

THE STRUCTURE AND DERIVATION OF THE SWAHILI DETERMINER PHRASE

Rodrick Gregory Ndomba, B.A (Ed), M.A (Linguistics)
UCD student number: 12258966

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Head of School: Professor Bettina Migge

Supervisor: Professor Jamal Ouhalla (UCD)

Doctoral Studies Panel: Professor Conor Galvin
Dr. Paolo Acquaviva

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ABSTRACT

This study investigates the configuration of the Determiner Phrase (DP) of Swahili. The study is guided by three main objectives.

The first objective is to map Swahili nouns into a DP structure. The study has revealed that the Swahili DP structure is underlyingly the same as the English DP except that in Swahili DP *n*P raises to Spec DP (XP movement). The study has shown that the raising of *n*P to Spec DP is motivated by the Extended Projection Principle. The derivation based on XP movement allows D to be occupied by a functional category functioning as the definite article, eloquently explains agreement pattern on modifiers (elements), and provide plausible accounts of varied order of elements in DP structure.

The second objective is to determine the order of elements in the Swahili DP structure. The study has revealed that the underlying order of the elements in Swahili DPs have the same underlying structure relations as the English demonstrative, numeral, adjective, and noun – *those three beautiful children*. However, the head noun-initial surface structure of Swahili elements stems from *n*P movement to the initial position, Spec DP, which results in the opposite order – *children those three beautiful.* The study has also revealed that variations in the canonical order derive from the possessive which appears have no fixed place in DP hierarchy.

The third objective is to determine the agreement pattern of elements in Swahili DPs. The study has revealed that agreement between *n*P and other elements in DP structure emanates from cyclical raising of *n*P followed by feature checking in a Spec head relation at each stop of raising in a bottom-up fashion.

The study has used a cartographic approach to investigate the Swahili DP structure and derivation. The study has revealed that Swahili DP is headed by a functional category – XP, which interacts with other elements of DP via step-by-step movement to Spec DP. The analysis based on XP movement has made it possible to draw structural contours or maps for the order of elements in Swahili DP as this study has revealed.

STATEMENT OF ORIGINAL AUTHORSHIP

I**,** Rodrick Gregory Ndomba, hereby certify that the submitted work is my own work, was completed while registered as a candidate for the degree stated on the Title Page, and I have not obtained a degree elsewhere on the basis of the research presented in this submitted work.

Rodrick Gregory Ndomba



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This thesis drew useful data from diverse published works and personal communication. However, any inconsistencies, misconceptions, misassumptions, and errors in any of the analysis and conclusions thereby are entirely the researcher's fault.

DEDICATION

To my beloved wife Christina Raphael and children Raymon-Grey, Giovan and Delight for their love, support and encouragement.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter serves as an introductory note to the entire study which explores the structure of DPs in Swahili as determined by the movement of XP, specifically *n*P. The DP hypothesis which emerged in the 1980s along with the cartographic approaches of the 1990s are employed in this thesis to map the functional structure of the DP in Swahili. The thesis reveals that despite lacking the definite article, Swahili projects DP above *n*P, just like article languages such as English. It is also revealed that, in the absence of the definite article, the prenominal demonstrative serves as the definite article. It is further revealed that the variant order of elements in Swahili DPs stems from the possessive element which can appear in any position postnominally without affecting meaning. The thesis shows that *n*P movement is responsible for Spec head agreement on the elements of the DP and it allows D to be occupied by a functional element that serves as the definite article.

This chapter provides brief descriptions of some concepts and subjects which form the basis of the thesis. It is against the backdrop of the content presented in this chapter that the other chapters follow with each commenting on some aspect of the whole thesis with the aim of developing a unified analysis for the mapping of Swahili nouns into DP structure. The chapter is divided as follows: Section 1.1 presents brief background information. Section 1.2 presents a statement of the problem which the thesis attempts to investigate. Section 1.3 presents thesis objectives. Section 1.4 presents the structure of Swahili DP. Section 1.5 presents basic word (element) order in Swahili DP. Section 1.6 presents agreement in elements of Swahili DP. Section 1.7 presents some essentials of the cartography approach adopted for this thesis. Section 1.8 presents the organization of the thesis.

1.1 Background to the study

The recent incorporation of cartographic approaches in linguistic studies has made it possible to characterize the nature of functional categories appearing in phrases. Cinque and Rizzi (2008) write that the need for mapping functional structures was brought about by the explosion of functional heads identified and implied in syntactic analysis followed by the extension of X-bar theory to the functional elements of the clause – Complementizer Phrase (CP), Inflectional Phrase (IP), and Verb Phrase (VP). They further observe that other configurations, such as nominal expressions, were amenable to a hierarchical structure with a lexical projection embedded within a functional structure, and when it comes to the mapping of the Determiner Phrase (DP), Abney's (1987) DP hypothesis has been widely assumed in literature. They further point out that cartographic studies have been motivated by the question 'what are the right structural maps for natural language syntax?' (Cinque & Rizzi, 2008:43). According to Cinque & Rizzi (2008), the incorporation of the X-bar schema and DP hypothesis has provided a natural format for the study of nominal phrases as hierarchical sequences of the same building block with the projection of the lexical category being the lowest in rank.

The mapping, as is known today, according to Cinque and Rizzi (2008), owes much to Pollock (1989) and his seminal paper on verb movement in English and French which showed the possibility of mapping French verbs in different syntactic positions based on their different morphological forms. Pollock showed that infinitival verbs like *comprendre* 'understand' could appear in at least three different syntactic positions. In the first and second instances, he said, the infinitival verb could remain in VP, or be moved to a higher position across lower adverbs like *complètement* 'completely'. Finally, he said, the verbs, or to be precise finite verbs like *comprend,* could move to an even higher position across the negative expression. Thus, in his view, if the inflectional category of the IP could split into at least two heads X_1 and X_2, Pollock argued that the three positions could be naturally accommodated by assuming optional movement of the infinitival verb from its VP-internal position X_3 to X_1 as illustrated in (1) – (3).

1. *Ne X_1 pas X_2 complètement [X_3 comprendre] la théorie …*

   neg not completely understand the theory

2. *Ne X_1 pas [X_2 comprendre] complètement X_3 la théorie …*

3. *Il ne [X_1 comprend] pas X_2 complètement X_3 la théorie* (Cinque & Rizzi, 2008:44)

Pollock argued that if I splits into at least two heads X_1 and X_2, the above three positions can be said to stem from optional movement of the infinitival verb from its VP-internal position X_3 to X_2, and obligatory verb movement of the finite verb to X_1. According to Cinque and Rizzi (2008), the analysis in (1) – (3) provides two insights related to cartography – first, the analysis of word order properties of verbs with respect to adverbials and arguments in terms of XP head movement, and second, the idea that inflectional morphology is done in the syntax and results from movement rules governing roots and affixes. In the case of the adverb, Cinque and Rizzi (2008) reveal that the analysis provides strong evidence for Emonds (1978) and what came to be known as Emonds-Pollock phenomenon – that adverbs do not move, and that variations within a language and cross languages of verb-adverb orders are due to verb movement in the I(nflectional) space; which is an instance of head movement – a tenet of cartographic approach. Cinque and Rizzi (2008) show that the Pollock-Emonds approach combines the syntactic make-up of inflectional morphology via head movement and the study of the order of arguments and adjuncts with respect to different verbal forms; which according to them has led to a finer splitting of the inflectional space into a sequence of functional heads a task that has been replicated using DP hypothesis in recent cartographic studies.

Cartography recognizes the existence of XP headed by a functional element in clause internal structure; that is to say, for instance, within a CP, IP, or VP which may take different structural positions. Cartographers assume that the different configurations of elements within a clause stem from the movement of this structural element – XP. Cinque (2002) considers significant the growing number of studies in the functional structure, which focus on numerous languages, to the extent that a systematic

mapping of the various functional heads found in the sentence and other phrases of languages from all over the world has become appropriate. Cinque and Rizzi (2008) observe that the explosion of functional heads identified and implied in syntactic analysis since the introduction of Chomsky's (1965, 1995) Principles and Parameters framework has been the main triggering factor for the paradigm shift. In their view, the need for mapping universal hierarchies of functional projections is brought by several sources including the existence of certain systematic word order differences among languages, relative order of the functional morphemes overtly realized in the languages of the world, and preliminary inquiries on the functional hierarchies which have confirmed the working hypothesis that there may be a universal functional design for the clause and its major phrases across languages.

Studies on functional structure of the DP and IP in languages such as Spanish, Romanian, Bosnian, Catalan, Italian, and French have brought impressive findings which show different ramifications of DP mapping under cartography (Brugè, 2002; Giusti, 2002). In Bantu languages, studies related to nominal expressions have concentrated on describing nominal classification and the elements appearing with the noun versus semantic strands (Heine & Nurse, 2000; Hyman & Katamba, 1993; John, 2010; Kahigi, 2005; Kihore, Massamba, & Msanjila, 2012; Maho, 1999; Nurse & Philippson, 2003; Rugemalira, 2007). Rugemalira (2007) points out that studies which have paid attention to the syntax of the noun are rare in Bantu languages and that even when the syntactic criterion has been used to describe the nature of ordering of the dependents in a noun phrase, less effort has been made to incorporate the DP analysis. Some of the existing studies on Swahili DP include Carstens (1991) on the morphology and syntax of determiner phrase, Carstens (1993) on nominal morphology and DP structure, Carstens (2008) on structure of DPs in Bantu and Romance, Carstens (1997) on empty nouns in Bantu locatives, Carstens (2005) on Agree and EPP in Bantu. In these studies, Swahili DPs have been analyzed as articleless and there has been no incorporation of the determiner and word order in the analyses.

This study will show that DPs in Bantu languages, despite being able to project a D(eterminer) functional category above *n*P, are amenable to cartographic analysis as

complex DPs formed by internal movement of *n*P within the DPs. The *n*P movement assumes with Fukui (1986), Kitagawa (1986), Kuroda (1988), and Sportiche (1988) the predicate (VP) -internal subject hypothesis which presupposes subject movement from Spec vP to Spec TP under EPP. The same EPP hypothesis has been invoked to derive movement of *n*P to Spec DP in Swahili DP structure under the requirement that DPs just like clauses must have specifiers. The analysis of Swahili DP is supported by syntactic hierarchies on a par with Abney's (1987) DP hypothesis which illustrates the existence of D^0 above *n*P. The study is also consistent with Kayne's (1994) antisymmetry of syntax which specifies the distribution of specifiers and complements of heads; that specifiers appear to the left while complements appear to the right of heads.

The study shows that the DP in Swahili observes a linear order of elements and that this ordering is consistent with Kayne's (1994) Linear Correspondence Axiom (LCA). Of more relevance to this study is the evidence from Cinque and Rizzi (2008) that the distinct hierarchies of complex functional projections in DP may be universal in the inventory of the heads they involve, in their number, and in their relative order. Drawing from Greenberg's Implicational Universals, particularly the Universal 20, on the ordering of dependents, a number of studies have shown the possibility of taming elements in DP cross-linguistically into uniform and universal ordering patterns (Cinque, 2005). Cinque (2002:3) remarks that 'this is…the strongest position to take' as opposed to the weak point 'that allows languages to vary either in the inventory, or the number, or the order of the functional heads that they admit.' He concludes by noting that even if the weaker position should eventually turn out to be right, methodologically it would be wrong to start with it, thereby discarding the stronger position.

