs that lack continuous tense and occur within a single moment in time such as *win a race* are ‘achievements’, while verbs that are durative and unobservable such as *love* are ‘states’.

Following Vendler’s (1957) categorization based on time aspect, conversation verbs are activity verbs because they predicate observable and atelic events. The activity of quarrelling is realized as soon as a quarrel starts, and no matter what time the quarrel stops, the following proposition will be true:

- (184) Wa-li-gomb-an-a  
SM-PST-quarrel-REC  
‘They quarreled.’

The conversation act as in (184) has no specific endpoint and the act may have taken any amount of time. Furthermore, conversation verbs are simultaneous in nature since the act of *gombana* ‘quarrel’ occurs if and only if both reciprocants participate in the act at the same time.

Marry verbs involving physical contact are activities since they are atelic and durative. It can be said that two participants of a *kissing* or *embracing* act, for example, have realized the act as soon as they *kiss* or *embrace* and the act may take any amount of

time. Further, some reciprocal situations involving marry verbs of physical contact such as *piga busu* ‘kiss’ may be simultaneous if the act takes place at the same time or sequential if the two reciprocal kissing events are discrete.

The telicity of marry verbs involving internal emotions depend on a full consideration of the surface argument structure of the verb in question. These verbs may be analyzed as achievements or states. The following sentence is ambiguous between the achievement and stative aspect of the verb *oa* ‘marry’.

(185) Karibu        tu-ta-o-an-a  
      Soon        IPL-FUT-marry-REC-FV  
      ‘We will soon get married.’

One interpretation is that the verb *oa* ‘marry’ in (185) is in achievement terms since the ‘married’ status begins as soon as the couples are pronounced a husband and wife. Sentence (185) may also refer to the stative terms of the verb *oa* ‘marry’ where the couples actually stay together as a husband and wife.

#### 4.4.2 The Corpus Analysis

Using the Helsinki Corpus of Swahili as the data source, I explored the hypothesis that relational givenness is the main predictor of Swahili reciprocal variation via statistical analysis of examples from two distinct verb categories, namely conversation and “marry” verbs (Levin 1993). As mentioned above, these verbs differ in the way they express their argument relation and reciprocity. In section 4.4.2.1 I explain the corpus data. In section 4.4.2.2 I discuss how the data was coded. Section 4.4.2.3 presents the results of the corpus analysis.

#### 4.4.2.1 Corpus Data

After displaying a concordance list of each of the reciprocal verbs belonging to the two categories, some reciprocal constructions were eliminated in the analysis. These included reciprocal constructions whose reciprocal predicates were semantically related to the relevant verb but had a different meaning as illustrated by the example in (186).

- (186) Waziri        Samia a-li-i-shauri                                jamii ku-achan-a  
Minister    Samia SM.3SG-PST-OM-advice        society INFTV-leave-REC-FV  
na tabia        ya        ku-tup-a                                watoto  
with behavior        of        INFTV-throw-FV        2babies  
‘Minister Samia has advised the society to stop the vice of throwing babies  
away.’

The verb *ku-ach-na* ‘leave each other’ is used to mean ‘stop doing something’, mostly a vice. In (186) the verb *ku-ach-an-a* though polysemous with the marry verb *achana* ‘divorce’, has a different extensional meaning not related to marry verbs.

Similarly, the verb *zungumza* ‘converse’ may have several interpretations depending on the context. In example (187), the verb *zungumza* is used to mean ‘speak’.

- (187) A-na-ye-zungumz-a                                katika mji    huu                                ni        mimi  
SM.3SG-PRT-REL-speak-FV        in        3town 3P.DEM        is        me  
‘The only person who can speak in this town is me.’

In the source novel, example (187) literally means that all the people in the town in question could not speak except the speaker who in this context is talking to a non-resident visiting the town. In such usage, the verb *zungumza* is not reciprocal.

Further, nominal gerundial reciprocal predicates with no overt participants were also eliminated. The overt presence of reciprocal participants within the reciprocal

construction or its wider context was required to evaluate givenness as a predictor of reciprocal variation. I present an example of such gerundial usage in (188).

(188) Katika siasa, ku-kumbati-an-a sasa na ku-teng-an-a  
*in politics, 15-embrace-REC-FV now and 15-separate-REC-FV*  
 muda mfupi baada-ye ni mambo ya kawaida  
*time short later-REL is things of common*  
 ‘In politics, embracing now and separating thereafter is a common practice.’

In (188) the prefix *ku-*, belonging to noun class 15, attached to the reciprocal predicates to derive the gerundial nouns *ku-kumbati-an-a* ‘embrace’ and *ku-teng-an-a*. The construction in this instance references the act of embracing (in public) and separating (after a short while) by politicians. The reciprocants can only be inferred as politicians; hence, the absence of overt reciprocal participants makes it difficult to evaluate their relative givenness.

After going through all the reciprocal constructions in the concordance list and eliminating some of the constructions as explained above, 300 reciprocal constructions in their wider context were transferred to excel spreadsheet for coding. The specific frequencies for the verbs used in the analysis are shown in Table 21.

Table 21: Predicate verbs of reciprocal constructions used in the analysis

Conversation verbs	Marry verbs
<i>zungumza</i> ‘converse’ (58)	<i>o-an-a</i> ‘marry’ (57)
<i>ongea</i> ‘talk’ (35)	<i>Pend-an-a</i> ‘love’ (26)
<i>bishana</i> ‘argue’ (45)	<i>Ach-an-a</i> ‘divorce’ (33)
<i>gombana</i> ‘querel’ (12)	<i>kumbati-an-a</i> ‘embrace’ (34)

There were a total of 150 reciprocal constructions for each of the two verb categories.

#### 4.4.2.2 Coding the Corpus Data

Depending on whether both reciprocal participants occurred in subject position or one of the reciprocal participants was postverbal, the reciprocal construction were labeled as simple reciprocal (SR) or discontinuous reciprocal (DR) respectively. Since the form of the referring expressions representing the reciprocal participants are an indicator of their givenness status in the discourse (Gundel et al. 1993; Grosz et al. 1995), the realization of the reciprocal participants - whether an explicit NP or a pronoun was also coded.

The reciprocal participants were then coded for their referential givenness. Here the referential givenness was considered as an issue of dichotomy, that is, a reciprocant was coded as either given or new (cf. Prince 1981, 1992). Coding for information status of reciprocal participants involved displaying the relevant reciprocal construction in its wider context. The context was mainly the start point and endpoint of the discourse segment within which the reciprocal construction was contained. Discourse segments in a discourse text are linked via referring expressions and can be identified via orthography (division of texts into paragraphs), forms of referring expressions, cue words and so on (Walker 1989). After displaying the relevant reciprocal construction within its discourse segment (DS), the next task was tracking the discourse participants to determine their givenness status. This is illustrated in (189). In the example, the relevant reciprocal participants are bracketed.



(topic) of the immediate utterance. Amongst the parameters of salience are the subject position and pronominalization. In (189), for example, the forward looking centers of the sentence before the reciprocal construction in (190) are *Lumbesi* and *mama yake* ‘his mum’. However, *Lumbesi* in (189) is more salient than *mama yake* ‘his mum’ because of his subject position, hence, the preferred center. In such cases, the preferred center was coded as ‘one participant’. As for the reciprocal construction itself, the pronominal NP *wa-* representing the ‘two participants’ is the backward looking center (topic).

In situations where the the two reciprocal participants had equal salience based on subject position and their relational givenness, the preferred center was coded as ‘two participants’. This is illustrated in (191) and (192).

(191) Katika ugomvi wa [Juma na Kitaru]muna mahaba.  
*in quarrel of Juma and Kitaru 17-be love.*  
 ‘In Juma and Kitaru’s quarrels, there is love.’

(192) [Wa]-na-gomban-a ili ku-tafut-a uhusiano  
*SM.3PL-PRT-quarrel-FV because INFTV-find-FV 14relationship*  
 u-li-o na maana.  
*14SM-be-REL with meaningl*  
 ‘They are quarreling in order to find a meaningful relationship.’

In (191), the occurrence of *Juma* and *Kitaru* as a conjoined NP makes them equally given at the utterance time of the reciprocal construction in (192). As for the reciprocal construction in (192), the pronominal subject marker *wa-*, representing *Juma* and *Kitaru* (coded as ‘two participants’) is the backward looking center (topic).

There were also cases where none of the reciprocal participants featured in the list of forward looking centers of the preceding utterance as seen in (193). In such cases, the preferred center was coded as ‘non-participant’.

- (193) Hali ya kiafya ya Malkia Elizabeth ha-i-na  
*situation of health of queen Elizabeth NEG-OM-have*  
 wasiwasi wowote,  
*worry any,*  
 ‘Queen Elizabeth’s health condition is very stable’,
- (194) na tangu [Charles] ku-ach-an-a na [mke-we,  
*and since Charles INFTV-leave-REC-FV with wife-his,*  
 hayati Diana]  
*late Diana*  
 ‘and since Charles divorced his wife, the late Diana...’

In (194) the participants of the reciprocal construction predicated by the reciprocal verb *ku-acha-an-a* ‘divorce (each other)’ are Prince Charles and the late Princess Diana. The highest ranked forward looking center of the sentence preceding the reciprocal construction in (193) is a non-participant, Queen Elizabeth. Charles, the subject of the relevant reciprocal constructions, and therefore the topic, does not occur in (193). Figure 10 shows a screenshot of the coded data.

Rec_Type	Verb-Cat	part1_giv	part2_giv	Subj_pos	Ref_Giv	Pre_Cente	Topic
SR	marry	Given	Given	plural	equal	part_one	part_two
SR	marry	Given	Given	plural	equal	part_one	part_two
SR	marry	Given	Given	plural	equal	part_one	part_two
SR	marry	Given	Given	plural	equal	part_two	part_two
SR	marry	Given	Given	plural	equal	part_two	part_two
SR	marry	Given	Given	plural	equal	part_one	part_two
DR	marry	Given	New	part_one	unequal	part_one	part_one
SR	marry	Given	Given	conjunct	equal	part_two	part_two
SR	marry	Given	Given	plural	equal	part_two	part_two
SR	marry	Given	Given	conjunct	equal	part_one	part_two
DR	marry	Given	Given	part_one	equal	part_one	part_one
SR	marry	Given	Given	plural	equal	part_two	part_two
DR	marry	Given	New	part_one	unequal	part_one	part_one
SR	marry	New	New	conjunct	equal	non_parti	part_two
SR	marry	Given	Given	plural	equal	part_one	part_two
SR	marry	Given	Given	conjunct	equal	non_parti	part_two
SR	marry	Given	Given	plural	equal	part_two	part_two
SR	marry	Given	Given	plural	equal	part_one	part_two

Figure 10: Screenshot of the coded corpus reciprocal data

The coded data was then transferred to the R statistical software for analysis. The following section presents the results.

#### 4.4.2.3 Results of the Corpus Analysis

Using reciprocal constructions involving conversation verbs and marry verbs, I assessed the relationship between reciprocal variation and verb semantics as well as the relationship between reciprocal variation and relational givenness. I discuss the effect of each of the variables (verb semantics and relational givenness) in the following subsections.

##### *Reciprocal variation as a function of verb semantics*

Of the 150 reciprocal constructions under conversation verbs, 101 were discontinuous constructions while 49 were simple reciprocal constructions. On the other hand, of the 150 reciprocal constructions under marry verbs, 98 were simple reciprocals while 52 were discontinuous reciprocals. Figure 11 summarizes the frequencies of reciprocal variants for each of the two selected verb semantic categories.