1.2 Statement of the Problem

Carstens (1991, 1993) posits that Swahili DPs project a null D above NumP and that the DP is formed by the raising of the base generated head noun (Num) to the empty D. An alternative view shared by Rugemalira (2007) reveals that Swahili can have

determiners appearing immediately after or before the head noun (*n*P). In this analysis, however, no attempt is made to derive structural configurations for the claimed positions of the determiners in the DP structure. However, should it be that Swahili selects D for the raising *n* (Num) (according to Carstens, 1991, 1993) and determiner (possessive or demonstrative, according to Rugemalira, 2007), an investigation is highly felt to determine what category occupies D in Swahili DP. The impasse in the determination of the determiner category in Swahili DPs is coupled with the findings which suggest that the elements of Swahili DPs have greater mobility leading to variant undetermined orders. The consequence of the observation that the dependents appear freely in relation to each other presupposes the unlikelihood of generating a unified account with regard to the ordering patterns of *n* dependents contrary to Greenberg's (1966) typology which suggests that the elements are ordered such that *n* follows the dependents – demonstrative, the numeral, and the adjective. Agreement borne from the dependents of *n* is one of the elaborate features of noun class languages like Swahili. However, cases of non-agreeing elements and non-alliteraive agreement being reported usher in the need to find out the underlying assumptions behind the rich agreement pattern found among modifiers of *n* in Swahili DP structure. These three aspects of inquiry form the core of this study which attempts to investigate the contours of the functional structure in Swahili DPs.

1.3 Research Objectives

The main objective of this thesis is to expole the structure and derivation of Swahili nouns into a DP structure, illustrating the hierarchy of the functional category and its relationship with other elements co-occurring within DP structures. This main objective is supported by three sub-objectives below:

i. To categorically map Swahili *n*P in Determiner Phrase (DP) structure.
ii. To determine the basic order of, and variations in the order of, elements (dependents) in Swahili DP.
iii. To determine the nature of the agreement pattern between *n*P and respective elements in Swahili DP structure

The three objectives above are addressed in the specialized chapters whose key concepts are presented in this introductory chapter.

1.4 The Structure of Swahili DP

The Swahili DP, like those found in the entire Bantu language area, are renowned for their morphology which combines stems and prefixes (Bresnan & Mchombo, 1995; Carstens, 1991, 1993; Contini-Morava, 1999; Doke, 1929; Heine & Nurse, 2000; Katamba, 2003; Kavari & Marten, 2009; Maho, 1999; Mchombo, 1993; Nurse & Philippson, 2003; Nurse, Philippson, & Odden, 2003; Rugemalira, 2007; Schadeberg, 2001, 2003; Welmers, 1973; Williamson & Blench, 2000). The preliminary analysis of Swahili DP begins with attempting the conceptualization of these elementary syntactic entities in the next sub-section.

1.4.1 Prefixes and Stems

Prefixes and stems need an explanation from the outset owing to the fact that all the substantival constructions are typically of the pattern: prefix + stem. Fortune (1984) shows that the substantival constructions such as the nouns, demonstratives, adjectives, enumeratives, and the pronouns are built on a constructional pattern common to the group. Nouns are substantival constructions with the same constructional pattern – prefix + stem, in common to the group of nouns as illustrated in (4) – (6).

4a. *M - toto.*	4b. *Wa-toto.*	
‘A child.’	‘Children.’	
5a. *Ki-tabu.*	5b. *Vi-tabu.*	
‘A book.’	‘Books.’	[Swahili]
6a. *Mu-nhu.*	6b. *Va-nhu.*	
‘A person.’	‘Persons.’	[Shona, Fortune (1984:29)]

In Swahili and Shona, nouns have same constructional pattern common to the group of nouns. Group of nouns like nouns for humans or animates have the same constructional pattern different from other groups of nouns like those for plants, liquids, inanimates or artifacts. Noun constructional pattern has prefixes – noun prefixes, adjoined to respective noun stems common to the group. At the basic level of analysis, the noun prefixes denote singularity and plurality. For instance, noun prefixes *m-/ki-/mu-* in Swahili and Shona above denote singularity while noun prefixes *wa-/vi-/va-* denote plurality. Each of these affixes attach to noun stems *–toto* child', *–tabu* 'book', and *–nhu* 'person'. The attachment is patterned such that only certain groups of noun stems would be attached to certain noun prefixes. Thus, noun stems for humans in (4) attach to noun prefixes *m-* (singular) and *wa-* (plural) in Swahili. Unlike the noun stems denoting humans, noun stems denoting artifacts or objects as in (5) attach to noun prefixes *ki-* (singular) and *vi-* (plural). In Shona, the constructional pattern is the same where noun stems denoting humans attach to noun prefixes *mu-* (singular) and *va-* (plural). Other substantival patterns like the adjectives maintain the same prefix and stem constructional patterns common to their group. The constructional pattern for adjectives is adjectival prefix + adjectival stem as illustrated in (7) – (8).

7a. *M-kubwa.*	7b. *Wa-kubwa.*	[Swahili]
8a. *Mu-kúrú.*	8b. *Va-kúrú.*	[Shona, (Fortune, 1984:29)]
'A big one.'	'Big ones.'	

In (7) – (8), the constructional pattern common to the group of adjectives is illustrative – adjectival prefix + adjectival stem. In adjective constructional patterns above, prefixes *m-/mu-* (singular) and *wa-/va-* (plural) attach to adjectival stems - *kubwa* and *–kuru* 'big'. It was noted earlier that in Bantu language family the prefixes like *mu-/mu-* and *wa/va-* attach stems for Human and Animate nouns (*n*Ps). These illustrations presuppose that although nouns and adjectives are both substantival constructions with prefixes and stems, they differ from each other by virtue of their constructional patterns – one having the pattern noun prefix + noun stem and the other having the pattern adjectival prefix + adjectival stem.

Although the prefixes for the nouns and adjectives are homophonous, the prefixes are treated distinctively as noun prefixes and adjective prefixes for analytical reasons. This approach to the analysis of the prefixes is important since prefixes for some substantival constructions differ from the prefix of the head noun. Instances of this view are found in demonstrative and possessive substantives where the prefixes for each are not perfect copies of the noun prefixes. The different prefixes are illustrated in (9) – (13).

9. *Wa-tu.* — Noun substantive prefix
   2 person
   'People.'

10. *Wa-tu wa-refu.* — Adjective substantive prefix
    2 person 2 tall
    'Tall people.'

11. *Wa-tu (*wa)h-awa.* — Demonstrative substantive prefix
    2 person 2 these
    'These people.'

12. *Vi-tabu (*vi-)vy-a mw-alimu.* — Non-Pronominal Possessive prefix
    7 book 7 of 1 teacher
    'Teacher's book.'

13. *Mi-ti (*mi)y-ake.* — Pronominal Possessive prefix
    4 tree 4 her/his
    'Her/his trees.'

The substantival constructions in (9) – (13) maintain the unified constructional pattern prefix + stem. The data suggest two issues related to the nature of the prefixes on the noun modifiers. First, prefixes for the demonstrative substantival construction in (11) and possessive substantival construction in (13) are not perfect copies of the prefixes of the noun head different from the prefix of the adjective substantival construction which a perfect copy – homophonous to the noun prefix. This observation suggests that although agreement in Swahili is assumed be a one-to-one phenomenon with the

modifiers of the head noun replicating noun prefixes, actual agreement facts reveal that agreement is not as perfect as assumed (details on agreement facts are provided in 1.6). Second, while prefixes of some substantival constructions like the adjective is replicated on the modifier, some prefixes appearing on other substantival constructions like the demonstrative and possessive delete vowels as illustrated in ((11) – (13).

However, for illustrative purposes the substantival constructions can be analyzed as instantiations of prefixes attaching to respective stems. Thus, we can talk about substantive constructions including noun prefixes + noun stems, adjective prefixes + adjective stems, demonstrative prefixes + demonstrative stems, and possessive prefixes + possessive stems. These examples suggest that all substantival constructions are typically of the pattern prefix and stem common to the syntactic categories they belong to despite the differences in the the form of the affixes.

In Swahili, Carstens (1991) assumes with Fortune (1984), Maho (1999), and Katamba (2003), that noun prefixes like *m-/ wa-* and *ki-/ vi-* for many classes in Bantu nouns are related to singular (one) and plural (not one) pairings, to which particular groups of stems are common. Carstens (1991:14), for example, points out that 'every noun stem in Swahili which takes class 1 prefix also takes the class 2 prefix in the plural, and so on, through Class 10.' Katamba (2003:103) quotes Welmers (1973:159) who states that 'in all branches of Niger-Congo, except Mande, the simple noun can usually be analyzed as consisting of a stem and an affix, normally a prefix'. However, the notion of prefix in the explained context becomes less straightforward when it is revealed that noun class prefixes are gender-specific spelling-outs of number features where the prefixes and noun classes are put on the same par. The lack of coherence in using the terms noun prefix and noun class is also observed when Katamba (2003) illustrates that nouns in Bantu languages are categorized into numerous 'noun classes' on the basis of the prefixes they take. This statement appears to place the prefixes and noun class prefixes on a par leading to a categorization which is vague. In order to avoid the unintended confusion, it is better to analyse the affixes as prefixes when used in isolation and as class prefixes when assigned classes following the Meinhof

tradition. According to the Meinhof tradition (Carstens, 1991, 1993) the prefixes are identified by number as part and parcel of the elaborate system of noun classification. Thus, the prefixes are assigned numbers 1, 2, 3, 4 and so on in the ascending order and in this manner they are referred to as noun classes – e.g. Class 1, Class 2, and Class 3.

The description of noun stems has also been less straightforward since different labels N, noun, stem, noun stem, and NP are used interchangeably. Carstens (1991:18-19) writes 'prefixes are specified only for number. The gender specification is supplied entirely by the noun, and these two features together make up Class.' The 'noun' referred to in this context is the stem since it is this linguistic entity which takes number prefixes. The tendency to refer to stems as nouns is also revealed in the following statement: 'the prefixes of classes 1 and 2 are found mainly on nouns referring to humans' (Carstens, 1991:20). In this context, again 'nouns' refers to stems. The noun formation rules in (14) illustrate the apparent use of N for stem.

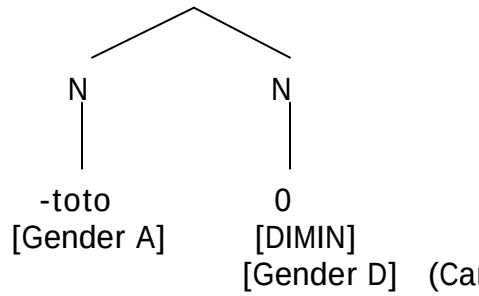
14. Group D Noun-formation rules

Singular formation N → *ki* – N

Plural formation N → *vi* – N (Carstens, 1991:19, 2008:134)

In (14), it is assumed that Group D nouns are formed by attaching prefixes *ki-* and *vi-* to N, which in essence is a stem. The reference to N in the above denotes stem, as is also assumed in the derivation of diminutive Gender in (15).

15.



(Carstens, 1993:162)

Although Carstens (1993) points out that in deriving diminutive and augmentative nouns there are null nominal affixes with the meanings [diminutive] and [augmentative] which attach to noun stems like *–toto* as illustrated in (15), the node under which *–toto* appears is labeled N and not a noun stem. Despite the different labels for a stem, this thesis assumes alongside Fortune (1984) the understanding that a stem is the part of a substantival construction to which the prefix common to the group is added. This understanding allows linguists to talk about noun stems, possessive stems, adjective stems, or demonstrative stems as distinct substantival constructions. It has also been noted that when different substantival constructions co-occur; say a noun and an adjective, their prefixes must agree – uniformity, as in (16) – (18) where nouns and adjectives co-occur.

16. *Wa-tu* *wa - kubwa.*
2 person big/adults
'Big people/adults.'
17. *Wa-jomba* *wa - refu.*
2 uncle 2 tall
'Tall uncles.'
18. *Wa-twana* *wa - pole.*
2 serf 2 polite
'Polite serfs.'

In (16) – (18), the noun stems (*-tu* 'person', *-jomba* 'uncle', and *–twana* 'serf') and the adjective stems (*-kubwa* 'big/adult', *-refu* 'tall', and *–pole* 'polite') have homophonous prefix *wa-.* The correspondence of the prefixes as observed in (16) – (18) has come to be referred to as 'agreement'. In some occasions, however, agreement is not as assumed as in (19) – (20).