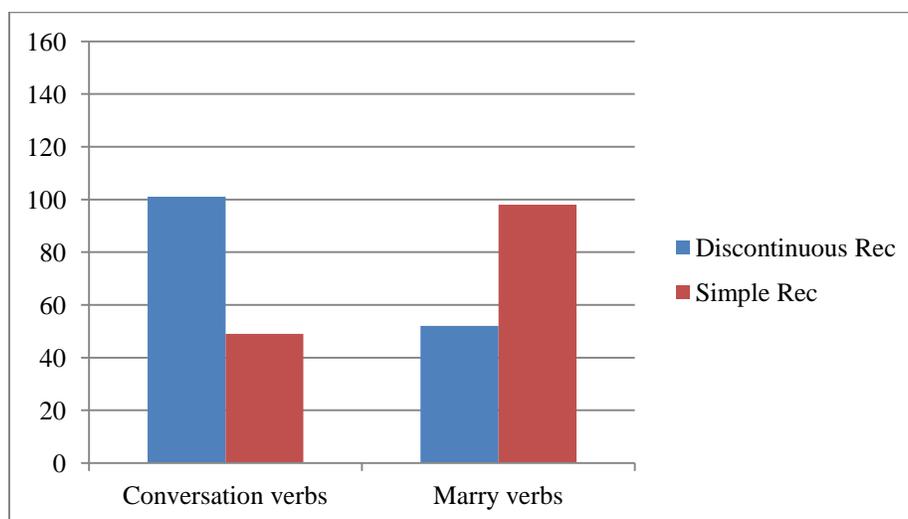


Figure 11: Frequencies of discontinuous and simple reciprocals based on verb semantics

The frequency of discontinuous reciprocals under conversation verbs is higher than that of simple reciprocals,  $X^2(1, N=150) = 18.03, p < .001$ . On the other hand, the frequency of simple reciprocals under marry verbs is higher than that of discontinuous reciprocals,  $X^2(1, N=150) = 14.11, p < .001$ . The implication of these results is that Swahili reciprocal variation is a function of the semantic verb category of the reciprocal verb in question. In this data set, a discontinuous construction is preferred if the reciprocal predicate is a conversation verb while a simple reciprocal is preferred if the reciprocal predicate is a marry verb.

*Reciprocal variation as a function of referents' givenness*

After displaying the reciprocal constructions in their wider context, the relational givenness of reciprocal participants was coded as either 'equal', or 'unequal'. There were a total of 218 reciprocal constructions whose relational givenness was 'equal' and 82 reciprocal constructions whose givenness was 'unequal'.

Of the 218 reciprocal constructions whose participants' givenness status was coded as 'equal', 147 were simple reciprocals while 71 were discontinuous reciprocals,  $X^2(1, N=218) = 26.50, p < .001$ . On the other hand, all 82 reciprocal constructions whose participants' relational givenness status was coded as 'unequal' were realized as discontinuous reciprocals,  $X^2(1, N=82) = 82, p < .001$ . Figure 12 summarizes these results.

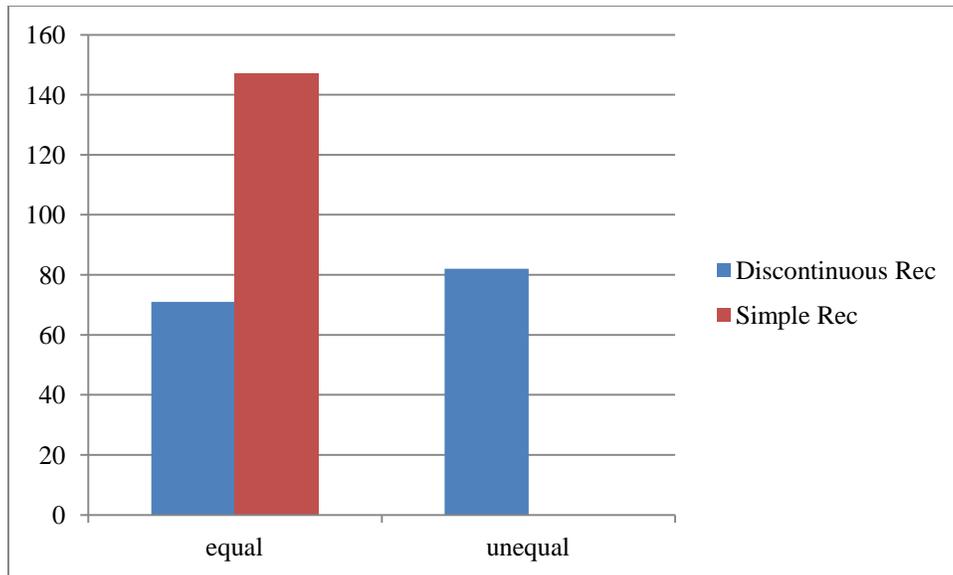


Figure 12: Frequencies of discontinuous and simple reciprocals based on givenness

The results indicate that there are more simple reciprocals in cases of ‘equal’ relational givenness. On the other hand, all ‘unequal’ cases were represented via a discontinuous reciprocal.

A further analysis reveals that the probability of a simple reciprocal being used when participants are of equal givenness is higher for marry verbs than it is for conversation verbs. While the difference between discontinuous reciprocals and simple reciprocals when participants’ relational givenness is equal is significant for marry verbs,  $X^2(1, N=124) = 41.81, p < .001$ , that of conversation verbs is not,  $p > 0.05$ . Figure 13 further breaks down the proportions of simple and discontinuous reciprocals for participants of equal givenness for the two verb categories.

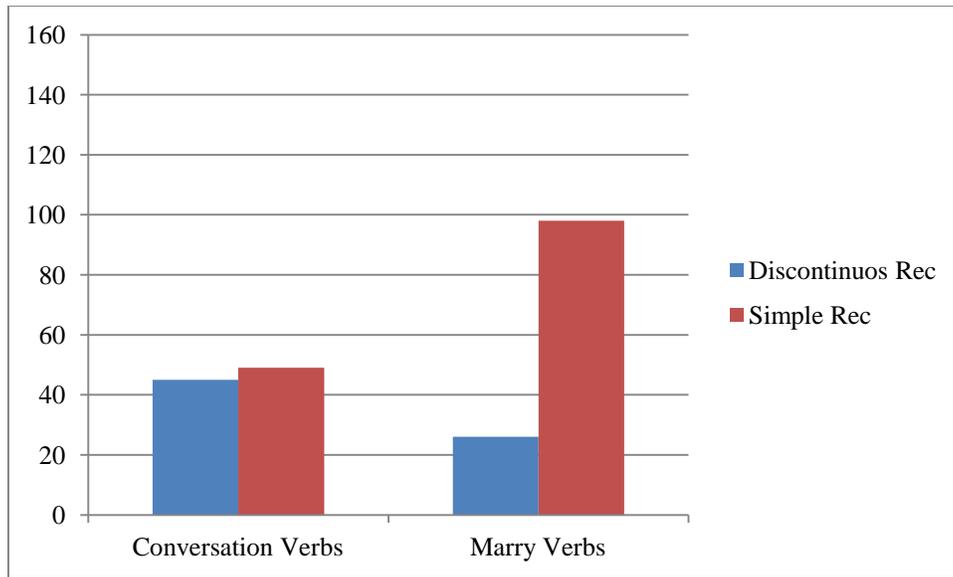


Figure 13: Reciprocal variation based on verb semantics for ‘equal’ cases

A further analysis of the equal relational givenness items reveals that the topic of reciprocal constructions involving conversation verbs is mostly the most highly ranked forward-looking center of the previous sentence. The implication is that, a discontinuous construction is used in conversation verbs to maintain the topic status of the previous sentence even in cases where both conversation participants are given (cf. Grosz et al. 1995, Walker et al. 1998). Thus the most highly ranked forward looking center of the preceding utterance may also influence the reciprocal variant in cases where the participants’ givenness is equal.

Figure 14 compares the number of discontinuous and simple reciprocals in situations where the most highly ranked forward looking center of the preceding utterance is the two reciprocal participants, or a non-participant. For the conversation verbs, the simple reciprocals were 38 while the discontinuous reciprocals were 4. This

frequency difference is significant,  $X^2(1, N=42) = 27.52, p < .001$ . As for the marry verbs, there were 63 simple reciprocals while the discontinuous reciprocals were 6. This frequency difference is also significant  $X^2(1, N=69) = 47.09, p < .001$ .

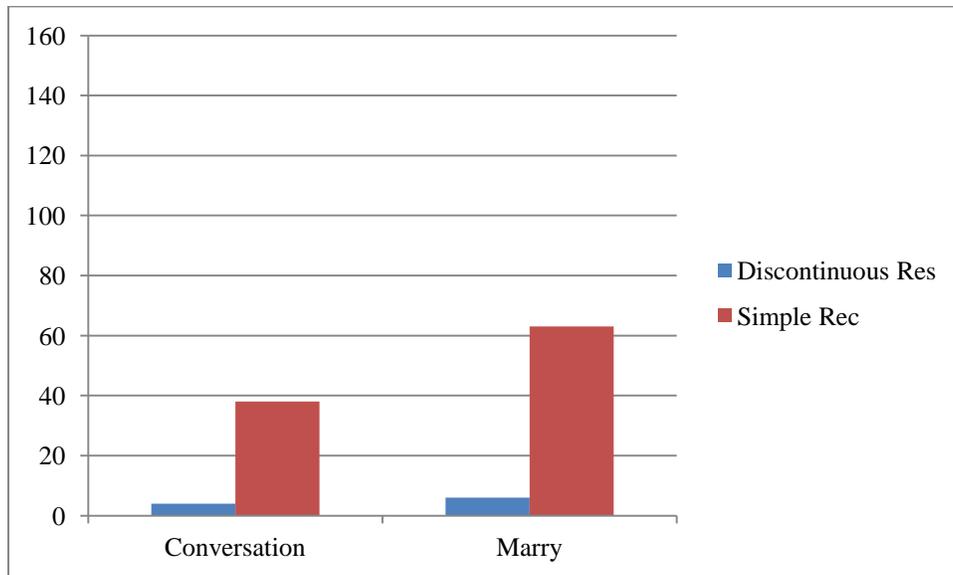


Figure 14: Reciprocal variation when preferred center is the two reciprocal participants or a non-participant in equal cases

In the event that the reciprocal participants have ‘equal’ relational givenness, a simple reciprocal is preferred in situations where the highly ranked forward looking center is either the two reciprocal participants as seen in (195) or a non-participant as seen in (196).

(195) a. *katika ugomvi wa [Juma na Kitaru] mu-na mahaba.*  
*in quarrel of Juma and Kitaru 17SM-be love.*  
 ‘In Juma and Kitaru’s quarrels, there is love.’

b. *[Wa]-na-gomban-a...*  
*SM.3PL-PRT-quarrel-FV*  
 ‘They are quarreling ....’

- (196) a. A-li-po-kuwa                      a-na-siki-liz-a                      maneno haya  
*SM-PST-when-AUX      SM-PRT-listen-CAUS-FV      6words      6P.DEM*  
 ‘When he was listening to these words (in previous discourse).’
- b. Bwan Shomari   a-li-kumbuki-a                      kwamba  
*Mr. Shomari      SM-PST-remember-FV                      that*  
 ‘Mr. Shomari remembered that’
- c. kabla      Adamu              na      Ashura      ha-wa-ja-o-an-a...  
*before      Adam                      and      Ashura      NEG-SM-PERF-marry-REC-FV*  
 ‘before Adam and Ashura got married...’

In (195b), the reciprocal participants represented by the pronominal subject marker *wa-* in *wa-na-gomban-a* ‘they are quarreling’ are also the most highly ranked forward looking center of the previous clause in (195a). In (196c), however, the reciprocal participants *Adamu* and *Ashura* in subject position, though given at utterance time (actual context when they are mentioned in the discourse is not presented in the example), are not mentioned in (196b). Instead *Bwan Shomari* is the most highly ranked forward looking center in (196b). In both the example in (195) (reciprocal participants are the preferred center) and (196) (a non-participant is the preferred center), the simple reciprocal is used.

In the event that the forward looking center of the previous utterance before the reciprocal construction in question is one of the two participants, the preference varies with verb category. Under the conversation verbs, the discontinuous reciprocals are 41 and the simple reciprocals 11. This frequency difference is significant,  $X^2(1, N=52) = 17.31, p < .001$ . Under the marry verbs, the simple reciprocals are 35 while the discontinuous reciprocals are 20. This frequency difference is also significant,  $X^2(1, N=55) = 4.09, p < .05$ . The proportional difference of discontinuous reciprocals and simple reciprocals for the two verb categories if the forward looking center of the

previous sentence is one of the two reciprocal participants but not both is shown in Figure 15.

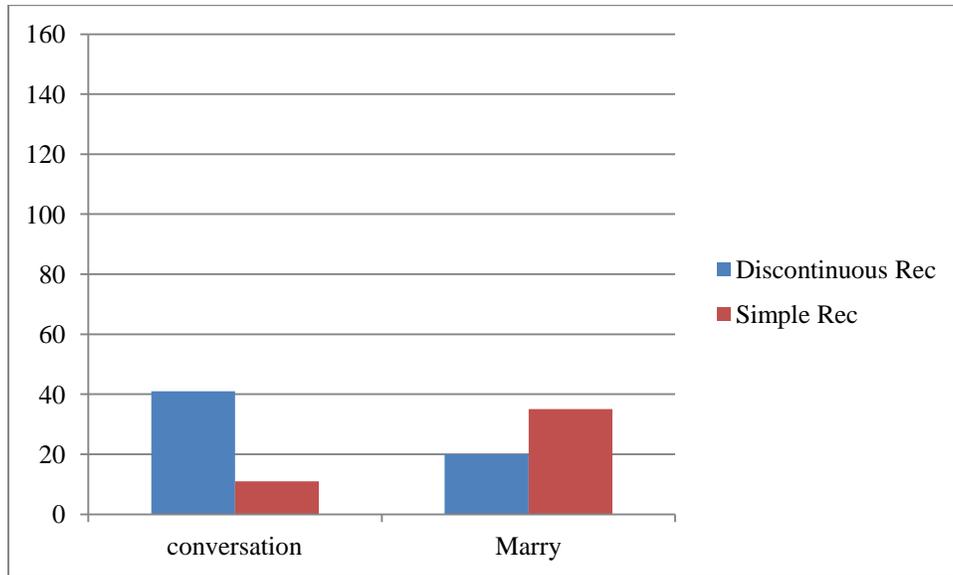


Figure 15: Reciprocal variation when the preferred center is one of the reciprocal participants in equal cases

The observed variation in number of either the discontinuous reciprocal or the simple reciprocal depending on verb category can be explained using the semantics of initiation encoded in some verbs (cf. Maslova 2000). Conversation verbs such as *zungumza* ‘converse’ and *bishana* ‘argue’ in some cases have a clear initiator of the conversation. The other conversation participant is viewed as a comitative participant required in the conversation act to satisfy a set construal of the reciprocal semantics. This is illustrated in (197).

- (197) Mungwamba            a-li-bishan-a            vikali            na            uongozi  
*Mungwamba*            *SM.3SG-argue-FV*            *furiously*            *with*            *management*  
 wa dayosisi  
*of diocese*  
 ‘Mungwamba argued furiously with the management of the diocese.’

Both *Mungwamba* and the diocese management were equally given at the point where the reciprocal construction in (197) is used. However, the forward looking center of the previous sentence in which the reason for the argument is mentioned is *Mungwamba*. *Mungwamba* was dissatisfied with the way the management was handling his dismissal as the head of the diocese. Consequently, *Mungwamba* is an initiator of the argument and therefore occurs in preverbal position and the management in postverbal position to represent the semantics of initiation. Hence, the frequency of discontinuous constructions in conversation verbs with ‘one participant’ as the preferred center of the previous utterance in equal cases is significantly higher than the frequency of simple reciprocals.

The semantics of reciprocalization and comitative participation cannot, however, be applied across the board to explain Swahili reciprocal variation. The corpus data indicates that a simple reciprocal is still preferred in marry verbs ‘equal’ cases even if the forward looking center of a previous sentence is one of the two participants,  $X^2(1, N=55) = 4.09, p < .05$ . While conversation verbs express the semantics of initiation via a discontinuous construction, marry verbs encode the semantics of initiation via a transitive construction as seen in (198).

(198) Msichana a-li-kimbi-a a-ka-m-kumbati-a.  
*Girl SM.3SG-PST-run-FV SM.3SG-SEQ-OM-embrace-FV*  
 ‘The girl ran and embraced her.’

In (198), *msichana* ‘the girl’ runs towards a woman whom she parted with several months ago. The transitive form of the verb, *kumbatia* is used to indicate that the girl is the initiator of the embracing act. The two women stay in this situation for some time. The narrator uses the simple reciprocal in (199) to describe this moment.

(199) Wa-li-kumbati-an-a                      kwa   muda   bila   ku-sem-a                      neno.  
3PL-REC-PST-embrace-REC-FV for    time   without INFTV-say-FV word  
'They embraced (each other) for sometime without saying a word.'

In (199), the embracing act is presented as a reciprocal event. Thus the semantics of initiation in reciprocal constructions is not reserved for discontinuous constructions as has been suggested by Maslova (2000). The simple reciprocal in (199) is used despite the presence of a clear initiator (the girl) of the embracing act. Here, the use of the simple reciprocal as opposed to the use of a discontinuous reciprocal is motivated by equal givenness status of the two reciprocal participants.

#### 4.4.3 The Acceptability Ratings

The corpus results show that both verb semantics and givenness are predictors of Swahili reciprocal variation. However, relational givenness stood out to be an absolute predictor in cases where givenness of reciprocal participants is unequal. In unequal cases, a discontinuous construction is preferred with the given NP occurring in preverbal position and the newly introduced NP in postverbal position. As for those cases with 'equal' givenness, a simple reciprocal was preferred. This preference is however not absolute but a statistical tendency. Furthermore, the difference between simple and discontinuous reciprocals for conversation verbs in 'equal' cases in the data set was not significant. As a result I examined the interaction between these factors via an acceptability ratings study. I explain the materials and data coding of the study in section 4.4.3.1 followed by the results in section 4.4.3.2

#### 4.4.3.1 Materials and Data coding

In order to test further the role of verb semantics and givenness in the variation of Swahili reciprocals, a questionnaire was administered to 47 Swahili native speakers. The 47 respondents rated the acceptability of responses to question items via the DMDX software (see the questionnaire items in Appendix A). The respondents used the computer keyboard keys labeled 1-5 to assign the acceptability level a score of 1-5 (1-2 meant the reciprocal construction was not a good response, 3 meant the response was neither bad nor good, and 4-5 meant the reciprocal construction was a good response). After explaining to the respondents the procedure, the question-answer sequences were randomly presented to the respondents on a DMDX screen (see a DMDX screen with an item in Appendix B). After seeing the question and the response, the respondent gave their acceptability rating by pressing the relevant number button. In one of the question prompts one of the reciprocal participants was introduced and in another question prompt, both reciprocal participants were introduced. These two scenarios presented an ‘unequal’ relational givenness and ‘equal’ relational givenness situation respectively.

As mentioned above, the ‘unequal relational givenness’ situation was created by having one of the reciprocal participants introduced in a question prompt as seen in (200).

(200) Sakina      a-li-fany-a      nini?  
      *Sakina      SM.3SG-PST-do-FV    what*  
      ‘What did Sakina do?’

I had hypothesized that the variation of Swahili reciprocal constructions is a consequence of relational givenness of the reciprocal participants in question. Following the question prompt were answer items presented in form of reciprocal constructions with one of the

participants as *Sakina* (introduced in the question prompt) and *Gihaza* (introduced in the answer item). Amongst the responses presented to the respondents were cases in which the given participant (*Sakina*) came first (preverbal), or second (postverbal), or both the given and new (*Gihaza*) participant occurred preverbal. The expectation was that the respondents would rate responses with the entity introduced in the question occurring preverbal higher than responses with the entity introduced in the question occurring postverbal. Those cases where the given participant occurred preverbal were labeled as DR(given)first, those cases where the given participant occurred postverbally were labeled as DR(given)second, and when both participants occurred preverbally, the reciprocal construction was labeled as SR (simple reciprocal). This yielded 3 (types of responses) x 2 (verb categories) x 47 (participants) = 282 (responses) that were analyzed in the unequal cases. The reciprocal constructions in (201), (202) and (203) illustrate a DR(given)first response, DR(given)second response and SR response respectively<sup>16</sup>.

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<sup>16</sup> I should mention that there are some responses which I excluded from the analysis because of their marked structure which demanded some additional considerations beyond the limit of this study. These are focus reciprocal constructions in which the preverbal element is marked with a focus marker *ndi-ye* as seen below. The focus marker *ndiye* makes the construction a narrow/identity focus construction which is structurally different from the reciprocal constructions I have analyzed in the corpus data. In information structure terminology, the preverbal element is labeled ‘focus’ while the postverbal entity is part of the presupposition.

Sakina	ndi-ye	a-li-ye-kumbati-an-a	na	Gihaza
Sakina	FOC-3SG	SM.3SG-PT-REL-embrace-REC-FV	with	Gihaza

‘Sakina is the one who embraced with Gihaza.’

In fact, I did not find reciprocal constructions with focus-presupposition structure as shown above in the corpus data I analyzed making it difficult to make any reasonable conclusions based on the acceptability ratings alone. I therefore leave this type of reciprocal constructions with a preverbal focused element for future research. As per native speaker judgments, the reciprocal constructions with the focused element differ with the regular constructions because the given NP is preferred in postverbal position.

- (201) Sakina a-li-kumbati-an-a na Gihaza.  
*'Sakina SM.3SG-PST-embrace-REC-FV with Gihaza.'*  
 'Sakina embraced with Gihaza.'
- (202) Gihaza a-li-kumbati-an-a na Sakina.  
*'Gihaza SM.3SG-PST-embrace-REC-FV with Sakina.'*  
 'Gihaza embraced with Sakina.'
- (203) Sakina na Gihaza wa-li-kumbati-an-a.  
*Sakina and Gihaza SM.3PL-PST-embrace-REC-FV*  
 'Sakina and Gihaza embraced.'

In (201), Sakina occurring first (preverbal) is given while Gihaza, being mentioned for the first time in the response is new. In (202), Gihaza, the new discourse entity, occurs preverbal while Sakina, the given discourse entity, occurs second. In (203), the two reciprocal participants, Sakina (given) and Gihaza (new), occur as a conjoined NP in subject position.

While the prompt in (200) introduces only one of the reciprocal participants in the responses, the prompt in (204) introduces two discourse entities as reciprocal participants of the reciprocal constructions presented as responses.

- (204) Sakina na Gihaza wa-li-fany-a nini?  
*Sakina and Gihaza SM.3PL-PST-do-FV what*  
 'What did Sakina and Gihaza do?'

Based on the results of the corpus study, it can be predicted that the Swahili simple reciprocal is preferred in situations where relational givenness of the reciprocal participants is equal. The question prompt in (204) presents an opportunity in which two equally given discourse entities are used as reciprocal participants in the response reciprocal constructions to test this hypothesis.

The reciprocal constructions presented as responses were labeled under a column namely ‘RecType’ (reciprocal type) whose levels were SR (simple reciprocal) and DR (discontinuous reciprocal). For the prompt in (204), there is no need for two different levels of DR (DRfirst and DRsecond) since the two reciprocal participants are equally given at the time of response. The question prompt led to 2 types of responses (DR and SR) in the 2 verb categories by the 47 participants that were analyzed in the equal cases. The SR is illustrated in (205) while DR responses are illustrated in (206) and (207).

(205) Sakina na Gihaza wa-li-kumbati-an-  
*Sakina and Gihaza SM.3PL-PST-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’

(206) Sakina a-li-kumbati-an-a na Gihaza  
*Sakina SM-PST-embrace-REC-FV with Gihaza*  
 ‘Sakina and Gihaza embraced.’

(207) Gihaza a-li-kumbati-an-a na Sakina  
*Gihaza SM-PST-embrace-REC-FV with Sakina*  
 ‘Gihaza and Sakina embraced.’

In (205) the two reciprocal participants introduced in the prompt question in (204) occur as a conjoined NP in subject position in a simple reciprocal construction. In (206) and (207) one of the reciprocal participants occurs in preverbal position while the second reciprocal participant occurs in postverbal position in a discontinuous reciprocal construction.

Furthermore, I had argued that givenness and not verb semantics (as is the case with other languages such as English and Russian) is the main predictor of Swahili reciprocal variation. To assess the effect of verb semantics on reciprocal variation, the question prompts and responses were repeated such that two verbs belonging to the two

semantic categories discussed earlier, that is, ‘marry verbs’ and ‘conversation verbs’, were used as reciprocal predicates. These verbs were *kumbatia* ‘embrace’ and *zungumza* ‘converse’. A column labeled ‘Verb’ with two levels, “marry” and “conversation” coded the difference in the verb semantic category. The results are presented in the following section.

#### 4.4.3.2 Results of the Accessibility Ratings

Table 22 presents the means and standard deviations (in parenthesis) of a by-subject analysis of the acceptability ratings by the 47 respondents for the responses with ‘unequal’ relational givenness.