19. *Wa-tu* *h-ao.*
2 person 2 those
people those
'Those persons (near/with the spoken to)' [Swahili]

20. *Va-nhu vano voga.*

'These people here on their own.' [Shona, Fortune (1984:29)]

In (19) – (20), agreement involves prefixes which are non-alliterative when compared to agreement in (16) – (18). Despite the non-agreeing prefixes, Carstens (1991, 1993) points out that Bantu noun prefixes for many noun substantive constructions are related as singular/plural pairings, to which a particular group of stems is common. This view is consistent with the Meinhof tradition (Carstens, 1991, 1993; Katamba, 2003) in which noun classes are analyzed as Singular/Plural realizations – Class 1/2, Class 3/4, Class 5/6, Class 7/8 and so on, of respective 'stems'.

The actual number of nominal prefixes across the entire Bantu language family varies from study to study. According to Katamba (2003), the difference in the number of these prefixes results from the number of reconstructed prefixes for the Proto-Bantu and number of nominal prefixes in individual languages which have been studied. In his list, there are twenty-four (24) nominal prefixes attested for the reconstructed Proto-Bantu noun class system. Maho (1999), in another instance, points out that there are twenty (20) noun prefixes reconstructed for the Proto-Bantu noun class system. Katamba (2003) explains that the lack of uniformity comes from the fact that the number of these prefixes has suffered attrition to varying degrees in the daughters of the Proto-Bantu. Maho (1999:51-53) notes that 'all or most modern Bantu languages are, in terms of number; existing noun classes, best regarded as having noun class systems that are reduced to a greater or lesser degree'. Both Maho (1999) and Katamba (2003) point out that attrition has been more severe on some languages than others with the effect that a Bantu language like Komo has remained with no noun class at all, Mbati has remained with only two, and Kakɔ has remained with only three noun prefixes.

Despite the attrition cited, Maho (1999) and Katamba (2003) note that the majority of Bantu languages are 'canonical' in that they have retained more than seven noun prefixes adding that the number could amount to twenty noun prefixes in a few languages. Based on this observation, Swahili is among the Bantu languages which

could be considered conservative for having a 'traditional noun class system' since most studies show that the language has retained more than seven noun prefixes. Swahili is estimated to have a number of nominal prefixes which range between eleven and eighteen. Contini-Morava (1999), for instance, has eleven noun classes in Swahili. Maho (1999) has twelve noun classes. Crisma, Marten, & Sybesma (2011) and Schadeberg (2001) have fifteen noun classes each while Carstens (1991, 1993) has sixteen noun classes with the class of Locatives (16, 17, 18) being represented by only one prefix. Kihore, Massamba, & Msanjila (2012) have the highest number; eighteen noun classes. Such difference is also noted in the composition of the noun class system in Swahili in different studies. The most disputed prefixes are found in Class 12/13, Class 14, Class 15 and the class of Locatives (16, 17, 18). Contini-Morava (1999) and Carstens (1991, 1993), for example, are silent about the diminutive Class 12/13. Crisma et al. (2011), Maho (1999), and Schadeberg (2001) exclude the locatives while Carstens (1991, 1993) has a single prefix for the same. In (21) Kihore et al's. (2012) inventory of Swahili noun classes is adapted to draw a list of noun prefixes + noun stems. Added to the list are sub-classes 1a and 5 *li–*.

21. The inventory of prefixes + noun stems in Swahili

N*cl*.	N/Prefix	N/stem	Gloss
1	m(u)–[1]	–tu	man/person[2]
1a	ø	baba	father
2	wa–	–tu	men/persons
3	m–	–ti	tree
4	mi–	–ti	trees
5	ji–/li–	–we	stone, eye
5a	ø	panga	matchet
6	ma–	–we	stones
7	ki–	–tu	chair
8	vi–	–tu	chairs
9	N/ø–	nyumba	house
10	N/ø–	nyumba	houses
11	(l)u_1[3]–	–bao	timber
12	ka–	–m–tu	tiny person
13	tu–	–wa–tu	tiny people
14	u–	–wizi	theft
15	ku–	–imba	singing
16	pa–	–hala	place
17	ku–	–ahala	place
18	mu–	–ahala	place

Class 1a refers to kinship terms like *baba* 'father', *mama* 'mother', *shangazi* 'aunt', *kaka* 'brother', *dada* 'sister', *shemeji* 'in-law', and *bibi* 'grandmother', words for a friend *rafiki* 'friend', leader *chifu* 'chief' which basically do not take prefixes.

[1] The Class 1prefix has variants:
i. *m-* when the noun stem begins with a consonant as in *m-tu* 'person', *m-kulima* 'farmer', *m-tumwa* 'slave', and *m-pishi* 'cook'. Acccording to Kihore et al. (2012), vowel dropping leads to *m-tu* (*mu-* → *m-/*#_C).
ii. *mu-/mw-* when the noun stem begins with a vowel as in *muuguzi* 'nurse', *mu-ungwana* 'gentlelady/man', *mu-umini* 'believer' *mwana* 'child', and *mwalimu* teacher'. According to (Kihore et al., 2012), gliding of the class prefix mu- → *mw-* occurs when a noun stem begins with a low vowel like 'a' or 'o' as in *mu-ana*>*mw-ana* and *mu-okozi* → *mw-okozi* [mu->mw-/#_LowV].

[2] Although 'person' is taken to be the literal translation for *mtu*, it is common in Swahili not to include *mwanamke* 'woman' in *mtu* 'man'. It should be noted that Swahili speakers would refer *mtu* to a 'man'. The reference to 'woman' is always accompanied by a qualifier *mtu mwanamke;* literally 'she man' which is not necessary when referring to a man.

[3] Contini-Morava (1999:4) groups together noun class 11 (prefix u_{1-}) and noun class 14 (prefix u-) in class 11. This study assumes that two classes are distinct in line with Kihore et al. (2012) whose current list of nominal class system is assumed.

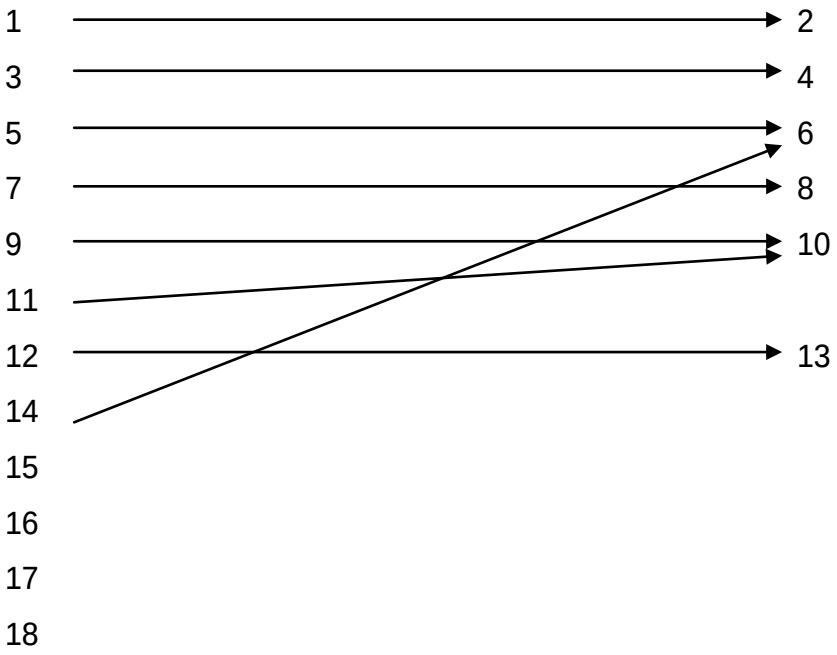
Likewise, Class 5 *li–* has been added as the variant of *ji–*. Although the Swahili list of nominal classes is similar to the Meinhof's classification system (Carstens, 1991, 1993; Katamba, 2003; Maho, 1999), inconsistencies are observed when comparing most recent Kihore, Massamba, & Msanjila's (2012) inventories with others in literature. Schadeberg (2001) and Crisma, Marten, and Sybesma (2011), for example, show that Class 12/13 and Class 14 are not found in Swahili. Carstens (1991) shows that Swahili has Class 14 but lacks Class 12/13. In addition, Carstens' (1991, 1993) inventory lacks Class 5 but has locative Class 16, Class 17, and Class 18 represented by only one form, *mahali* 'place'. However, *mahali* could be considered a variant of *mwahala* under Kihore et al.'s (2012) classification. The other common variant form of *mahali* is *mahala* as in *pahala* (Class 16). Carstens (1991) shows that in addition to *mahala* as the sole locative in Swahili noun classes, Swahili uses suffix *–ni* on stems. Crisma, Marten, and Sybesma (2011:253) assume with Carstens (1991) that locative prefixes *pa–*, *ku–*, and *mu–* are no longer used with locative nouns in Swahili and argue that the suffix *–ni* is added on stems instead. From this view, Swahili *nyumba* 'house' would translate to *nyumba–ni* 'at house' (Stem+Suffix = at home). Although, this is true with regard to the derivational role of the suffixes such as *–ni* on nouns in a language like Swahili, the same suffix does not appear in the Swahili inventory in (18), nor is it added to locative classes to derive **pahala–ni*, **kwahala–ni*, or **mwahala–ni.* The use of *pahala* in the Swahili noun class system signifies the exact location of an object, *kwahala* signifies unspecified location while *m*(w)*ahala* is mainly used for a location inside. The three locatives are consistent with the locative prefixes **pa*, **ku*, **mu* as reconstructed for the Proto-Bantu noun class system under the Meinhof noun class system. Having discussed the details of prefixes and stems in the Swahili nominal class inventory, the next subsection analyses Singular/Plural mismatches in Swahili nouns.

1.4.2 Singular-plural Disjunctivity

It is assumed in the literature (Carstens, 1991; Heine, 1982; Heine & Nurse, 2000; Katamba, 2003; Maho, 1999; Nurse et al., 2003; Schadeberg, 2003; Welmers, 1973) that every noun stem in Bantu languages like Swahili must have Class feature [Singular/Plural] represented by numbers like 1/2, 3/4, 5/6, and so on as illustrated in

(18). However, overlaps in Singular/Plural pairings are noted in some cases as Carstens (1993) notes that it is the weakness of the Meinhof noun class system that the perfect pairing is not in any way reflected. Singular/Plural pairing in Swahili noun classes is summarized in (22).

22. Singular/plural pairs in Swahili



In (22), Class 1/2, Class 3/4, Class 5/6, Class 7/8, Class 9/10, and Class 12/13 are perfect pairs following the assumed numbering in ascending order. In these pairs, odd numbers represent singular and even numbers represent plural and there is no over-lapping of the classes. Contini-Morava (1999) reveals that disjunctivity of plurals observed in Swahili noun class pairs distorts the assumed singular-plural pair patterns in Swahili. Katamba (2003) notes that skewing in the pairings and areal distribution of noun classes among Bantu languages is a common feature. According to Katamba (2003), a few overlaps like Class 11/10 and Class 14/6 represent mergers or overlaps whereby one singular noun of a pair borrows the plural counterpart from members of a different Gender (common group of nouns). Singular-plural pair overlaps are illustrated in (23) and (24).

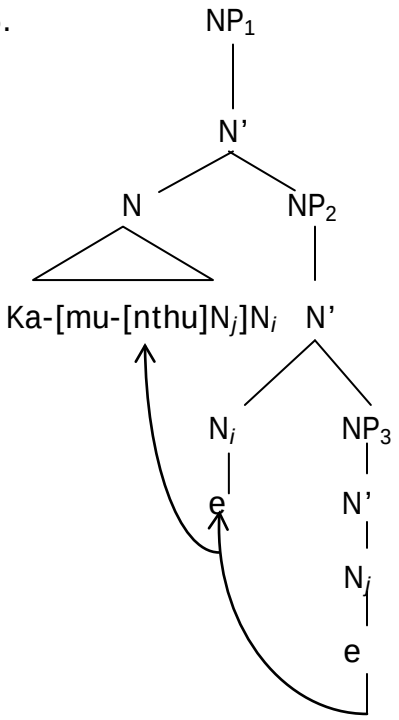
23a. *U – bao.*	23b. *Mbao.*
11 board	10 board
'Board.'	'Boards.'
24a. *U-chokozi*.	24b. *Ma-uchokozi.*
14 disturbance	6 disturbance
'Disturbance.'	'Disturbances.'

In the above, Class 11 (10a) finds the plural counterpart in Class 10 (10b) instead of Class 12 as would traditionally be assumed under the Meinhof noun classification system. Likewise, Class 14 (11a) gets the plural counterpart by crossing far back to Class 6 (10b), which, again, under the Meinhof noun class system, is far from the fact. However, Katamba (2003) points out that such mismatches as observed in Class 11/10 and Class 14/6 are less common among Bantu languages noting also that classifying nouns based on noun prefixes has not been without problems.

1.4.3 Deriving Swahili DP

Bresnan and Mchombo (1995) illustrate that when deriving class-marked nouns and verbs in Kilega and Swahili from syntactic configurations, a nominal head realized by the classifier, selects an NP or VP complement. According to Bresnan and Mchombo (1995) there are two approaches in which such DPs are formed in Bantu languages – one involving stem movement (stem to prefix position) (Carstens, 1991; Kinyalolo, 1991) and the other not involving the movement of a stem. Bresnan and Mchombo (1995) note that Kinyalolo (1991) and Carstens (1991) advocate for the movement of the nominal or verbal root to category X^0. The generic derivation is illustrated using Chewa *ka-mu-nthu* in (25).

25.



(Bresnan & Mchombo, 1995:215)

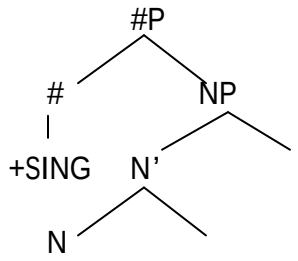
In (25), Bresnan and Mchombo (1995) show that the noun N_j (which is the stem *–nthu* as in Swahili *mtu* 'man' where *–tu* is the stem) is adjoined to the inner classifier, and then the resulting complex, N_i, is adjoined to the outer classifier. According to Bresnan and Mchombo (1995), the derivation in (24) is also shared by Sproat (1985), Myers (1987), and Bresnan and Mchombo (1989) in the analysis of Bantu nominals despite the fact that Myers (1987) considers no movement of the stem to the affix position, and that the affix and the stem are distinct syntactic elements which are realized as one phonological word. It should be noted, however, that the movement approach to deriving nouns in Bantu languages is more favoured than the no-movement approach. This fact is presented in the proceeding sub-sections.

1.4.3.1 Head Movement (N Raising)

Carstens (1993:170) states that "in a language where number is affixal, there are in principle two means by which it might attach to the noun: number-lowering, and noun rising". According to Carstens (1993), Bantu languages including Swahili observe the latter approach involving N(oun) raising in deriving DP. The analysis suggested

considers affixes heads which take stems, analyzed as 'nouns' (Ns) under NPs, as the affixes' complements. Carstens (1991:77) points out that 'nouns raise and incorporate to these syntactic affixes, triggering spell-out' as illustrated in (26).

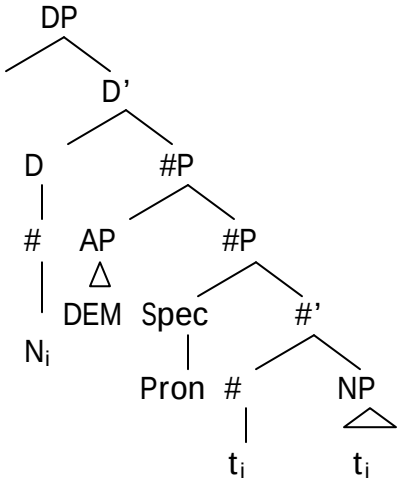
26.



(Carstens, 1991:77)

According to Carstens (1991), the class prefix Num is a number specification [±Singular/±Plural] of the noun phrase heading its own maximal projection (NumP) besides N which heads another maximal projection, NP. Carstens (1991) assumes that the [±Singular] distinction is universal, but that further divisions within these specifications such as [-singular, +dual], are entirely optional. Carstens (1991) also assumes that it is not the case that all languages have [covert] dual and trial, as their existence will only be determined on the basis of overt evidence. Furthermore, it is assumed that singular is the default category of number since it is unmarked in many languages where number is concerned. In deriving Swahili DP, Carstens (1991) adopts Ritter's (1988) (N)oun-raising phenomenon on word order facts in Hebrew Construct State genitives. In this view, Ritter (1988) assumes that the noun initial order in Hebrew Construct State genitives can be derived by movement of the head noun within the noun phrase (NP). In this movement, Ritter (1988) suggests that the landing site for the raising head noun is D; the position which is normally occupied by D(eterminer) since in Hebrew the definite article which normally occurs in the beginning of the noun phrase is absent in noun-initial Construct State construction. Carstens (1991) adopts Ritter's (1988) approach to derive Swahili DP where Num raises to D as illustrated in (27).

27.



(Carstens, 1991:137)

Carstens (1991, 1993) notes that the head noun-initial order in Swahili DP is derived by the raising of Num to D. Carstens (1993:152) observes that Swahili 'NPs' (so-called) are covert Determiner Phrases with phonologically empty heads, to which the noun raises obligatorily, through the Number projection.' According to Carstens (1991), Num movement to D is only explicable when considering other elements like the demonstrative and the genitive specifiers. The consequence of this view is to restrict the Num's possible landing site to D, otherwise the movement to any other location, say Spec DP position, would constitute a violation of the Head Movement Constraint (HMC) which according to Travis (1984) prevents head movement from 'skipping' intervening heads. HMC is formalized in (28).

28. Head Movement Constraint

An X^0 may only move to the Y^0 which properly governs it (Travis, 1984:131).

Using (28), Carstens (1991) explains that given (28) Num^0 (X^0) can freely move to D^0 (Y^0) which governs it without violating HMC. Support for N movement is illustrated in conection with the quantifier *–ote* 'all' in Swahili. (Carstens, 1991) analyzes *–ote* as adjective base generated as the head of an Adjective Phrase, in adjoined position – N^{max}. Under this analysis of *–ote* as an adjective, the Head Movement Constraint problem does not arise contrary to when *–ote* is analyzed as a Quantifier Phrase which selects an NP as its complement. Raising of the noun in this situation would violate the Head Movement Constraint in (28); also illustrated in (29).

29. [D N [#P… [QP [Q –*ote* [NP… t_N…]]]]] (Carstens, 1991:102)

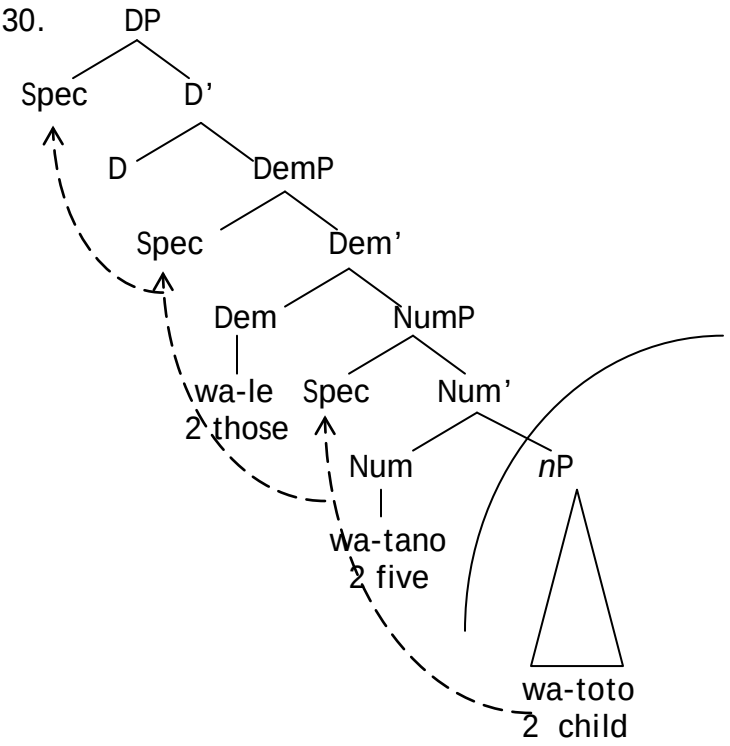
X

In (29), -*ote* is analyzed as the head of QP. Hence, the raising of –*ote* to another head position would constitue a violation of HMC. The analysis of the adjective appearing in adjoined positions permeates the analysis of other DP elements as illustrated in double adjunction of Dem and Pron in (27). While the view on N movement to D solves the problem of HMC, it might need a revision to accommodate Rugemalira's (2006) and de Velde's (2005) statements that demonstratives in Swahili serve as definite articles. Under the assumption that the prenominal demonstrative functions as the definite article which occupies D (Alexiadou, 2005; Diessel, 1999; Giusti, 1995; Progovac, 1998), the need for an alternative analysis and derivation becomes imperative. One way to solve this problem is to suggest that Swahili DP is formed by XP movement as discussed in the next sub-section.

1.4.3.2 XP Movement (*n*P raising)

The analysis of Swahili DP adopted in this thesis departs from X movement by proposing the derivation involving XP movement. It is assumed that Swahili DP replicates the underlying XP final order as found in English *those five children.* In the phrase *those five children,* XP – *children,* appears in the final position following all other elements of DP structure. This order maps well with Swahili *watoto wale watano;* i.e. 'those five children' except for the surface structure in which XP appears in the initial position. It is assumed that the appearance of XP in the initial position comes from movement from the final position. This process is illustrated in (30).

30.



In (30), the DP illustrating *watoto wale watano* is similar to English *those five children.* Both Swahili and English phrases have the same underlying structure relations. The *n*P *watoto* 'children', in Swahili and English is base generated in a lower position than all other elements in the DP structure. Despite the underlying structure relations, the surface structure reveals that *n*P in Swahili raises to Spec DP (note dashed lines) through Spec NumP and Spec DemP. The rising to Spec DP is only possible assuming that D is null, otherwise *n*P lands on Spec DemP when a prenominal demonstrative occupies D.

This analysis shows that Swahili nouns can be mapped under DP analysis and that D does not necessarily have to remain null. The analysis also shows that elements in DP are ordered postnominally in relation to *n*P in the surface structure. The analysis further shows that the surface order of Swahili DP is the opposite of some languages like English and that this order is achieved via XP movement. Since the structure of Swahili DP has much to do with order of the elements, it is the interest of this introductory chapter also to briefly describe the nature of word order of the elements in Swahili DP in the next section.

1.5 The Order of Dependents in the Swahili DP

Greenberg's (1966) typology on *some universals of grammar with particular reference to the order of meaningful elements* is probably the most important milestone in the investigation of language universals since it sought to establish typology as an indispensable tool in search for linguistic regularities. Andersen (1983) points out that the typology is significant since it proposed not only absolute but also implicational or relational universals. The former was characterized with statistical statements like 'all languages have a given feature x' and the latter having statements like 'if a language has x, then it will have y'. Relevant to this thesis is the Universal 20 on the order of elements in a nominal phrase which is formulated in (31).