Table 22: Results of the ‘unequal’ cases

	Marry	Conversation
DR (given) first	4.09 (1.47)	3.94 (1.51)
DR (given) second	2.66 (1.54)	2.55 (1.41)
SR	3.55 (1.54)	3.30 (1.53)

Recall that in a scale of 1-5, 1-2 meant the response was not acceptable, 3 meant the response was neither good nor bad, and 4-5 meant that the response was acceptable. An ANOVA conducted with the mean score of the acceptability ratings as the dependent variable and the response type (DR(given)first, DR(given)second, SR) and verb category (marry, conversation) as the independent variables indicated that there was main effect of response type on mean acceptability rating,  $F(1,47)=20.75$ ,  $p<.001$ . There was no effect of verb category on the mean acceptability rating and no interaction of response type and verb category,  $p>0.05$ . Table 23 presents the mean acceptability ratings of the three response types without the irrelevant factor of verb category.

Table 23: Mean acceptability ratings of response types

Response type	Mean acceptability rating
DR (given) first	4.01 (1.48)
DR (given) second	2.61 (1.47)
SR	3.43 (1.53)

A Shapiro Wilk normality test indicated that the data distribution for the three vectors was not normal,  $p < 0.05$ . The non parametric Wilcoxon Test applied to compare the distributions indicated that the median of the DR(given)first responses (given NP in preverbal position) was different from that of the DR(given)second (given NP in postverbal position),  $p < 0.001$ . There was also a significant difference between the DR(given)first responses and the SR responses (given and new NP in preverbal position),  $p < 0.01$ . Further, the median and distributions of the responses with the SR (given and new in subject position) responses and the DR(given)second responses were different,  $p < 0.001$ . This meant that the differences in the three means were significant. Specifically, the responses with the given element in preverbal position (DR(given)first) had a higher acceptability rating than the responses with the given element in postverbal position (DR(given)second) as well as the responses with both the given NP and new NP in preverbal position (SR responses). However, a score of 3 for the SR responses meant that the response was neither bad nor good and was therefore better than the DR(given)second responses which had an average rating of 2 (not acceptable).

Table 24 presents the descriptive statistics of the acceptability rating of the respondents for reciprocal participants with ‘equal’ relational givenness. In this data set, there were no DR(given)first and DR(given)second levels because the two NPs were

given at utterance time. Hence, only a discontinuous reciprocal (DR) with the participants equally given was available for analysis.

Table 24: Results of the 'equal' cases

	Marry	Conversation
DR	3.29 (1.18)	3.29 (1.16)
SR	4.34 (1.24)	4.43 (1.14)

An ANOVA conducted with the mean acceptability rating as the dependent variable and reciprocal type (DR/SR) and verb category (marry/conversation) as the independent variables reveal that the DR and SR means are different  $F(1,47)=40.59$ ,  $p<.001$ . The implication of this difference is that there is a significant main effect of reciprocal type on acceptability ratings. More specifically, the simple reciprocal is preferred by native speaker in situations where the relational givenness is equal. However, there is no significant interaction between reciprocal type and verb category.

#### 4.5 Discussion of the Corpus Analysis and Acceptability Ratings Results

Based on the results of the two methods that were explored, I argue that the Swahili discontinuous reciprocal and simple reciprocal variants are a function of the reciprocal participants' relational givenness. The data indicates that Swahili allows the simple reciprocal and discontinuous reciprocal variants when conversation verbs and marry verbs are used in reciprocal constructions. Thus, marry verbs such as *penda* 'love' allow both the discontinuous reciprocal as seen in (208) and the simple reciprocal as seen in (209).

(208) Wandema a-li-pend-an-a na Richard  
*1-Wandema SM.3SG-PST-love-REC-FV with Richard*  
 “Wandema and Richard were in love with each other.”

(209) Wandema na Richard wa-li-pend-an-a  
*Wandama and Richard SM.3PL-PST-love-REC-FV*  
 “Wandema and Richard were in love with each other.”

Similarly, the discontinuous reciprocal and the simple reciprocal are felicitous when used with conversation verbs such as *zungumza* ‘converse’ as seen in (210) and (211).

(210) Deo a-li-zungumz-a na waandishi wa habari  
*1Deo SM.3SG-PST-converse-FV with reporters of news*  
 ‘Deo and the news reporters conversed.’

(211) Deo na waandishi wa habari wa-li-zungumz-a  
*Deo and reporters of news SM.3PL-PST-converse-FV*  
 ‘Deo and the news reporters conversed.’

Both the corpus study and the acceptability ratings indicate that the discontinuous construction is preferred when the participants’ relational givenness is unequal. In line with the givenness principle the ‘given’ discourse entities are preferred in preverbal position while the ‘new’ entities are preferred in postverbal position. This is illustrated in (212) where the reciprocal predicate is the conversation verb *ongea* ‘talk’.

(212) Lina a-li-kuwa a-ki-ongea na Njelele, mke wa Zaizai  
*Lina SM-PST-be SM-PROG-talk-FV with Njelele, wife of Zaizai*  
 ‘Lina was talking with Njelele, Zaizai’s wife.’

In (212), the conversation verb is *ongea* ‘talk’. The participants in the conversation are *Lina* and *Njelele*; *Lina* occupies the subject position, while the second participant, *Njelele*, occurs postverbally. As noted earlier, while it is syntactically possible to have either *Lina* or *Njelele* occupy the subject position, the relatively more given NP is preferred in the subject position. In (212), *Lina*, having been previously mentioned in the

text, is a given entity. On the hand, *Njelele* is a new entity mentioned for the first time in the text, hence, a parenthetical remark *mke wa Zaizai* ‘Zaizai’s wife’ just after her name to clarify her identity. Consequently, *Lina* occupies the subject position, while the relatively less given NP *Zaizai* occurs postverbally.

As for the acceptability rating, a situation of discourse entities with unequal relational givenness cases was created by having one of the entities mentioned in a prompt question as seen in (200) repeated here as (213). The linear order of the reciprocal participants in the responses was such that the given entity, *Sakina*, occurred preverbal while the new entity, *Gihaza*, occurred postverbal (DR(given)first cases) as seen in (213a)(213). In the DR(given)second cases the new discourse entity, *Gihaza*, occurred preverbal while the given entity, *Sakina*, occurred postverbal as seen in (213b). In the SR (simple reciprocal) cases both the given and new discourse entities occurred preverbal as seen in (213c). The mean score of the DRfirst (discontinuous reciprocals with the given entity in preverbal position) was significantly higher than that of DRsecond (discontinuous reciprocals with the given entity in postverbal position) and SR (simple reciprocal) items (both the given and new entity in preverbal position).

- (213) *Sakina*      a-li-fanya      nini?  
*Sakina*      *SM.3SG-PST-do*      *what*  
‘What did Sakina do?’
- a. *Sakina*      a-li-kumbati-an-a      na      *Gihaza*  
*Sakina*      *SM.3SG-PST-embrace-REC-FV*      *with*      *Gihaza*  
‘Sakina embraced with Gihaza.’
- b. *Gihaza*      a-li-kumbati-an-a      na      *Sakina*  
*Gihaza*      *SM.3SG-PST-embrace-REC-FV*      *with*      *Sakina*  
‘Sakina embraced with Gihaza.’

- c. Sakina na Gihaza wa-li-kumbati-an-a.  
*Sakina and Gihaza SM.3PL-PST-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’

The mean acceptability ratings based on verb category (marry and conversation verbs) indicated that there was no significant main effect of verb category on Swahili reciprocal variation in unequal givenness items. Thus, relational givenness is a better predictor of Swahili reciprocal variation in cases of unequal relational givenness than verb category.

When the participants’ relational givenness is equal, the corpus data shows a variation of preference based on verb semantics. While the proportional difference between the simple reciprocal and discontinuous reciprocal for the marry verbs is consistent with the prediction that relational givenness influences reciprocal choice, the conversation verbs proportional difference is not. This difference may be due to the tendency of speakers to encode the semantics of initiation in some reciprocal verbs such as conversation verbs by way of discontinuous reciprocal constructions (cf. Hurst 2010; Maslova 2000). As mentioned earlier, conversation verbs are inherently reciprocal. Speakers therefore use the discontinuous construction to reflect situations in which one of the conversation participants is the main initiator or source of information in the conversation. In example (214), the speaker invites a guest of honor to address an audience via a discontinuous reciprocal (bracketed).

- (214) Mwenyekiti a-li-m-karibish-a mgeni [a-zungumz-e  
*Chairman SM.3SG-PST-OM-invite-FV guest SM.3SG-converse-IMPTV*  
 na wananchi]  
*with citizens*  
 ‘The chairman invited the guest to address the citizens.’  
 Lit: ‘The chairman invited the guest to converse with the citizens.’

In (214), a discontinuous construction is used in a context where both participants, the guest and the citizens, are situationally given. Here, the preverbal position of the guest, realized as a pronominal NP in the infinitive clause, represents him as the initiator of the conversation while the citizens are a comitative participant. Notice that a prepositional applicative can also be used in which *wananchi* ‘citizens’ can be realized as a direct object.

- (215) Mwenyekiti a-li-m-karibish-a      mgeni      [a-zu-ngumz-i-e  
*Chairman SM-PST-OM-invite-FV guest SM-converse-APP-IMPTV*  
*wananchi]*  
*citizens*  
 ‘The chairman invited the guest of honor to speak to the citizens.’

In (215), *mwenyekiti* ‘chairman’, the main source of information in the ‘conversation’, is in subject position, while *wananchi* ‘citizens’ who are passive participants (listeners in this instance) are in object position. The most plausible explanation for the use of a discontinuous reciprocal for conversation verbs in equal cases instead of a simple reciprocal is that the postverbal reciprocal participant is a comitative object. This explains why a transitive construction with an equivalent meaning can be used as seen in (215). However, it should be emphasized that this only applies to those instances where the postverbal participant is a true comitative participant.

All things being equal, a simple reciprocal is preferred if the participants’ relational givenness is equal. Example (212), repeated as example (216) shows a discontinuous construction whose reciprocal predicate is the conversation verb *ongea* ‘talk’.

(216) Lina alikuwa a-ki-ongea na Njelele , mke wa Zaizai  
*Lina**SM-PST-be* *SM-PROG-talk* *with* *Njelele, wife of Zaizai*  
 ‘Lina was talking with Njelele, Zaizai’s wife.’

Thereafter, the same verb with the same reciprocal participants is used. This time, however, the simple reciprocal in (217) is used.

(217) Wa-li-ongea huku wa-ki-l-a karanga.  
*SM.3PL-PST-talk* *while* *SM.3PL-PROG-eat-FV* *groundnuts*  
 ‘They were talking while eating groundnuts.’

The pronominal subject prefix *wa-* in (217) indicates that the reciprocal participants are equally given and accessible at this point in time.

While reciprocal participants with equal relational givenness were in some conversation verbs represented via a discontinuous reciprocal to represent the semantics of initiation, reciprocal participants with equal relational givenness status were mostly expressed via a simple reciprocal in marry verbs. Example (218) presents a simple reciprocal construction whose predicate is the verb *kumbati-an-a* ‘embrace’.

(218) Mwalimu na mwanafunzi wa-li-kumbati-an-a.  
*teacher and student* *SM.3PL-PST-embrace-REC-FV*  
 ‘The teacher and the student embraced’

At the point where the reciprocal participants embrace, the discourse entities *mwalimu* ‘teacher’ and *mwanafunzi* ‘student’, are equally given, hence, the use of the simple reciprocal.

The results of the acceptability ratings also indicate that a simple reciprocal is preferred in the event that the relational givenness of reciprocal participants is equal. A situation of reciprocal participants with equal relational givenness was created by having

the two reciprocal participants mentioned in a question prompt as seen in (204) repeated here as (219). The mean acceptability score of the SR (simple reciprocal) items as seen in (205) repeated here as (219a) was significantly higher than the mean acceptability score of DR (discontinuous reciprocal) items as seen in (206), repeated here as (219b).

(219) Sakina na Gihaza wa-li-fany-a nini  
*Sakina and Gihaza SM.3PL-PST-do-FV what*  
 ‘What did Sakina and Gihaza do?’

a. Sakina na Gihaza wa-li-kumbati-an-a  
*Sakina and Gihaza SM.3PL-PST-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’

b. Sakina a-li-kumbati-an-a na Gihaza  
*Sakina SM.3SG-PST-embrace-REC-FV with Gihaza*  
 ‘Sakina embraced with Gihaza.’

The SR items had a higher acceptability rating than the DR items indicating that a simple reciprocal is preferred by native speakers in cases of equal givenness.