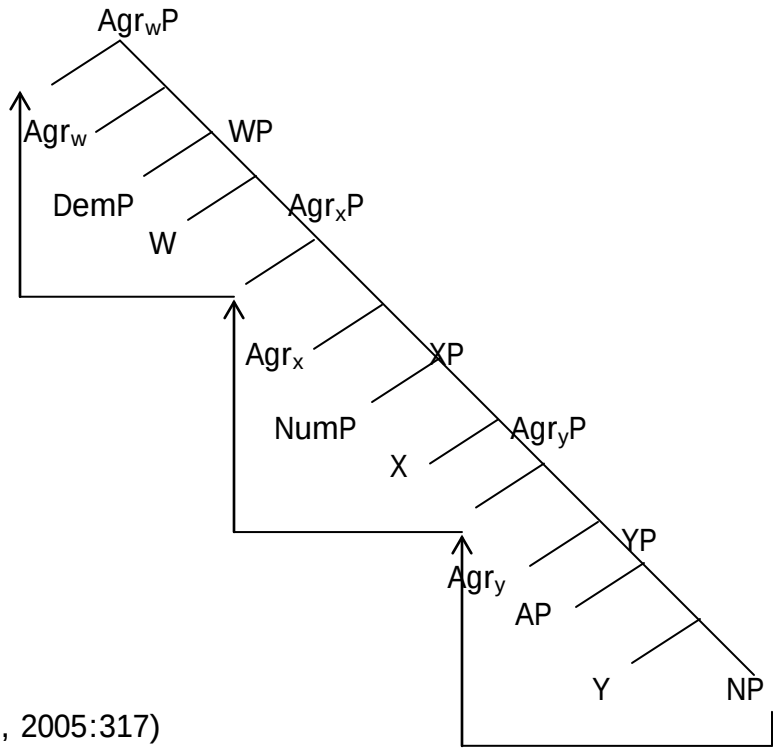
31. Universal 20.

> When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite' (Greenberg, 1966:87).

Cinque (2005:317) illustrated that 'all orders are derived by moving (or not moving) the NP around the modifiers, base-generated prenominally in the fixed order Dem Num A'. It is observed that if nothing in the order demonstrative, number, adjective, and noun moves, the unique order found prenominally (Dem Num A N order) surfaces. And for the two postnominal orders, according to Cinque (2005), they arise via two ways in which the NP raises.

First, the NP can raise alone, from specifier to specifier (Spec to Spec) of Agr(eement) projections found above each of the functional projections hosting adjectives, numerals, and demonstratives, to give the order N Dem Num A (the order opposite to the canonical order [Dem Num A N]). This order is illustrated in (32).

32.

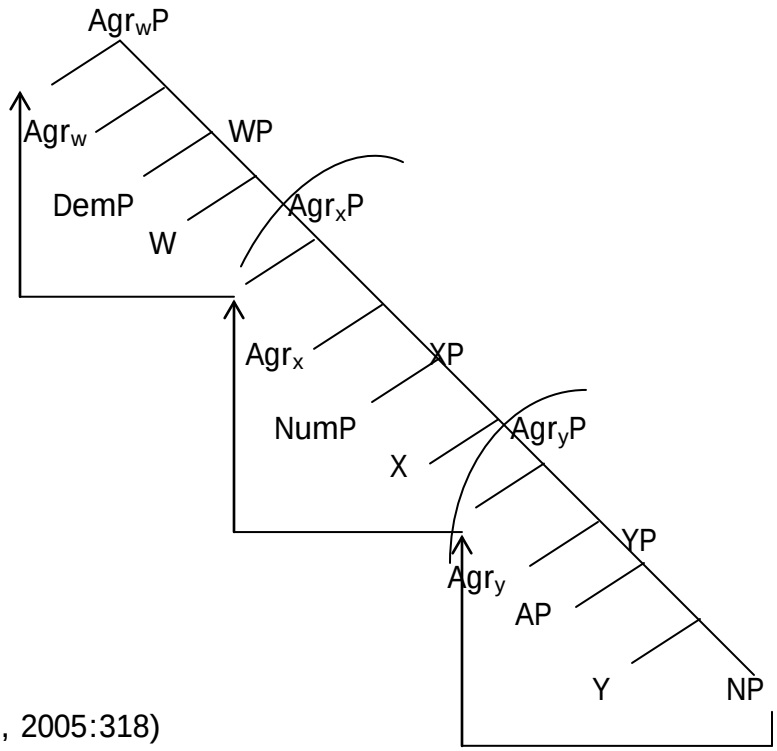


(Cinque, 2005:317)

The illustration above shows that the NP can cyclically raises alone leading the order which is the 'exact' opposite of the unmarked order [Dem Num A N]. In this process, the NP raises cyclically Spec-to-Spec without reversing the order of modifiers which results in to [N_i Dem Num A t_i].

Second, the NP can raises successively moving to each such Spec and pied-piping the category that dominates it in a 'roll up' fashion that reverses the order of the modifiers. This derivation results into the order which has come to be called 'mirror image' – [N_i A Num Dem t_i]. The derivation of the mirror image order is provided in (33).

33.



(Cinque, 2005:318)

In (33), the resulting order after the successive Spec to spec raising of the NP while pied piping the categories that dominates it is the mirror image. In this second order the NP does not raise alone as in (32) but drags the other elements along in a 'roll up' fashion as explained. The consequence of this movement is the observed reverse order of the modifiers [N_i A Num Dem t_i]. Based on the typological sources available in the literature on the order of Noun, demonstrative, numeral, and adjective that were able to be found, Cinque (2005) came up with three main findings according to Nchare (2008:143). First, the syntactic structure in which DemP, NumP, and AP are generated is a universally fixed order to the left of the head noun. Second, only 14 orders out of the possible 24 orders were derivable in UG. Third, unattested orders were derived via remnant movement – moving a constituent from which the head noun had been already extracted; which is not allowed in UG, according to Cinque.

Cinque (2005) points out that the first part of the Universal 20 describing the canonical order of demonstrative, numeral, adjective and the noun had remained virtually unchallenged and that the second part which describes the postnominal orders has proven both too restrictive and too permissive. He notes that some studies

have uncovered the existence of postnominal orders that are excluded by Greenberg's formulation leading to a suggestion to abandon the second part. Cinque (2005) quotes Hawkins (1983) who revised Greenberg's formulation in order to accommodate the excluded postnominal orders in Greenberg's formulation. The revised formulation reads.

> When any or all of the modifiers (demonstrative, numeral, and descriptive adjective) precede the noun, they (i.e., those that do precede) are always found in that order. For those that follow, no predictions are made, though the most frequent order is the mirror image of the order for preceding modifiers. In no case does the adjective precede the head when the demonstrative or numeral follow.' (Hawkins, 1983:119-120)

Having studied Greenberg (1966) Universal 20 typology, Cinque's (2005) derivation of the 24 possible orders, and Abels and Neeleman's (2006) derivation of Universal 20 without LCA, Nchare (2008) pointed out that all the word order derivations were not consistent with Shupamem – a Grassfield Bantu language spoken in Cameroon. It is also noted that even Hawkins' (1983) revised formulation of Greenberg's Universal 20 is not in any way consistent with Shupamem data. According to Nchare (2008) Shupamem displays four extra word order options predicted to be typologically impossible. The findings show that Shupamem offers 18 grammatical options out of the conceivable 24 possibilities when one combines the head noun with the demonstrative, the numeral, and the adjective. Based on these facts, Nchare (2008) concludes that the previous assumptions made in linguistic typology about DP internal word order were inadequate. However, Greenberg's formulation remains one of the most useful tools for investigating the language universals, including the order of elements under the study as shall be explained.

Carstens (1991) and Rugemalira (2007) point out that the demonstrative can appear either prenominally or postnominally without changing the interpretive index in Swahili DP (note that Rugemalira (2007) uses NP instead of DP). de Velde (2005) in the comparative study of the order of noun and demonstrative in Bantu languages shows that these languages can be grouped into languages in which the demonstrative

follows the head noun giving rise to the order [NDem], languages in which the demonstrative precedes the head noun giving rise to the order [DemN], and languages in which the demonstrative is free to appear either prenominally or postnominally. According to de Velde (2005), Swahili is one of the Bantu languages in which the demonstrative can appear on both sides of the head noun.

Ström (2015:129) in the study of the word order in Swahili adnominal constructions with locative demonstratives points out that published works including Sacleux (1909), Ashton (1944), Loogman (1965), and Rugemalira (2007) show that the order [NDem] is the regular order but speakers are free to move the demonstrative to the prenominal position without apparent change in meaning. Carstens (1991, 1993) points out that the postnominal demonstrative precedes all other dependents of *n*P in DP structure. In this study, however, no mention of particular word order involving other elements is mentioned. Without providing any specific order of the elements de Velde (2005) assumes that the postnominal demonstrative is the demonstrative 'proper' on a par with Ström's (2015) statement that the postnominal demonstrative is more regular when compared to the prenominal demonstrative. Ström (2015) assumes that emphasis is the only difference in meaning when the demonstrative appears prenominally. Loogman (1965:68 in Ström, 2015) explains that change of demonstrative position to prenominal position is motivated by emphasis adding that euphony appears to be the sole reason for that change of position. de Velde (2005), in contrast points out in some Bantu languages demonstratives whether appearing postnominally or prenominally are emphatic the only difference is that in some languages the demonstrative acts as a determiner.

It has been explained that the demonstrative can appear either prenominally or postnominally in Swahili DP. Rugemalira (2007) assumes with Carstens (1991) that the postnominal demonstrative precedes all other elements of the phrase. Different from Carstens (1991) who assumes that Swahili DP has no overt determiners, Rugemalira (2007) assumes that the demonstrative serves as the overt determiner. These facts are illustrated in (34).

01	0	1	2					3
Pred.	Noun	Det.	Modifier					Postmod.
			a	b	c	d	e	
Dem.		Poss.	Num.	Ord. Ass	Qua.	Adj.	Rel. Clause	Inter.
Distr.		Dem.						

Pred. = Pre-determiner, Det. = Determiner, Dem. = Demonstrative, Poss. = Possessive Pronoun, Num. = Numeral, Ord. = Ordinal, Ass. = Associative, Qua. = Quantifier, Adj. = Adjective, Rel. = Relative, Inter. = Interrogative, Distr. = Distributive, Mod. = Modifier (Rugemalira, 2007:147)

In (34), the supposed Swahili order of elements in a 'noun phrase' is the demonstrative appearing after and before the noun. Other modifiers appear postnominally with the possessive and the demonstrative competing for slot 1 in an undetermined order. Despite the fact that the order of elements is not in any way predictable from data presented, Rugemalira (2007:143) observes that 'still it is possible to draw an important conclusion, viz. that with the exception of the demonstrative, possessive, and relative clause, all other elements in the noun phrase are considerably mobile.' In addition, it is explained that the possessive is relatively free to appear in any position, with the exception of the relative clause which is strictly final. Furthermore, Rugemalira (2007) points out that the variation in the order of the modifier elements (a) – (e) above is unavailable in any other position. Based on these facts and those cited before on the position of demonstratives, the only order that can be established in relation to Greenberg's (1966) typology is the opposite [NDem]. The possessive is probably ruled out of the canonical order because if its mobility.

It can be observed, however, that the findings by Carstens (1991, 1993), de Velde (2005), Rugemalira (2007), and Ström (2015) provide insightful information that lead to unfolding the order of the elements in Swahili DP. First, it can be established that Swahili DP is *n*-initial and this order is achieved via *n*P movement (details in Chapter 2). Second, the numeral follows the demonstrative which precedes other elements

(details in Chapter 4). Sacleux (1909:130 quoted in Ström 2015:139) points out that in Bantu languages 'it is not common for the demonstrative to precede the noun' which means that the numeral must follow the demonstrative postnominally. Commenting on the prenominal order of the demonstrative, Ström (2015) and Heine and Kuteva (2002) indicate that this order is part of the changing process toward the grammaticalization of the demonstrative. Drawing from Carstens (1991) and Rugemalira's (2007) data, it is obvious that the adjective appears to the left of base generated head noun. Carstens (1991:109) identifies this position as the specifier of N^{Max} located to the left of base generated NP. It should be noted that the dependents of the head noun are analyzed as specifiers under Carstens (1991, 1993) which explains the fact that the demonstrative and the adjective are all specifiers. This thesis has assumed a contrary view which regards the elements as the arguments of the head noun headed by their own functional categories (details in the specialized chapters).