#### 4.6 Summary and Conclusions

Cross linguistic studies have shown that verb semantics is a factor in the variation of reciprocal constructions (Evans et. al. 2011; Hurst 2010; Wierzibicka 2009; Nedjalkov 2007). Whether verb semantics have a role to play in the variation of Swahili reciprocal constructions is a question that has been explored in this chapter. I focused on two distinct verb categories: Swahili marry verbs such as *oa* ‘marry’ and Swahili conversation verbs such as *zungumza* ‘converse’ to find out if verb semantics impacts Swahili reciprocal variation as has been established in other languages such as English.

Corpus data and acceptability ratings have shown that Swahili conversation reciprocal verbs can allow the expression of the participants via both discontinuous

reciprocal and the simple reciprocal. Similarly, participants of marry reciprocal verbs such as *kumbati-an-a* ‘embrace’ and *pend-an-a* ‘love each other’ can both be expressed via discontinuous reciprocal and simple reciprocal constructions. Furthermore, the insignificant difference in the mean acceptability scores of reciprocal constructions involving conversation verbs and marry verbs in equal and unequal relational givenness cases indicated that verb class semantics cannot be applied across the board to account for Swahili reciprocal variation.

In other Bantu languages such as Chichewa and Ciyao, the discontinuous construction, it is argued, is a reciprocal construction that is reserved for cases of unbalanced coordination (Mchombo & Ngunga 1994; Mchombo & Ngalande 1980). This does not seem to be the case in Swahili where discontinuous constructions with participants of the same class as well as simple reciprocal constructions with nouns belonging to distinct classes are attested.

The analysis of examples from the Helsinki Corpus of Swahili and the acceptability ratings data I collected indicated that the participants’ information status, as stipulated by the given/new principle, impacts on Swahili reciprocal variation. The frequency proportions show that it is preferable for participants of the same givenness level to occur in preverbal position. On the other hand, participants with different levels of givenness are often expressed via the discontinuous construction. A further analysis reveals that reciprocal constructions with equal relational givenness may be realized as discontinuous reciprocals if one of the participants is the preferred center of the previous sentence before the reciprocal construction in question.

## Chapter 5

### Conclusion

#### 5.1 Summary of Findings

In this dissertation I explored two distinct structures, adnominal demonstratives and reciprocal constructions, whose word order variation has not been approached under the auspices of information structure. In chapter 1, I presented a brief description of Swahili morphosyntax which is a necessary prerequisite to the understanding of the class based noun classification system. Crucial to this categorization is the syntactic concept of agreement in which some features of a controller (noun) are redundantly<sup>17</sup> copied to an agreeing element. The agreeing elements include adjectives, possessives, demonstratives, and verbs. It is important to mention here that although several works have criticized the traditional classification based on the noun prefixes as in *m-tu* (class 1), *wa-tu* (class 2), little has been done to reconcile the noun classification system in Bantu languages including Swahili (cf. Ashton 1944; Vitale 1991, 2008; Amidu 2006). In this study, the traditional agreement affixes in the target element were used to identify demonstratives that formed a unit with a preceding or following noun. Further, the agreement elements provided cues for chain referential expressions in the analysis of adnominal demonstratives as well as identifying topical discourse entities in reciprocal constructions.

Chapter 2 focused on explaining the theoretical perspectives in the study. Two concepts under information structure were outlined. These are the concept of referential

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<sup>17</sup> Cf. Morava (1996) who argues that the agreement markers in Swahili are not redundant morphological elements and that they do convey some independent semantic information.

givenness and relational givenness (Gundel and Fretheim 2006). Referential givenness influences the choice of referring expressions while relational givenness influences the order of discourse entities at the sentence level. Consequently, referential givenness is relevant in explaining the choice of a prenominal or postnominal demonstrative in adnominal demonstrative phrases. On the other hand relational givenness presents the framework for the analysis of the linear order of reciprocal participants. Thus relational givenness is responsible for the choice of either a simple reciprocal in which both participants occur preverbally, or a discontinuous reciprocal in which one participant occurs in preverbal position while the second reciprocal participant occurs in postverbal position within a PP.

Under referential givenness various theories aimed at explaining the distribution and interpretation of referring expressions were explained. These theories include the activation states (Chafe 1987), the familiarity model (Prince 1981, 1992), the accessibility hierarchy (Ariel 1988, 1991, 2001), and the givenness hierarchy (Gundel, Hedberg & Zacharsky 1993). Chafe's (1987) activation states and Prince's familiarity model (1981, 1992) do not make specific claims on the forms of referring expressions and referential givenness level. However, Ariel's (1988, 1991, 2001) accessibility hierarchy and Gundel's et al. givenness hierarchy (1993) match levels of referential givenness with specific forms of referring expressions. Further, Gundel et al. (1993) in their givenness hierarchy claim that there exists an entailment relationship between the givenness statuses such that the use of a referring expression high in the hierarchy entails all lower statuses. These theories present a schema under which the choice of a referential

expression, in this case a pre or postnominal adnominal demonstrative, is driven by the referential givenness of the referent in question.

The concept of relational givenness, also explained in chapter 2, is the result of comparing referential givenness of entities within the same discourse. Discourse utterances are partitioned into information units by examining the relative givenness of discourse entities and accordingly assigning, a topic/comment status for example, to the information units. In this dissertation, I use the topic-focus distinction to analyze the role of givenness in Swahili reciprocal variation. Topic here is defined as the given information on which the sentence was about. On the other hand, focus is assumed to be the “material that the speaker calls to the addressee’s attention, thereby often evoking a contrast with other entities that might feel the same position” (Gundel & Fretheim 2006). By comparing the individual referential givenness of reciprocal participants in reciprocal constructions in the Helsinki corpus of Swahili, the relational givenness of these participants were judged as either ‘equal’ or ‘unequal’. The relational givenness criterion was also used to develop elicitation prompts presented to Swahili native speakers with the reciprocal participants having the information status of topic (given) or focus (new).

The centering theory (Grosz et al. 1995) in chapter 2 further clarified the notion of topic. The centering theory stipulates that a discourse entity which occurred in the left periphery of a sentence was the backward looking center (topic) of that sentence. The centering theory presents various parameters of evaluating the relative salience of a possible discourse topic amongst the forward looking centers of a previous sentence. In this study the main parameters used were referential givenness status of the forward

looking centers, the subject position and pronominalization. These theoretical perspectives of information structure laid out the foundation for the analysis of Swahili adnominal demonstratives in chapter three and Swahili reciprocal variation in chapter four.

In chapter three, based on contextual analysis and statistical analytical methods including frequency proportions and calculating the mean referential distance of anaphoric adnominal demonstratives the following observations were made. The pronominal demonstrative is used for semiactive and inactive topics after topic shift or time shift. On the other hand, the postnominal demonstrative is used for recently activated topics. Further, there were more gestural demonstratives in pronominal position than postnominal in cases of “immediate physical copresence” (Clark & Marshall 1981), that is, when the conversation participants are all aware of the presence of a discourse entity within the utterance situation. There were more postnominal demonstratives in cases of “potential physical copresence” (only the addressee is aware of the presence of the discourse entity within utterance situation) than pronominal. However, more data needs to be collected to further augment this claim since the frequency of gestural demonstratives in the dataset used in this study was low. These conclusions also need to be compared with speech data where gestural demonstratives can be easily identified, for example, from videotaped conversations. The distribution of the gestural demonstratives in pre and postnominal position demonstrates that, unlike previous studies which assumed that only the postnominal demonstrative may be used gesturally, both the pre and postnominal demonstrative may be used for this function (Cf. Ashton 1944; Givon

1976; Carstens 1991). In this study, all gestural demonstratives were categorized as semiactive (Chafe 1987; Lambrecht 1994). Pending further research, I suggest that gestural demonstratives used for entities of “immediate physical copresence” (where the addresser and addressee are both aware of the presence of the discourse entity in question at utterance time) be categorized as ‘active’. However, gestural demonstratives used for entities with “potential physical copresence” (where only the addresser is aware of the presence of the discourse entity in question and therefore seeks to draw the attention of the addressee to the discourse entity) be categorized as semiactive.

In previous studies it was claimed that only pronominal demonstratives could be used anaphorically. The dataset in this study indicated that postnominal demonstratives were used more frequently for the anaphoric function if the discourse entity in question was an active topic. In the event that the discourse entity was inactive or semiactive due topic shift or time shift, the pronominal demonstratives were used more frequently. Based on calculation of the mean referential distance of anaphoric demonstrative, it was also observed that semiactive referents were separated by longer referential distance from their antecedents than active referents. The unit of measurement for referential distance was the finite clause since it is the locus for topic update. These results present some evidence against the claim that only the pronominal demonstrative can be used to mark definite reference in Swahili texts.

Recognitional demonstratives were also categorized as inactive because contextual analysis indicated that these demonstratives were used when a topic was reintroduced after a long gap of absence. The frequency proportions showed that

recognitional demonstratives were used more frequently in prenominal position than postnominal. Himmelmann (1996) pointed out in his analysis of adnominal demonstrative across five languages that the distal demonstratives seemed to be the only demonstrative used recognitionally. However, the Swahili data indicated that although the distal demonstrative was more frequently used, both the distal and proximal may be used recognitionally.

In chapter four, the results of the study on reciprocals showed that Swahili reciprocal variation can be explained by evaluating the referential givenness of the reciprocal participants. In the event that the relational givenness of reciprocal participants was equal, the simple reciprocal would be used. On the other hand, if the relational givenness of the reciprocal participants was unequal, the discontinuous construction would be used to cast the less salient entity in the Swahili default position for focused elements (postverbal).

The results of the Swahili adnominal demonstratives study were limited to class 1 nouns. The next step will be establishing that the results of the study can be replicated when data is extracted from other noun classes. Further, the data used in the demonstrative study was mainly from written texts of the Helsinki corpus of Swahili. Future research may look at whether these findings can be extended to spoken texts. Spoken texts could provide direct evidence of the functional distinction between pre and postnominal gestural demonstratives. One of the limitations in this study was that the gestural role of the demonstrative was implied from textual analysis.

The corpus data used for the reciprocal study was also from written texts found in the Helsinki corpus. Future research may find out if the results of the study may be extended to spoken texts. As for the reciprocal acceptability ratings experiment, only two verbs were used, the verb *zungumza* ‘converse’ and *kumbatia* ‘embrace’. More semantic categories such as ‘hit’ verbs (for example, *piga* ‘beat’, *chapa* ‘whop’, *gonga* ‘hit’) and ‘separate’ verbs (for example, *tenga* ‘separate’, *gawanya* ‘divide’, *bagua* ‘segregate’) (Levin 1993) need to be used in future experiments to further validate the claim that givenness, rather than verb semantics, is responsible Swahili simple and discontinuous reciprocal variation. Levin (1993) presents several reciprocal alternations in English based on semantic difference of verbs. Future research will also include exploring other algorithms laid out by the Centering Theory such as animacy in ranking the salience of forward looking centers and their role in Swahili reciprocal variation. In English, for example, *The car collided with the fence* is grammatical, but *The car and the fence collided* is ungrammatical.

## 5.2 Theoretical Implications

The observation that pre and postnominal demonstratives can be used anaphorically has ramifications on the analysis of Swahili adnominal demonstratives in pragmatics as well as syntax. In pragmatics, it has been observed cross-linguistically that activated topics may be represented by pronominal referring expressions (cf. Gundels et al. 1995 Givenness Hierarchy and Ariel 1988, 1991, 2001 Accessibility Hierarchy). Since Swahili adnominal demonstratives may be high, mid or low accessibility markers depending on their demonstrative position, these demonstratives may be analyzed as

pronominal NPs co-occurring with the noun to mark different activation levels of referents. When used prenominal, the demonstrative signals definite reference due to common knowledge or the interlocutors' awareness of a discourse entity within the utterance situation (cf. Prince's (1992) claim that in English, hearer old entities are marked via definite reference while discourse old entities are unmarked). However, in the postnominal position, the demonstrative pronoun points to discourse entities mentioned in previous utterance as well as discourse entities within the utterance situation (cf. Gundel's et al. 1993 "activated status" which encompasses topical referents in discourse texts and those within the conversational context). This functional role of the demonstrative position is independently motivated from the syntactic analysis of the demonstrative.

In syntax, it has been argued that English articles, demonstrative, possessive pronouns, and quantifiers are heads of the determiner phrase (DP) because of their complementary distribution as illustrated in (220) (Abney 1987)

(220) the/this/my/many books

A direct extension of this analysis to Swahili is problematic because first, Swahili has no overt articles, second, the demonstrative may co-occur with the possessive pronoun as well as with quantifiers in postnominal position, and three, the demonstrative may be pre or postnominal (cf. Giusti 1997).

However, the syntactic position of Swahili demonstratives in relation to the noun and other modifiers warrants some explanation. In the postnominal position, the unmarked order is Noun>POSS>DEM>Quantifier (cf. Rugemalira 2007).

(221) Eneo            langu                            hili                    lote  
*Area            5AGR-POSS.1SG            P.DEM            all*  
 ‘All this area of mine’

Of these three types of modifiers, only the demonstrative may occur prenominally as illustrated in (222-224).

(222) hili            eneo   langu                            lote  
*P.DEM   Area   5AGR-POSS.1SG            all*  
 ‘All this area of mine’

(223) (\*langu/lote)                            hili                    eneo  
*5AGR-POSS.1SG/all                            P.DEM            Area*

(224) (\*langu/lote)                            eneo   hili  
*5AGR-POSS.1SG/all                            Area   P.DEM*

Apart from the demonstrative, another expression that may occur prenominally in Swahili is the personal pronoun as illustrated in (225).

(225) a. [yeye    Asumini]            milki                    ya-ke                    nini?  
*3SG    Asumini            property                    AGR-POSS.3SG            what?*  
 ‘How much worth is Asumini?’  
 ‘LIT: (she) Asumini what does she own?’

b. \*[Asumini            yeye]   milki                    ya-ke                    nini?  
*Asumini            3SG   property                    AGR-POSS.3SG            what?*

(226) a. [huyu    Asumini]            milki                    ya-ke                    nini?  
*P.DEM   Asumini            property                    AGR-POSS.3SG            what?*  
 ‘How much worth is Asumini?’  
 ‘LIT: This Asumini what does she own?’

b. [Asumini huyu]                            milki                    ya-ke                    nini?  
*Asumini P.DEM                            property                    AGR-POSS.3SG            what?*  
 ‘How much worth is Asumini?’

The personal pronoun patterns with the prenominal demonstrative (226a) because it may form a constituent with the relevant noun in prenominal position as seen in (225a).

However, while the demonstrative may occur postnominally (226b) the occurrence of the personal pronoun in postnominal position (225b) renders the structure ungrammatical.

According to Carstens (1991), the postnominal demonstrative is a type of adjective and may co-occur with other noun modifiers. In the prenominal position, the demonstrative is a determiner and therefore marks the relevant noun as definite. Carsten's analysis of the postnominal demonstrative syntactic position may not be correct because of her claim that the demonstrative obligatory precedes all the other nominal arguments including the possessive (227). However, as mentioned above, the possessive expression, *chako* in this case, precedes the demonstrative postnominally.

(227)	kikombe	hiki	cha-ko	ch-a	kahawa
	<i>Cup</i>	<i>8DEM</i>	<i>8AGR-POSS.2SG</i>	<i>8AGR-a</i>	<i>coffee</i>
	This coffee cup of yours				(Carstens 1991: 105)

The distinct pragmatic role of the pre and postnominal demonstratives explored in this study corroborates Carsten's (1991, 2008) claim that these demonstratives are indeed distinct categories. Recall that the prenominal demonstrative marks inactive/semiactive discourse entities while the postnominal demonstrative marks active topics in texts. The functional distinction of the pre and postnominal demonstrative rules out the possibility of the demonstrative occupying the same syntactic position in phonological/logical form (cf. Brugé 2002). This motivates a raising analysis in which the demonstrative raises from the postnominal position to a higher syntactic position (spec DP according to Carstens 1991), but with the current data showing that such movement is limited to contexts where the referent is inactive or semiactive. Thus the demonstratives differ in some ways from other post-positional modifiers, and clusters in some ways like other

pre-nominal units such as personal pronouns, with information status determining the position.

In this dissertation, I have also argued that word order variation in Swahili reciprocal constructions distinguishes between what is given (topic) and what is new (focus). Following Diesing's (1996) proposal that definites and indefinites occupy distinct syntactic positions (the definite being higher in the hierarchy than indefinites), the preverbal position of given entities and postverbal position of less given entities in reciprocal constructions can be accounted for. The topic entity is mapped in the preverbal position to put it higher in the hierarchy in relation to the comment information unit within which the focused (less given) element is contained. In a simple reciprocal, the two reciprocal participants are mapped on the preverbal position to reflect the equal relational givenness status of the reciprocal participants.

In short, investigation of these two construction types presents evidence for information structure playing a key role in determining the position of words within Swahili clauses.

Appendix A  
Acceptability Ratings Items

- (1) Sakina a-li-fany-a                      nini?  
*Sakina SM-PST-do-FV                      what*  
 ‘What did Sakina do?’
- a. Gihaza na    Sakina wa-li-kumbati-an-a  
*Gihaza and Sakina SM-PST-embrace-REC-FV*  
 ‘Gihaza and Sakina embraced.’
- b. Sakina na    Gihaza                      wa-li-kumbati-an-a  
*Sakina and Gihaza                      SM-PST-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’
- c. Sakina a-li-kumbati-an-a                      na    Gihaza  
*Sakina SM-PST-embrace-REC-FV    with    Gihaza*  
 ‘Sakina embraced with Gihaza.’
- d. Gihaza a-li-kumbati-an-a                      na    Sakina  
*Gihaza SM-PST-embrace-REC-FV    with    Sakina*  
 ‘Gihaza embraced with Sakina.’
- e. Gihaza ndi-ye                      a-li-ye-kumbati-an-a                      na    Sakina  
*Gihaza FOC-AGR    SM-PST-REL-embrace-REC-FV                      with    Sakina*  
 Gihaza is the one who embraced with Sakina.
- f. Sakina ndi-ye                      a-li-ye-kumbati-an-a                      na    Gihaza  
*Sakina FOC-AGR    SM-PST-REL-embrace-REC-FV                      with    Gihaza*  
 Gihaza is the one who embraced with Sakina.
- (2) Sakina na    Gihaza walifanya    nini  
*Sakina and Gihaza SM-PST-do    what*  
 ‘What did Sakina and Gihaza do?’
- a. Gihaza na    Sakina                      wa-li-kumbati-an-a  
*Gihaza and Sakina                      SM-PST-embrace-REC-FV*  
 ‘Gihaza and Sakina embraced.’
- b. Sakina na    Gihaza                      wa-li-kumbati-an-a  
*Gihaza and Sakina                      SM-PST-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’
- c. Sakina a-li-kumbati-an-a                      na    Gihaza  
*Sakina SM-PST-embrace-REC-FV    with    Gihaza*  
 ‘Sakina embraced with Gihaza.’

- d. Gihaza a-li-kumbati-an-a na Sakina  
*Gihaza SM-PST-embrace-REC-FV with Sakina*  
 ‘Gihaza embraced with Sakina.’
- e. Wa-li-kumbati-an-a Sakina na Gihaza  
*SM-PST-embrace-REC-FV Sakina and Gihaza*  
 ‘They embraced, Sakina and Gihaza.’
- f. Sakina na Gihaza ndi-o wa-li-o-kumbati-an-a  
*Sakina and Gihaza FOC-AGR SM-PST-REL-embrace-REC-FV*  
 ‘Sakina and Gihaza embraced.’
- (3) Sakina alifanya nini?  
*Sakina SM-PST-do what*  
 ‘What did Sakina do?’
- a. Gihaza na Sakina wa-li-zungumz-a  
*Gihaza and Sakina SM-PST-converse-FV*  
 ‘Gihaza and Sakina talked.’
- b. Sakina na Gihaza wa-li-zungumz-a  
*Sakina and Gihaza SM-PST-converse-FV*  
 ‘Sakina and Gihaza talked.’
- c. Sakina a-li-zungumz-a na Gihaza  
*Sakina SM-PST-converse-FV with Gihaza*  
 ‘Sakina and Gihaza talked.’
- d. Gihaza a-li-zungumz-a na Sakina  
*Gihaza SM-PST-converse-FV with Sakina*  
 ‘Gihaza and Sakina talked.’
- e. Gihaza ndi-ye a-li-ye-zungumz-a na Sakina  
*Gihaza FOC-AGR SM-PST-REL-converse-FV with Sakina*  
 Gihaza is the one who embraced with Sakina.
- f. Sakina ndi-ye a-li-ye-zungumz-a na Gihaza  
*Sakina FOC-AGR SM-PST-REL-converse-FV with Gihaza*  
 Gihaza is the one conversed with Sakina.

- (4) Sakina na Gihaza wa-li-fany-a nini  
*Sakina and Gihaza SM-PST-do-FV what*  
 ‘What did Sakina and Gihaza do?’
- a. Gihaza na Sakina wa-li-zungumz-a  
*Gihaza and Sakina SM-PST-converse-FV*  
 ‘Gihaza and Sakina talked.’
- b. Sakina na Gihaza wa-li-zungumz-a  
*Gihaza and Sakina SM-PST-converse-FV*  
 ‘Sakina and Gihaza talked.’
- c. Sakina a-li-zungumz-a na Gihaza.  
*Sakina SM-PST-converse-FV with Gihaza*  
 ‘Sakina conversed with Gihaza.’
- d. Gihaza a-li-zungumz-a na Sakina.  
*Gihaza SM-PST-converse-FV with Sakina*  
 ‘Gihaza conversed with Sakina.’
- e. Wa-li-zungumz-a Sakina na Gihaza  
*PL-PST-converse-FV Sakina and Gihaza*  
 ‘They talked, Sakina and Gihaza.’
- f. Sakina na Gihaza ndi-o wa-li-o-zungumz-a.  
*Sakina and Gihaza FOC-AGR SM-PST-REL-converse-FV*  
 ‘Sakina and Gihaza are the ones who talked.’

## Appendix B

### A DMDX Screenshot with a Questionnaire Item

Sakina alifanya nini?

Gihaza alikumbatiana na Sakina.

1 2 3 4 5

## References

- Abney, Steven Paul. 1987. *The English noun phrase in its sentential aspect*. Ph.D. thesis, Massachusetts Institute of Technology.
- Aboh, Oladè E., Hartmann, Katharina; & Zimmermann Malte (eds.). 2007. *Focus Strategies in African Languages: the interaction of focus and grammar in Niger-Congo and Afro-Asiatic*. Mouton de Gruyter: Berlin/New York.
- Alpatov, Vladimir & Nedjalkov, Vladimir. 2007. 'Sociative, competitive and reciprocal constructions in Japanese'. In Nedjalkov, Vladimir. (ed.) *Reciprocal constructions*. Vol 3. 1021-1094. John Benjamins: Amsterdam/Philadelphia.
- Amidu, Assibi A. 2006. *Pronouns and pronominalization in Swahili grammar*. Rüdiger Köppe Verlag: Köln.
- Amidu, Assibi A. 2011. *Reflexive and reciprocal syntax revisited*. Rüdiger Köppe Verlag: Cologne, Germany
- Ariel, Mira. 2001. Accessibility Theory: An overview. In Sanders, Ted, Schilperoord, Joost and Wilbert Spooren (eds). *Text representation: Linguistic and Psycholinguistic Aspects*. 29-87. John Benjamins: Amsterdam/Philadelphia.
- Ariel, Mira. 1991. The function of accessibility in a theory of grammar. *Journal of Pragmatics* 16 (5): 443-463.
- Ariel, Mira. 1988. Referring and accessibility. *Journal of Linguistics* 24 (1): 65-87.
- Ashton, Ethel O. 1944. *Swahili grammar (including intonation)*. London: Longmans, Green and CO LTD.
- Auer, J. C. P. 1984. Referential Problems in Conversation. *Journal of Pragmatics* 8.5-6: 627-48.
- Baayen, Harald R. 2008. *Analyzing linguistic data: A practical introduction to statistics using R*. Cambridge University Press: New York.
- Belikova, Alyona. 2008. Reciprocal verbs in the L2 French of native speakers of Russian. Paper presented at the *Proceedings of the 9th Generative Approaches to Second Language Acquisition Conference (GASLA 2007)*. Roumyana, Slabakova et al. (eds.). 1-14 Somerville. MA: Cascadilla Proceedings Project.
- Birner, Betty. J & Mahootian, S. 1996. Functional constraints on inversion in English and Farsi. *Language Sciences*, 18(1-2), 127-138.