Thus, the thesis proposes that the order of elements in Swahili DP is [n_i Dem Num A t_i]. As noted earlier the *n*-initial order stems from *n*P (XP) raising to Spec DP. This order is the exact opposite of Greenberg's (1966) implicational universal 20 [Dem Num A N]. It was noted earlier that the opposite order is achieved when *n* moves successively spec to spec via Spec Agrs. of A, Num, and Dem without pied piping to result into the order [*n* Dem Num A]. This order in Swahili DP becomes complex with the possessive appearing freely in any position postnominally. The details of this brief summary of the order of dependents in Swahili DP unfold in the specialized chapters of the thesis. The next section presents the nature of agreement among the elements of Swahili DP. The order of elements discussed above underpins agreement in Swahili DP. It is assumed that agreement in Swahili is subject to *n*P movement as detailed in the next section.

1.6 Agreement in Swahili DP

Agreement is one of the conspicuous characteristics of syntactic relations holding among the elements in clauses and phrases in Bantu languages. Yanco (1984) points out that the characteristic Bantu system of agreement has two manifestations. First,

the verb agrees with respective subject nouns. Second, the modifier agrees with its head noun (*n*P). In (31) – (32), the two parallel agreement patterns, are illustrated in Lingala drawn from Bokamba (1977) in Yanco (1984:141). According to Yanco (1984), these examples represent the general principle of agreement as it operates in Bantu languages.

35. *E-lɔkɔ e-nɛnɛ e-kwey-aki awa.*
thing big(ness) fall past here
'A large object fell down here.'

36. *Bi-lɔkɔ bi-nɛnɛ bi-kwey-aki awa.*
things big(ness) fall past here
'Large objects fell down here.' (Yanco, 1984:141)

Yanco (1984) points out that in (35) – (36), agreement is achieved via what is termed agreement prefixes on verbs and subjects or modifiers and head nouns. When it comes to the verbs, it can be observed that the verbs *e-kwey-aki* in (35) and *bi-kwey-aki* in (36) agree with their respective subjects. The agreement between the verbs and their subjects is accomplished via the prefixes *e-* and *bi-* which are found in the stem of the subject noun – *-lɔkɔ.* It can as well be observed that these agreement prefixes code number – singular/plural, features of the subjects. Thus, *e-* in (35) codes 'singularity' and *bi-* in (36) codes 'plurality'. The markers on verbs are also analyzed as Subject Markers (SM). Besides the verb-subject agreement, the data also show another aspect of agreement involving modifiers and head nouns. It can be observed that the modifier *-nɛnɛ* 'big(ness)' bears agreement prefixes which are inherited from respective head nouns. In modifier-head noun agreement, modifiers just like the verbs are coded with prefixes *e-* and *bi-* corresponding to the prefixes of the respective head nouns. Similar to the verbs, the prefixes on the head nouns mark number – singular (meaning one) and plural (meaning not one).

Studies on agreement in Swahili have evolved more on agreement involving verb and its argument structure – subject and object nouns (NPs/*n*Ps) in the attempt to show

agreement relationship between the verb and the nouns. More specifcically, some studies have focused on the agreement of the verb and the conjoined NPs in subject and/ or object positions (Ashton, 1944; Katamba, 2003; Maho, 1999; Marten, 2000, 2005, 2011, Schadeberg, 1992, 2001; Yanco, 1984). Common to the studies are the findings that the agreement facts in Swahili are related to word order and that agreement is subject to three factors – morphology, syntax, and information structure. Marten (2000) shows that Swahili has several strategies to resolve verbal agreement with conjoined noun phrases; drawing from Muhammed Said Abdulla's (1976) novel *Mwana wa Yungi hulewa,* Marten (2000) argues that the choice of different strategies is not only based on dialect or speaker variation, but rather can be related to information structure and the dynamics of interpretation. Schadeberg (2001) shows that agreement facts between conjoined nouns and verbs is more complex than perceived using morphology and syntactic approaches showing that agreement facts can be explained using morphosyntactic approach. It is not the intention of this section to provide the details of agreement of the verbs and subjects/objects since this thesis is not concerned with the analysis of agreement between verbs and its argument structure.

Rather, this section addresses agreement of the second type involving the modifiers (dependents) and respective head nouns (*n*Ps) widely covered in literature on Swahili and Bantu languages at large (Carstens, 1991, 1993, 2008, Contini-Morava, 1996, 1999; Déchaine, Girard, Mudzingwa, & Wiltschko, 2014; Fortune, 1984; Katamba, 2003; Maho, 1999; Nurse et al., 2003; Rugemalira, 2007). Katamba (2003) points out that each dependent which co-occurs with *n*P in a noun phrase bears a special marker identifying it with the class prefix of that respective *n*P. This marker under normal circumstances must agree with the class and gender of the *n*P to which it is related. Swahili examples in (37) – (38) are illustrative.

37. *M – toto m – dogo a - mefika.*
cl.1 child cl.1 little cl.1 arrived
'The little child arrived.'
38. *Ki – kapu ki – dogo ki – mefika.*

cl.7 basket cl.7 little cl.7 arrived

'The little basket arrived.' (Katamba, 2003:111)

According to Katamba (2003), the words – adjective and verb, in (37) – (38) take appropriate matching markers which belong to respective *n*Ps in class and gender. In (37), the adjective *-dogo* 'little' and the verb *-mefika* 'arrived' take corresponding Class 1 markers *m-* and *a-* of the head *n*P *m-toto* 'child'. Similarly, in (38) the adjective *-dogo* 'little' and the verb *–mefika* 'arrived' each takes the appropriate noun class prefix *ki-* which corresponds to a Class 7 prefix on the *n*P *ki-kapu* 'basket'. Baker (2008) illustrates that in Swahili verbs can show agreement in person, number and gender while adjectives show agreement in number and gender but not person. The difference in *tu-me-fika* 'we have arrived'*, m(u)-me-fika* 'you have arrived'*,* and *wa-me-fika* 'they have arrived' comes from the agreement forms.

The examples in (37) – (38) present two different patterns of agreement, according to Katamba (2003). First, the alliterative agreement (concord) in which the agreement markers on the elements of DP are perfect copies of the class prefix of the *n*P as illustrated in the Class 7 agreement pattern – *ki – ki – ki* in (38). Second, the non-alliterative agreement in which the agreement markers on the elements of DP are not perfect copies of the class prefix of the *n*P as illustrated in the Class 1 agreement pattern – *m-m-a* in (36). The alliterative and non-alliterative agreement patterns are also found in Southern Bantu languages like Shona. Examples are illustrated in (39) – (40).

39. *Mù-kómáná$_1$ mù-rèfú ù-yù à-nò-fámbá*
C1-boy C1.tall DEM-C1 C1.SM-HAB-walk
'This tall boy walks.'

40. *Chì-kómáná$_1$ chì-rèfú ì-chì chì-nò-fámbá*
C7-boy C7-tall DEM-C7 C7.SM-HAB-walk
'This strong sturdy tall boy walks'
[Shona, Déchaine, Girard, Mudzingwa, & Wiltschko (2014:41)]

The Shona data in (39) – (40) is similar to Swahili data in (37) – (38) since they are both illustrations of the two patterns of agreement – alliterative and non-alliterative. Based on the class prefix of *n*P, (40) is an instance of an alliterative agreement pattern where the agreement marker *chì* recurs with the stems of the modifiers and on the verbs. Unlike (40), (39) is an instance of a non-alliterative agreement pattern with the agreement marker *mù-* recurring on the adjective and on the demonstrative only. In Swahili as well as in Shona, agreement plays a crucial role of maintaining functional relations among the elements of DP structure. The agreement markers help to identify the class of *n*P in cases where the head *n*P lacks the class prefix. The class and gender of kinship terms in Swahili DPs can be identified using agreement markers on the dependents as illustrated in (41) – (42).

41. *Babu* *m-pole.*
1 grandfather 1 polite
'Polite grandfather.'

42. *Binamu* *m-janja*.
1 cousin 1 clever
'Clever cousin.'

In cases like (41) – (42), *n*Ps *babu* 'grandfather' and *binamu* 'cousin' take no overt class prefixes. The *n*Ps fall under the category of Class 1a nouns which normally do not take overt class prefixes. However, their underlying agreement forms are found in the other elements like the adjectives. In the above, the agreement *m-* on the adjectives reflects the underlying class membership of the *n*Ps *babu* 'grandfather' and *binamu* 'cousin' respectively. In some other cases, agreement is found on the *n*P but not on the other elements as illustrated in *tajiri* 'wealth/merchant' in (43).

43. *M-tu* *ø-tajiri.*
CL1 man CL9 wealth/merchant
'A rich man, merchant.' (Baker, 2008:18)

In (43) the *n*P is marked for Class 1 having the class prefix *m-* which is common for all nouns in this group. Conversely, the modifier *tajiri* does not bear or suggest its noun class belonging. Baker (2008) calls *tajiri* 'wealth/merchant' a non-agreeing modifier because it lacks the regular agreement marker for Class 1 nouns. However, it is assumed that such non-agreeing modifiers like *–tajiri* maintain underlying agreement features of the head *n*P which are not observable under certain conditions. Carstens (1991) and Kihore et al. (2012) highlight the fact that most of the non-agreeing modifiers are loan words. Despite the fact that they bear zero agreement, they are analyzed as having the same underlying agreement forms. Carstens (1991:2-3) states that, in Swahili, 'each class is associated with particular nominal prefix, and with a distinctive pattern of agreement borne by modifiers and arguments of the noun, and on auxiliaries and predicates in relevant syntactic relations to it'.

According to Barlow and Ferguson (1988), agreement is a situation in which the presence of one element in a sentence (the agreeing element) is dependent on the co-presence of another element (the controller). Miyagawa (2010) calls this situation asymmetric because one element is deemed the source of the information for the other. In addition to the agreement among sentence elements like subjects and verbs, DPs exhibit agreement between head nouns and respective dependents such as demonstratives, adjectives, and numerals. In illustrating agreement structural relation in Swahili DP, Carstens (1991) notes that DP agreement spreads hierarchically from the head noun (Num) to other elements in a top-down fashion. Carstens (1991) explains that agreement among the elements of the head noun spreads via two distinctive structural relations, government and Spec head relations, and that Spec head agreement is not found in Swahili. The claim that the Spec head agreement relation is not possible in Swahili is expected given the analysis which assumes that Swahili DP is formed by X movement, specifically *n* (Num) raising to D. This view suggests that the dependents of *n* (Num) are specifiers in which case agreement relations would not involve Spec head relation. Under Chomsky's (2000, 2001a, 2001b) framework, there is no privileged relationship between heads and specifiers. Since under Carstens' approach *n* dependents are analyzed as specifiers, government remains the viable means through which agreement relations involving heads and specifiers can be

explained. This step in the analysis of agreement in Swahili DP is the only choice considering the claim that in Swahili DP Spec head agreement is not possible. A series of interrelated linguistic concepts are introduced in order to support the view that agreement in Swahili DPs is enforced through government – these include government, c-command, exclusion, minimality and Government Transparency Corollary (GTC) defined in (44) – (48).

44. Government

α governs *β* iff α m-commands *β* and there is no γ, γ a barrier for *β*, such that γ excludes α (Chomsky, 1986:8)

45. C-command

α c-commands *β* iff α does not dominate *β* and every γ that dominates α dominates *β* (Chomsky, 1986:8)

46. Exclusion

α excludes *β* if no segment of α dominates *β* (Chomsky, 1986:9).

47. Minimality

γ is a barrier for *β* if γ is a projection of δ, a zero-level category distinct from *β* (Carstens, 1991:122).

48. The Government Transparency Corollary (GTC)

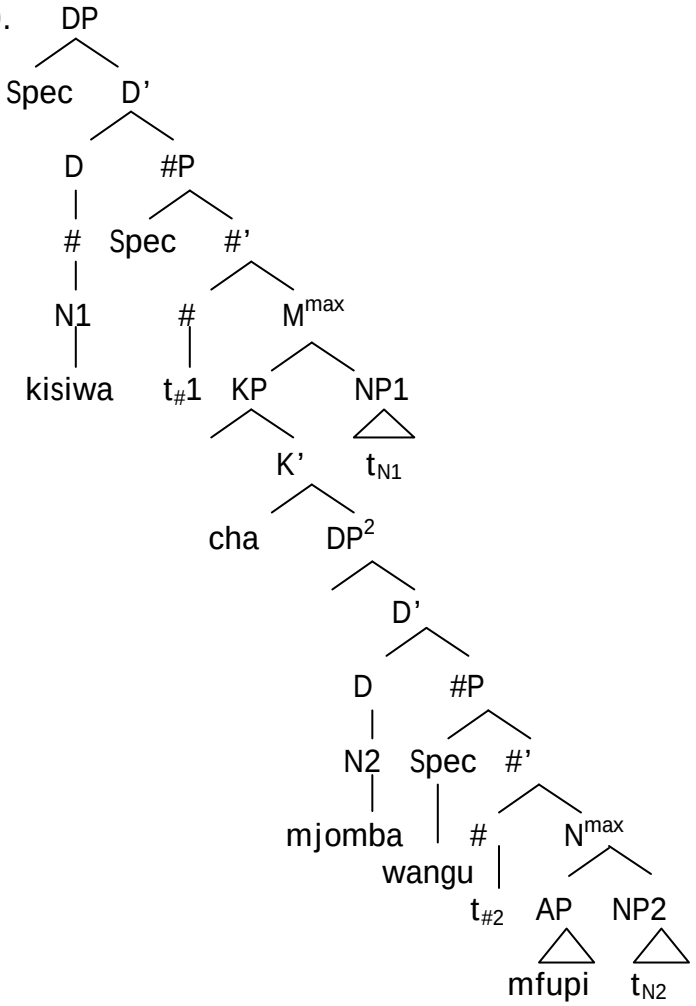
A lexical category which has an item incorporated into it governs everything which the incorporated element governed in its original structural position (Baker, 1988:64).

Carstens (1991) demonstrates that in Swahili the head noun (Num) governs the agreement features of the possessive preposition in (49).

49. *Ki-siwa* *ch-a* *m-jomba* *w-angu* *m-fupi/ *ch-angu* **ki-fupi.*
7 island 7 of 1 uncle 1 my 1 short/ *7 my *7 short
'My short uncle's island.'

In (49), the possessive preposition *ch–a* (also called *–a* phrase or associative *-a*) inherits agreement features from the head noun *ki-siwa* 'island' via the agreement marker *ch-*. The agreement is such that the possessive preposition agrees with the possessum *ki-siwa* in class 7 and Gender D. The agreement borne the possessive preposition is assumed to be assigned by the head noun – the possessum, under government as in (50).

50.



(Carstens, 1991:124)

In (50), Carstens (1991) illustrates that the *–a* phrase is the head of a Case Phrase (KP) and that [D[*[N *kisiwa*]]] governs KP using Government Transparency Corollary (GTC). The trace at t_{N1} is an indication of the government relations following the raising of N1 to D. [D [* [N *kisiwa*]]] also governs *–a* as the head of KP, since there is no projection which acts as a barrier for its head; the assumption which is supported by Minimality. According to Carstens (1991), Government is responsible for the transmission of ϕ feature [Class 7, Gender D, singular] from D down to *–a* heading KP. Since KP includes DP *mjomba wangu mfupi* 'my short uncle' and excludes the head noun *kisiwa* 'island' and members of its chain – $t_{\#1}$ and t_{N1}, KP is a barrier for D^0 under Minimality. From this analysis it is expected that all elements in DP2 would agree with N2 as per the illustration. Stated thus, Carstens (1991) assumes that the agreement feature spreads from D via government, and that a Spec-head agreement relation is not found in Swahili. These facts are explicated when supposing that N occupies D and that the other elements are analyzed as specifiers as observed in (50). The consequence of this approach is to conclude that Spec head agreement is not possible in the DP structure of Swahili and that the only possible relation of agreement is that of head Specifier.

While it is logical that binding relations explain structural relations between governors and governees and that government transparency collorary provides a plausible account of feature incorporation via movement, agreement relations need to be revised in order to derive agreement via the usual Spec head relations. According to Chomsky (2000, 2001a, 2001b) heads have nothing to do with agreement on the specifiers (head Spec relation cannot exist) and that agreement among structural elements can be established via specifer-head (Spec-head) relations invoked by Extended Principle Projection (EPP). The structural derivation in (50) presupposes that agreement between the head noun (Num) and the dependents is achieved through some arbitrary semantic means and not grammatical relations holding among the elements in the DP structure. In order to approach the subject of agreement and determine how elements are assigned agreement markers, Contini-Morava (1996) adopts three assumptions from Lehmann (1988).

First, agreement is assumed to be redundant in the sense that a covariance of two or more elements contributes no independent semantic content to the message being communicated, but it is merely a mechanical copying of features of the controller into the controllee or the target – according to Corbett (1991). Second, it is assumed that agreement is unidirectional in that the grammatical properties of one element in the sentence – the target of (the controllee) - are determined by those of some other element (the controller) - and not vice versa. In other words, this means that agreement is asymmetric, and that one of the elements participating in the covariance relation provides agreement information while the other receives it. Third, it is assumed that both the elements taking part in the agreement relations must be present in the sentence – the controller must co-occur in a sentence with the controllee. Lehmann (1988) (in Contini-Morava (1996:252) adopts the traditional approach to agreement and formalizes agreement using the set of conditions stated below.

51. Agreement conditions

Constituent *B* agrees with constituent *A* (in category *C*) if and only if the following three conditions hold true:

a. There is a syntactic or anaphoric relation between *A* and *B*.

b. A belongs to a subcategory *c* of a grammatical category *C*, and *A*'s belonging to *c* is independent of the presence or nature of *B*.

c. *c* is expressed on *B* and forms a constituent with it. (Lehmann, 1988:55)

These conditions explain in part what is known about agreement, especially feature spreading or copying, assuming that agreement markers are copies motivated by communicative needs – a semantic approach. Using this point of view, Contini-Morava (1996) argues that agreement markers in Swahili, like those belonging to the animate class and Deictic Markers (DM), are determined by independent semantic contexts (speech context or narrative context) and not formal properties of the referent (grammatical rules of agreement). This view is illustrated in (52) – (54).

52. *M-toto yule a – li - anguka.*

N1 child DM1-PS 'that' DM1-Tpast -VS 'fall'

'That child fell.'

53. *Ki-ti ki-le ki – li -anguka.*

N7 chair DM7-PS 'that' DM7-Tpast-VS 'fall'

'That chair fell.'

54. *Ki-faru yu-le a – li - anguka.*

N7 rhinoceros DM1-PS 'that' DM1-Tpast-VS 'fall'

'That rhinoceros fell.' (Contini-Morava, 1996:257)

It is observed above that Deictic Markers in Class 1 and Class 7 follow classes of the head nouns in (52) and (53) except in (54). In (54), according to Contini-Morava (1996), the mismatch of the deictic pattern is observed when the deictic pattern for an animate noun in Class 7 is identical to that of the Class 1 in (52). It is argued that (54) should be viewed as a counter example of agreement rules stated in terms of the syntactic notion of class, and that proper positing of the observed agreement should be premised on semantic grounds. Although the semantic approach can account for what happens in (54), there is no way the semantic approach can illustrate how agreement markers come to have the forms they have – be it overt forms (as in (52) – (53)) or underlying forms (as in (54)) - and how they come to appear in the positions in which they are. This is the subject which is pursued in the following discussion.

The analysis is based on the traditional generative approach to agreement by arguing that agreement is determined by syntactic operations, specifically the movement of XP under EPP (Extended Projection Principle) assumed for DP structure in this thesis (details in Chapter 2). This traditional understanding is combined with the agreement conditions proposed by Lehmann (1988) to show that agreement is not just a matter of feature copying or spreading in a top-down fashion. Finally, it is illustrated that agreement bearig modifiers observe the underlying agreement features inherited from the XP. To begin with, it is assumed with Miyagawa (2005), Chomsky (2000, 2005), Pesetsky and Torrego (2001) and Kuroda (1988) that agreement is adentified with movement under EPP. Miyagawa (2010) points out that evidence for this observation can be found by studying agreement asymmetry in which the agreement on the verb

differs depending on whether the subject occurs pronominally or postverbally. Illustrations from Northern Italian dialects of Trentino and Fiorentino show that verbs do not agree with post-verbal subjects. He draws from Brandi & Cordin (1989) showing in constructions with post-verbal subjecs verbs have the unmarked neutral form – third person masculine singular, as illustratd in (55) – (56).

55. *Gli è venuto delle ragazze.* [Fiorentino, Miyagawa (2010:3)]

56. *E' vegnú qualche putela.* [Trentino, Miyagawa (2010:3)]
Is come some girls
'Some girls have come.'

In (55) – (56), verbs take no agreement in number when subjects appear post-verbally. In such cases in which the subjects follow the verbs, full agreement in number in verbs is disallowed as illustrated in (57) – (58).

57. **Le son venute delle ragazze.* [Fiorentino, Miyagawa (2010:3)]

58. **L'è vegnuda qualche putela.* [Trentino, Miyagawa (2010:3)]
They are come some girls
'Some girls are coming.'

The above examples show that full agreement in verbs appearing with post-verbal subjects leads to ungrammaticality. In these two Northern Italian dialects, however, full agreement must occur if the post-verbal subjects move to the pre-verbal position – presumably Spec TP, illustrated in (59) – (60).

59 *La Maria la parla.* [Fiorentino, Miyagawa (2010:3)]

60. *La Maria la parla.* [Trentino, Miyagawa (2010:3)]
The Maria she speaks
'Maria speaks.'

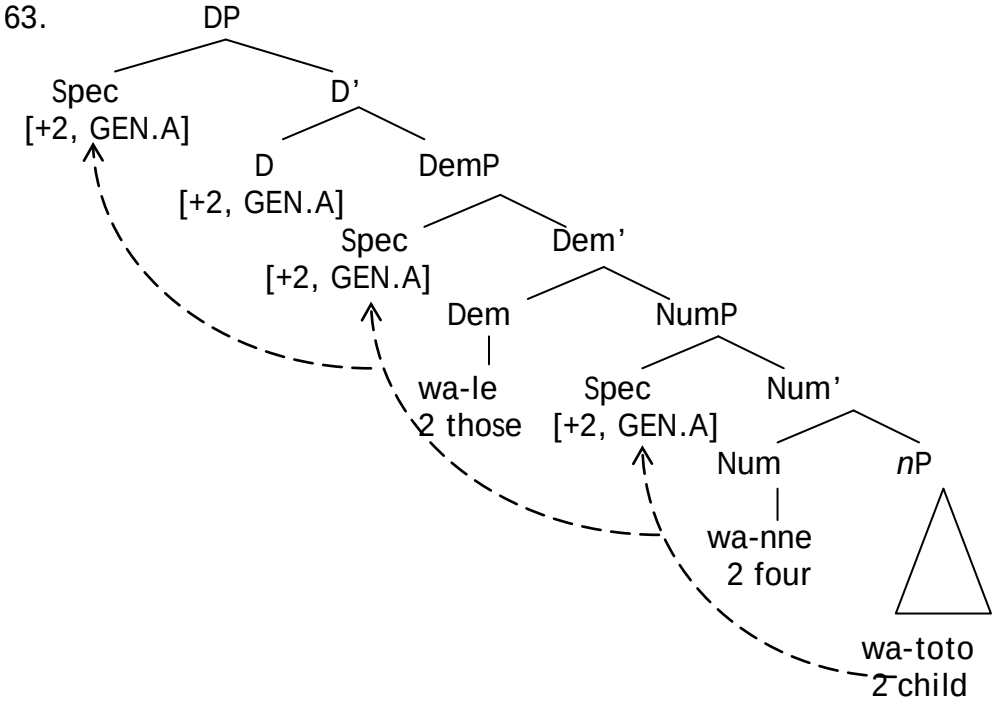
The pattern of grammaticality found in these Northern Italian dialects shows that the occurrence of agreement (Subject-verb agreement) correlates with movement of post-verbal subjects. If agreement occurs, the subject must move to Spec TP, but if there is no movement, agreement does not occur. In its basic form, it is assumed that agreement targets information in one position – the information contained in a nominal such as the subject – and reproducing it in another position, commonly as some form of an inflectional element on a verb or some such 'head'. Although Swahili has the option for having agreement in situations of post-verbal subjects as in (60), it can still be assumed that it is the movement to Spec TP that triggers agreement.