- Birner, Betty J., & Ward, Gregory. 2009. Information structure and syntactic structure. *Language and Linguistics Compass*, 3(4), 1167-1187.
- Botley, Simon & McEnery Mark Anthony. 2000. *Corpus based and computational approaches to discourse anaphora*. John Benjamins: Amsterdam/Philadelphia.
- Bresnan, Joan. 1994. Locative inversion and the architecture of Universal Grammar. *Language*, Vol. 70, No. 1 .March, 1994, pp. 72-131 .
- Bresnan, Joan & Samuel S. Mchombo. 1987. Topic, pronoun, and agreement in Chichewa. *Language*, 63(4), 741-782.
- Brugé, Laura. 2002. The Positions of demonstrative in the extended nominal projection. In Cinque, Guglielmo (ed.). *Functional structure in DP and IP: The cartography of syntactic structure Vol 1*. Oxford University Press: New York.
- Buell, Leston C., Riedel, K., & van der Wal, J. 2011. What the Bantu languages can tell us about word order and movement. *Lingua*, 121(5), 689-701.
- Carstens, Vicki May. 1991. "The Morphology and Syntax of Determiner Phrases in Kiswahili." PhD dissertation. UCLA.
- Carstens, Vicki May. 2008. DP in Bantu and Romance. In *The Bantu-Romance connection*. De Cat, Cecile & Demuth Katherine. John Benjamins: Amsterdam/Philadelphia. 131-166.
- Chafe, Wallace L. 1987. Cognitive constraints on information flow. In Russel S. Tomlin (ed.). *Coherence and grounding in discourse. Typological studies in language Vol II*. John Benjamins: Amsterdam, 1987. 21-52.
- Chafe, Wallace L. 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view." In Charles N. Li. (ed.). *Subject and topic*. Academic Press: New York. 25-56.
- Chiarcos, Christian, Claus Berry & Michael Grabski. 2011. *Saliency: Multidisciplinary perspectives on its function in discourse*. De Gruyter Mouton: Berlin/New York.
- Chomsky Noam. 1971. Deep structure, surface structure, and semantic interpretation. In: Steinberg, Danny and Jakobovits, Leon (eds.). *Semantics: An interdisciplinary reader in philosophy, linguistics, and philosophy*. 183-216 Cambridge University Press: Cambridge.

- Clark Herbert H. & Catherine R. Marshall. 1981. Definite reference and mutual knowledge. In A. K. Joshi, B. L. Webber and I. A. Sag (eds.). *Elements of discourse understanding*, 10-64. Cambridge University Press: Cambridge.
- Comrie, Bernard. 2000. Demonstrative as anaphors in Dutch. *Proceedings of the Twenty-Third Annual Meeting of the Berkeley Linguistic Society: General Session and Parasession on Pragmatics and Grammatical Structure 1997*. 50-61.
- Contini-Morava, Ellen. 1991. Deictic explicitness and event continuity in Swahili discourse. *Lingua*, 83(4), 277-318.
- Contini-Morava, Ellen. 1996. 'Things' in a noun-class language: Semantic functions of agreement in Swahili. In E. Andrews, & Y. Tobin (Eds.). *Toward a calculus of meaning: Studies in markedness, distinctive features and deixis*. 251-290. John Benjamins: Amsterdam.
- Cornish, Francis. 1999. *Anaphora, discourse, and understanding: Evidence from English and French*. Clarendon Press: Oxford.
- Dalrymple, Mary, Makoto Kanazawa, Yookyung Kim, Sam Mchombo, & Stanley Peters. 1998. Reciprocal expressions and the concept of reciprocity. *Linguistics and Philosophy* 21 (2): 159-210
- Demuth, Katherine. 1990. Locatives, impersonals and expletives in Sesotho. *The Linguistic Review* 7 (3): 233-249.
- Demuth, Katherine & Carolyn Harford. 1999. Verb raising and subject inversion in Bantu relatives. *Journal of African Languages and Linguistics* 20 (1): 41-61.
- Diesing, Molly. 1996. *Indefinites*. The MIT Press: Massachusetts
- Diessel, Holger. 1999. *Demonstratives: Form, function and grammaticalization*. John Benjamins: Amsterdam/Philadelphia.
- Dimitriadis, Alexis. 2008. Irreducibly symmetry in Reciprocals. In König, ekkehard & Gast, Volker (eds.). *Reciprocals and reflexives: Theoretical and typological explorations*. 375-410. Mouton de Gruyter: Berlin.
- Dimitriadis, Alexis & Seidl, Amanda. 2002. Statives and reciprocal morphology in Swahili. In P. Sauzet (ed.). *Typologie Des Langues d'Afrique Et Universaux De La Grammaire*, Paris: L'Harmattan.

- Downing, Pamela. 1995. Word order in discourse: By way of introduction. In Downing, Pamela & Noonan (eds.), Michael. *Word order in discourse*. John Benjamins: Amsterdam/Philadelphia. P 1-27.
- Evans, Nicholas. 2008. Reciprocal constructions: Towards a structural typology. In König, E. & Gast, V. (eds.). *Reciprocals and reflexive: Theory and typological explorations*. 33-103. Mouton de Gruyter: Berlin.
- Evans, Nicholas, Alice Gaby, Stephen Levinson C., & Asifa Majid. 2011. *Reciprocals and semantic typology*. Amsterdam/Philadelphia: John Benjamins.
- Fesenmeier, Ludwig. 2009. On two functions of verb-subject order in Old Italian. In Mereu, Lunella (ed.). 2009. *Information Structure and its interfaces*. Mouton de Gruyter: Berlin/New York.
- Fiengo, Robert & Howard, Lasnik. 1973. The logical structure of reciprocal sentences in English. *Foundations of Language* 9 (4): 447-68.
- Fillmore, Charles J. 1997. *Lectures on Deixis*. CSLI Publications: Stanford, California.
- Fillmore Charles J. 1992. "Corpus linguistics" or "Computer-aided armchair linguistics". In Svartvik, J. (ed.). 1992. *Directions in corpus linguistics : Proceedings of nobel symposium 82, stockholm, 4-8 august 1991*. 35-60.
- Fillmore, Charles J. 1982. Towards a descriptive framework for spatial deixis. In Jarvella, Robert J & Klein, Wolfgang (eds.). 1982. *Speech, place and action: Studies in deixis and related topics*. John Wiley & Sons LTD: Chichester/New York/Brisbane/Toronto/Singapore.
- Fillmore, Charles J. 1975. *Santa cruz lectures on deixis, 1971*. Bloomington: Indiana University Linguistics Club.
- Firbas, Jan. 1987. On the Delimitation of the Theme in Functional Sentence Perspective. In Dirven Rene and Fried Vilem (eds.). *Linguistic and Literary Studies in Eastern Europe: Functionalism in Linguistics*. Amsterdam: John Benjamins. 137-153.
- Frajzyngier Zygmunt & Curl S. Traci (eds.). 2000. *Reciprocals: Forms and functions*. Amsterdam/Philadelphia: John Benjamins.
- Giusti, Giuliana. 1997. The categorial status of determiners. In Haegeman, Liliane (ed.). *The new comparative syntax*. Longman: New York.
- Givon, Talmy. 1984. *Syntax: A functional typological introduction Vol 1*. John Benjamins: Amsterdam/Philadelphia.

- Givon, Talmy . 1976. Topic, pronoun, and grammatical agreement."In Charles N. Li (ed.). *Subject and topic*, 149-188. New York: Academic Press.
- Givon, Talmy (ed.). 1983. *Typological studies in language vol 3: Topic and continuity in discourse*. John Benjamins: Amsterdam/Philadelphia.
- Grice, H. P. 1975. Logic and Conversation [1967]. In, P. Cole and J. L. Morgan (eds.). *Syntax and Semantics 3: Speech Acts*. New York: Academic Press. Pp. 41-58.
- Grosz, Barbara J., Aravind K. Joshi, & Scott Weinstein. 1995. Centering: A framework for modeling the local coherence of discourse. *Computational Linguistics* 21 (2): 203-225.
- Grosz, Barbara J. & Candace L. Sidner. 1998. Lost Intuitions and Forgotten Intentions. In Walker, Marilyn A., Aravind K. Joshi, & Ellen F. Prince (eds.). *Centering theory in discourse*. New York: Oxford University Press.
- Gundel, Jeanette K. 1998. Centering theory and the givenness hierarchy: Towards a synthesis. In Walker, Marilyn A., Aravind K. Joshi, & Ellen F. Prince (eds.). *Centering theory in discourse*. New York: Oxford University Press.
- Gundel, Jeanette K. 1985. 'Shared knowledge' and Topicality. *Journal of Pragmatics* 9 (1): 83-107.
- Gundel, Jeanette K., Mamadou Bassene, Bryan Gordon, Linda Humnick, & Amel Khalfaoui. 2010. Testing predictions of the givenness hierarchy framework: A crosslinguistic investigation. *Journal of Pragmatics* 42 (7): 1770-1785.
- Gundel, Jeanette K., Nancy Hedberg & Ron Zacharski. 1993. Cognitive status and the form of referring expressions in discourse. *Language* 69(2): 274-307.
- Gundel, Jeanette K. and Thorstein Fretheim. 2006. Topic and Focus. In Laurence R. Horn & Gregory Ward (eds.). *The handbook of Pragmatics*, 175-196. Malden, USA: Blackwell Publishing.
- Halliday, Michael A.K. 1967. Notes on transitivity and theme in English, Part II. *Journal of Linguistics* 3. 199-244.
- Haviland, John B. 1993. Anchoring, iconicity, and orientation in Guugu Yimithirr pointing Gestures." *Journal of Linguistic Anthropology* 3.1: 3-45. *Linguistics and Language*.
- Hawkins, John A. 1978. *Definiteness and indefiniteness*. Groom Helm: London.

- Herbert, Clark H. & Marshall, Catherine R. 1981. Definite Reference and Mutual Knowledge. In A. K. Joshi, B.L. Webber and I.A. Sag (eds.). *Elements of discourse understanding*. Cambridge University Press: Cambridge.10-63
- Himmelman, Nikolaus P. 1996. Demonstratives in narrative discourse: A taxonomy of universal uses. In Fox, Barbara (ed.). 1996. *Studies in Anaphora*. John Benjamins: Amsterdam/Philadelphia.
- Hurst, Peter. 2010. The syntax of lexical reciprocal constructions. Butt, Miriam & King, Holloway (eds.). *Proceedings of the LFG10 Conference*. CSLI Publications. Retrieved from <http://csli-publications.stanford.edu/LFG/15/papers/lfg10hurst.pdf> (11/22/2012)
- Hurst, Peter & Rachel Nordlinger. 2011. Reciprocal constructions in English: Each other and beyond. In Nicholas Evans, Alice Gaby, Stephen Levinson C. & Asifa Majid *Reciprocals and semantic typology*. (eds.). 75-90. 2011. John Benjamins: Amsterdam/Philadelphia.
- Jackendoff, Ray S. 1972. *Semantic interpretation in Generative Grammar*. The MIT Press: Massachusetts.
- Johannessen, Janne Bondi. 1996. Partial agreement and coordination. *Linguistic Inquiry* 27 (4): 661-76.
- Kameyama, Megumi. 1998. Intrasentential centering: A case study. In Walker, Marilyn A., Aravind K. Joshi, & Ellen F. Prince. (eds.). *Centering Theory in Discourse*. 89-112. New York: Oxford University Press.
- Krifka, M. (1985). Word order and word order change in Swahili. *Kiswahili, Journal of the Institute of Kiswahili Research*, 52 (1), 13–72.
- Keach, Camilla. N. 1995. Subject and object markers as agreement and pronoun incorporation in swahili. In A. Akinlabi (Ed.), *Theoretical approaches to african linguistics*. 109-116. Africa World Press: Trenton, NJ.
- Knjazev, Jurij P. 2007. Reciprocal Constructions in Russian. In Nadjalkov, Vladimir. (ed.). 2007. *Reciprocal constructions*, Vol 2. John Benjamins: Amsterdam/Philadelphia.
- Lakoff, George & Stanley, Peters. 1969. Phrasal conjunction and symmetric predicates. In Reibel, David & Sanford, Schane (eds). *Modern Studies in English: Readings in transformational grammar*, 113-142. Prentice-Hall: NJ.

- Lambrecht, Knud. 1994. *Information Structure and sentence form*. Cambridge University Press: New York, USA.
- Leonard, Robert. 1985. Swahili demonstratives: Evaluating the validity of competing semantic hypotheses. *Studies in African Linguistics*, 16(3), 281-293.
- Leonard, Robert. 1987. Response to Wilt: Discourse distances and the Swahili demonstratives. *Studies in African Linguistics*, 18(1), 97-105.
- Maslova, Elena . 2000. Reciprocal and set construal. In Frajzyngier, Zygmunt & Curl Traci S. 2000. *Reciprocals: Forms and Functions* John Benjamins: Amsterdam/Philadelphia.
- Levin, Beth. 1993. *English verb classes and alternations*. The University of Chicago: Chicago.
- Levinson, Stephen C. 1987. Pragmatics and the grammar of anaphora: A partial pragmatic reduction of binding and control phenomena. *Journal of Linguistics* 23.2. 379-434.
- Maes, Alfons A., & Leo G. M. Noordman. 1995. Demonstrative nominal anaphors: A case of nonidentificational markedness." *Linguistics* 33.2. 255-82.
- Maldonado, Z. Roberto. 2011. Reciprocal constructions in olutec. In Nicholas Evans, Alice Gaby, Stephen Levinson C. & Asifa Majid. *Reciprocal and semantic typology*. (eds.). 265-276. John Benjamins: Amsterdam/Philadelphia.
- Marten, Lutz. 2000. Agreement with conjoined noun phrases in Swahili. *Afrikanistische Arbeitspapiere: Swahili Forum VII*, 64, 75-96.
- Marten, Lutz. 2007. Focus strategies and incremental development of semantic representation: evidence from Bantu. In Enoch A. Oladè, Katharina Hartmann & Malte Zimmermann (eds.). *Focus strategies in African languages: The interaction of focus and grammar in Niger-Congo and Afro-Asiatic*, 113-138. Berlin/New York: Mouton de Gruyter.
- Marten, Lutz. 2011. Information structure and agreement: Subjects and subject agreement in Swahili and Herero. *Lingua*, 121(5), 787-804.
- Maslova, Elena. 2000. Reciprocals and set construal. In Frajzyngier Zygmunt & Curl S. Traci (eds.). *Reciprocals: Forms and functions*, 161-178. Amsterdam/Philadelphia: John Benjamins.
- Mbaabu, Ireri. 1985. *Sarufi ya Kiswahili (Swahili grammar)*. Nairobi: Kenya Publishing and Book Marketing Company.

- Mchombo, Sam. 1993. Reflexive and reciprocal in Chichewa." In Sam Mchombo (ed.). *Theoretical Aspects of Bantu Grammar 1*, 181-208. Carlifornia: CSLI.
- Mchombo, Sam A. & Rosemary M. Ngalande. 1980. Reciprocal verbs in Chicheŵa: A case for lexical derivation. *Bulletin of the School of Oriental and African Studies, University of London* 43 (3): pp. 570-575.
- Mchombo, Sam A. & Armindo S. A. Ngunga. 1994. The syntax and semantics of the reciprocal construction in Ciyao. *Linguistic Analysis* 24 (1-2): 3-31.
- Mereu, Lunella (ed.). 2009. *Information structure and its interfaces*. Berlin/New York: Mouton de Gruyter.
- Mitkov, Ruslan. 1994. An intergrated model for anaphora resolution. *Proceedings of the 15th International Conference on Computational Linguistics*. 1994, Kyoto, Japan.
- Molnár, Valeria and Susanne Winkler. 2006. Exploring the architecture of focus in grammar. In Valeria Molnár & Susanne Winkler (eds.). *The architecture of focus. Studies in Generative Grammar* 82, 1-29. Berlin/New York: Mouton de Gruyter.
- Myers, G. 1988. 'This and that in discourse anaphora: the ambiguity of references to propositions', paper presented at *the autumn meeting of the Linguistic Association of Great Britain*, University of Exter, 1988.
- Nedjalkov, Vladimir (ed.). 2007. *Reciprocal Constructions. Vol 1*, Amsterdam/Philadelphia: John Benjamins.
- Opalka, Hubertus. 1982. Representation of the local ni-deixis in Swahili in relation to Bühler's "Origo Des Zeigfelds". In Herman Parret (ed.) *Here and there: Cross-linguistic studies on deixis and demonstration*. 65-80. Amsterdam/Philadelphia: John Benjamins.
- Payne, Thomas. 1997. *Describing morphosyntax*. Cambridge University Press. Cambridge.
- Petch-Tyson, Stephanie. 2000. Demonstrative expressions in argumentative discourse- A computer-based comparison of non-native and native English. In Botley, S. P. And McEnery, A. M. (eds) *Corpus-based and Computational Approaches to Discourse Anaphora*. Amsterdam/Philadelphia: John Benjamins. 43-64
- Poesio, Massimo, Rosemary Stevenson, Barbara Di Eugenio, and Janet Hitzeman. 2004. Centering: A parametric theory and its instantiations. *Computational Linguistics* 30 (3): 309-63.

- Prince, Ellen. 1981. Toward a taxonomy of Given-New information." In P. Cole (ed.). *Radical Pragmatics*, 223-256. New York: Academic Press.
- Prince, Ellen. 1992. ZPG letter: Subjects, definiteness, and information-status. In Thompson, S. and Mann, W. (eds). *Discourse description: diverse analyses of a fund raising text*. John Benjamins: Philadelphia/Amsterdam.
- Progovac, Lillian. 1998. Structure for coordination, Part 1. *Glott International*, Vol 3, 7.
- Recanati, Francois. 2006. Pragmatics and Semantics. In Laurence R. Horn and Gregory Ward (eds.). *The Handbook of Pragmatics*, 442-462. Malden, USA: Blackwell Publishing.
- Ross, John R. 1967. Constraints on variables in syntax. PhD dissertation. Massachusetts Institute of Technology.
- Rugemalira, Josephat M. 2007. The Structure of the Bantu Noun Phrase. SOAS Working Papers in Linguistics Vol.15: 135-148.
- Schadeberg, Thilo C. 1992. *A sketch of Swahili morphology*, 3rd ed., Köln: Köppe.
- Sidner, Candace L. 1983. Focusing in the comprehension of definite anaphora. In Brady, Michael & Berwick, C. Robert. *Computational models of discourse*. The MIT Press: Massachusetts. 107-164.
- Siloni, Tal. 2001. Reciprocal verbs. In Yehuda N. Falk. (ed.). Proceedings of the Israel Association of Theoretical Linguistics Online publication. Retrieved from <http://linguistics.huji.ac.il/IATL/17/Siloni.pdf> on 02/10/2014.
- Stvan, Laurel Smith. 1998. The semantics and pragmatics of bare singular noun phrases. Ph.D. Dissertation. Northwestern University.
- Suzuki, Shingo. 2009. Between thematicity and grammaticalization: The diachronic rearrangement of information structure and the position of clitic pronoun. In Mereu, Lunella (ed.). 2009. *Information Structure and its interfaces*. Mouton de Gruyter: Berlin/New York.
- Taboada, Maite, and Loreley Hadic Zabala. Deciding on units of analysis within Centering Theory. *Corpus Linguistics & Linguistic Theory* 4.1 (2008): 63-108.
- Tamanji, N. Pius. 2006. Concord and DP structure in Bafut. *Afrikanistik online*.

- Tomlin, Russel S. 1995. Focal Attention, Voice, and Word Order: An Experimental Cross-Linguistic Study. In Pamela Downing and Michael Noonan (eds.). *Word Order in Discourse*. John Benjamins: Amsterdam/Philadelphia. 517-554.
- Vallduvi, Enric. 1992. *The information component*. Garland Publishing: New York.
- Vallduvi, Enric & Engdahl, Elisabet. 1996. Information packaging in HPSG. In C. Grover and E. Vallduvi. (eds.). *Edinburgh working papers in cognitive science Vol 12: Studies in HPSG*. 1-31. University of Edinburgh.
- Vallauri Edoardo L. 2009. "Appendix" or "postposed topic": Where does the difference lie? In Mereu Lunella. (ed.). *Information structure and its interfaces*. Mouton de Gruyter. Berlin/New York.
- Vendler, Zeno. 1957. Verbs and times. *The Philosophical Review*, 66(2). 143-160.
- Vitale, Anthony. 1981. *Swahili syntax*. Cinnaminson N.J: Foris Publications.
- Walker, Marilyn A. 1989. Evaluating discourse processing algorithms. *ACL 89 Proceedings of the 27th annual meeting on Association for Computational Linguistics*. 251-261. Association for Computational Linguistics: Stroudsburg, USA.
- Walker, Marilyn A., Aravind K. Joshi, & Ellen F. Prince. 1998. *Centering Theory in Discourse*. New York: Oxford University Press.
- Walker, Marilyn A., Aravind Joshi, and Ellen Prince. 1998. "Centering in Naturally Occurring Discourse: An Overview." In *Centering Theory in Discourse*, 1-30. New York: Oxford University Press.
- Walker, Marilyn A. 1993. Initial contexts and shifting centers. In Proceedings of the Workshop on Centering, University of Pennsylvania, Philadelphia.
- Wesana, E. 2003. *Kozi fupi tangulizi katika sarufi maumbo ya Kiswahili*. Chuo Kikuu cha Sebha: Sebha, Libya.
- Wesana, E. 2001. *Misingi sarufi ya Kiswahili*. African Studies Research Center: Sebha, Libya.
- Wilt, Timothy .1987. Discourse distances and the Swahili demonstratives. *Studies in African Linguistics*, 18(1), 81-95.
- Wierzbicka, Anna. 2009. "Reciprocity": An NSM approach to linguistic typology and social universals. *Studies in Language* 33 (1): 103-174.

Wolvengrey, Arok. 2003. The function and word order of plains Cree demonstratives. *Algonquian and Iroquoian Linguistics*, 28(2), 22-25.

Yoneda, Nobuko. 2011. Word order in Matengo (N13): Topicality and informational roles. *Lingua*, 121(5), 754-771.

Zerbian, Sabine. 2006. Expression of Information Structure in Northern Sotho. PhD dissertation. Humboldt-University Berlin.

#### Sources

##### *Literary Texts*

Farsy, Muhammad S. 1960. *Kurwa na Doto*. East African Literature Bureau: Nairobi, Kenya.

Hussein Ebrahim. 1969. *Kinjeketile*. Oxford University Press: Nairobi, Kenya.

Kezilahabi, Euphrase 1971. *Rosa Mistika*. Kenya Literature Bureau: Nairobi, Kenya.

Macmillan. 1935. *Hekaya za Abunuwasi na Hadithi Nyingine*. Macmillan Press Ltd: London

Mohamed, Said A. 1988. *Kiza katika nuru*. Oxford University Press: Nairobi, Kenya

Mohamed, Said A. 1980. *Dunia mti mkavu*. Longhorn Publishers Ltd: Nairobi, Kenya.

Mohamed, Suleiman M. 1976. *Nyota ya Rehema*. Oxford University Press, East Africa Ltd: Nairobi, Kenya

##### *Corpus*

Helsinki Corpus of Swahili (HSC). 2004. Institute for Asian and African Studies (University of Helsinki) and CSC - Scientific Computing Ltd.

## Biographical Information

Mohamed Mwamzandi was born in Coast province, Kwale district, Kenya. He earned his degree in education in 1996 and a Master of Arts degree in Languages and Linguistics in 2002 at the Egerton University, Njoro, Kenya. During the undergraduate and postgraduate studies at Egerton University, Mwamzandi extensively studied Kiswahili grammar and literature.

In 2008, Mwamzandi was offered a scholarship to undertake a PhD in Linguistics studies at the University of Texas at Arlington. As a student, Mwamzandi was offered a Graduate Teaching Assistant position (GTA). He taught several linguistic courses which include Morphology, Introduction to Linguistic Science and Introduction to the Study of Human Languages. Mwamzandi's main interests in linguistics are pragmatics, semantics, morphology, syntax and Bantu studies. Mwamzandi has presented some of his research work in conferences which include the Annual University of Texas at Arlington Student Conference in Linguistics and TESOL (UTASCILT), the Illinois Language and Linguistic Society (ILLS) conference at the University of Urbana-Champaign, and the Annual Conference on African Linguistics. In the 2013 ILLS conference, his abstract on Swahili demonstratives was voted as one of the best by the organizing committee.

Mwamzandi is married to Khaira Mohammed Noor and has two kids, Noor and Aisha.