61. *A-li-tamka Maria.*
SM 1 Past. speak 1 Mary
'Maria spoke.'

In (61), the Subject agreement Marker (SM) on the verb *–li-tamka* 'spoke' is *a-* 'she/he'. The agreement is assumed to have resulted from the raising of the predicate-interal subject *Maria* 'Mary'. It has been argued that the raising of the predicate-internal subject like Maria in (61) is motivated by the Extended Projection Principle (EPP) which requires clauses to have specifiers. Since EPP came to be a condition for phrases and clauses, the same can be argued for DP-internal structure suggesting that agreement in *n*P elements in DP has to do with XP movement to Spec DP in parallel lines with verbal movement of XP to Spec TP. It is assumed that agreement on DP elements stems from features of *n*P which are in D which must be checked when *n*P is in specifier position of DP. This process is accomplished by *n*P cyclic movement to Spec DP. The raising of *n*P to Spec DP ensures that the relevant class and Gender features are checked against every functional head of the dependents in each stop in a Spec head relation leading to agreement. The approach adopted is illustrated in (62) – (63).

62. *Wa-toto* *wa-le* *wa-nne.*
2/HUM child 2/HUM those 2/HUM four
'Those four children.'

63.



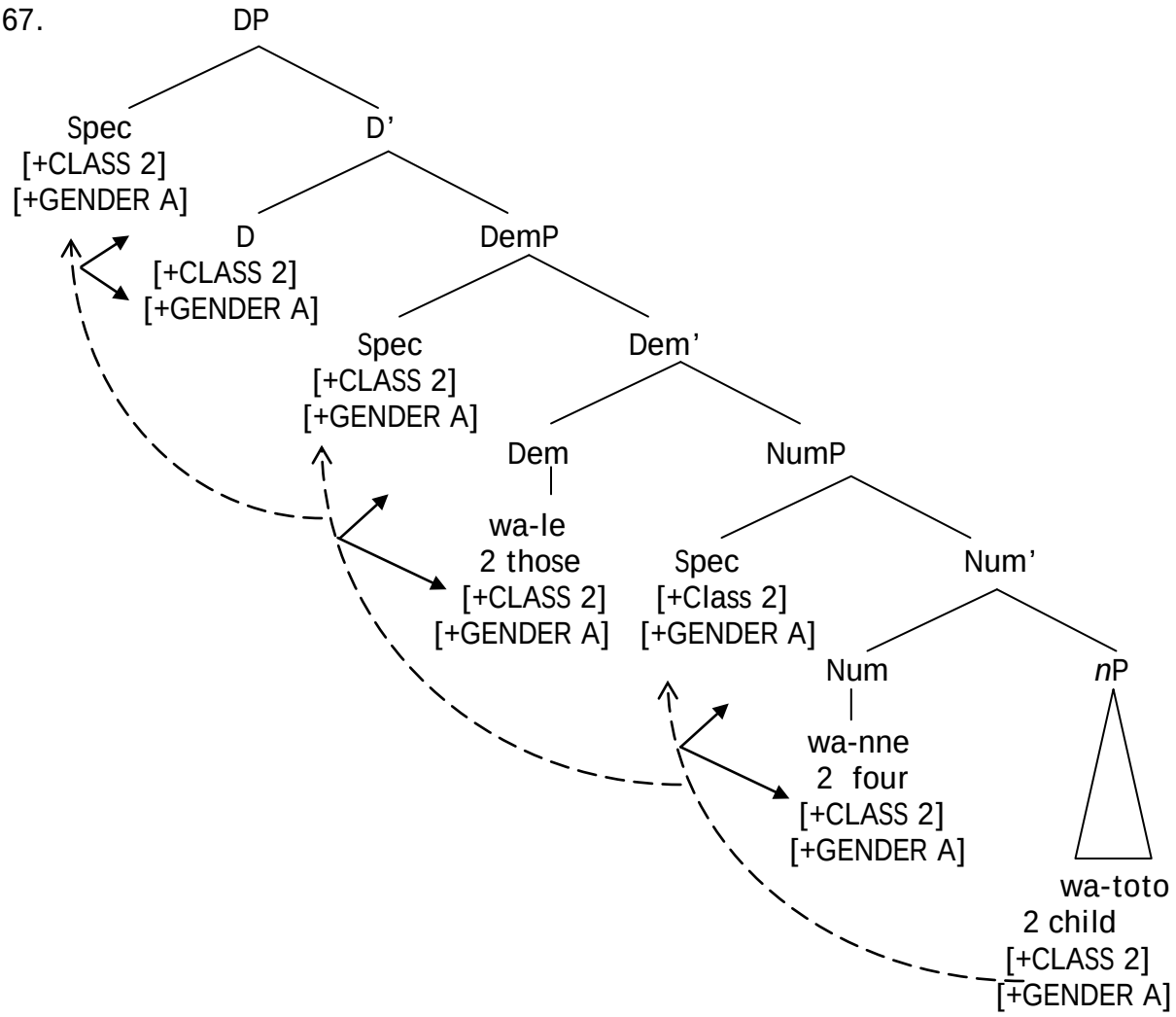
(63) shows that the *n*P *wa-toto* 'children' belongs to Class 2, Gen(der) A (Human). The *n*P is base generated as would be *children* in the English *those four children*. It is assumed that the DP has abstract Class 2 and Gender features of *n*P in D which must be checked. The *n*P checks the class and Gender features against heads – Num, Dem, and D; via Spec head relation. The only way the features can be checked is via its cyclical raising to Spec DP. The *n*P features are checked successively step-by-step as it stops at every stage – Spec NumP checking against Num, Spec DemP against Dem, and finally Spec DP against D. At each stop, *n*P leaves the underlying abstract class and gender features which are realized as markers on the modifiers across the DP structure. This explains how the Deictic Markers in (54) have agreement markers of the underlying Class 1 for animates/humans despite the surface realization of Class 7. Commenting on the supremacy of animate gender in Swahili, (Katamba, 2003:113) notes that 'animacy considerations are paramount and hence an animate noun takes gender 1/2 agreement regardless of the class membership of the noun itself but with

non-animates the gender of the noun determines its agreement'. The following examples are illustrative.

64. *Ki-boko* *m-kubwa.*
cl. 7-hippo cl. 1-large
'Large hippo.'
65. *Ki-durango* *m-bingwa.*
cl. 7-dwarf cl. 1-clever
'Clever dwarf.'
66. *Ki-tabu* *ki-kubwa.*
cl. 7-book cl. 7-large
'Large book.' (Katamba, 2003:113)

The above shows that regardless of the class membership of the noun dependents of animate nouns would bear the underlying agreement as in (64) – (66) where Class 7 animate nouns *ki-boko* 'hippo' and *ki-durango* 'dwarf' bear Class 1 agreement. On the contrary, gender of inanimate nouns themselves determines agreement as in (65) where Class 7 noun brings about Class 7 agreement in the adjective. It has been assumed assumed so far that agreement is by movement of *n*P via feature checking the process which is accomplished in Spec head relations. The process of feature checking is explained briefly showing how feature checking mechanism aids the understanding of agreement patterns observed in Swahili. Carnie (2007) demonstrates that the checking of features occurs in a local domain called local configuration defined in terms of the features involved. In this view, *n*P checks features at every step of its raising ensuring Spec head relation and agreement are maintained locally. Based on these facts, Spec head configuration for (63) is illustrated in (67).

67.



In (67), *n*P raises to Spec DP via Num and Dem in the way explained earlier. The raising *n*P is responsible for agreement [+CLASS, +GENDER] through Spec head relation (indicated by arrows). Spec head relation ensures in turn that the Specifier and respective head agree; the relation termed Spec head Agreement which is formalized as a condition in (68)

68. Spec-head Agreement

A head (X) and its specifier (Spec-XP) must agree in relevant features (Ouhalla, 1999:124).

Based on these facts, it can be generalized that the absence of overt agreement on elements of *n*P in DP structure would presuppose that agreement features are

underlying, in which case they can be checked at LF after spell-out. This explains what is observed in (38) – (39) where *n*Ps do not have class prefixes and in (40) where the *n*P modifier is non-agreeing. As noted in this section, agreement is reciprocal in that it provides significant class and Gender information on both *n*P and respective modifiers. This fact is observed in cases, for instance, where agreement is recoverable from overt agreement either on *n*P or its modifier. The next section will briefly discuss the cartographic studies relevant to this thesis.

1.7 The Cartographic Approach and DP structure

This thesis has used the contemporary approach to analyzing functional structure in language called 'linguistic cartography'. Cartographic studies attempt to draw fine structural maps – as detailed as possible - of the functional or grammatical structure of clauses and respective major phrases. The cartographic approach assumes that all languages share the same functional categories and the same principles of phrase and clause composition, although they may differ in the movement they permit and in the projections they overtly realize according to Guglielmo Cinque and Rizzi (2008), and Guglielmo Cinque (2002, 2006).

According to Cinque and Rizzi (2008), the cartographic approach is not isolated but an approach related to general guidelines rooted in the minimalism program which introduce principled typology of UG principles, principles determining the mapping of a hierarchical structure – Kayne's (1994) Linear Correspondence Axiom (LCA) on c-command involving the position of heads, specifiers and complements, and principles ensuring the expressibility of properties required by human conceptual-intentional systems. Cinque and Rizzi (2008) also reveal that functional projections may be assumed universal in the type of heads (X^0) and specifiers (XPs) that they involve, in their number, and in their relative order even when languages differ in the type of Movements that they permit or in the extent to which they overtly realize each head and specifier. Thus, they observe that if some languages attest to having a particular functional head (and projection); then that head (and projection) must be present in every other language, whether the language offers overt evidence for it or not. In this

thesis, the same view is assumed by considering Swahili DPs candidates for similar analysis despite the fact that in some cases they offer no overt evidence for having the definite article (details in Chapter 2).

Cinque and Rizzi (2008) point out that the radical developments in cartography stemmed from the extension of X-bar theory to the functional elements of the clause – CP-IP-VP, and the observation that other syntactic configurations like nominal expressions are equally amenable to X-bar analysis. Cartography is rooted in the assumption that both phrases and clauses are complex hierarchical sequences of the X-bar schema which takes a lexical category as the lowest building block and having above it a series of building blocks headed by a functional element. Thus, the initial projections were such that C(omplementizer) headed CP , I(nflectional) headed IP, and V(erb) headed VP (Pollock, 1989; Rizzi, 1997). This postulation led to similar postulations in phrasal structures in nominal domains – these include Det(erminer) headed DP (Abney, 1987), Dem(onstrative) headed DemP (Shlonsky, 2004), Num(ber)P headed NumP (Ritter, 1988), and – *n* headed *n*P (Kihm, 2005; Marantz, 1997).

In view of XP movement, Brugè (2002) adopts Giusti's (1993) analysis of the demonstrative in Romanian, assuming that the demonstrative is a maximal projection which occupies the specifier position of a functional projection that belongs to the extended nominal projection. In terms of its appearance, they show that the demonstrative can appear postnominally or prenominally in the extended nominal projection. The appearance of the demonstrative in Romanian is illustrated in (69) – (71).

69. *Băiatul acesta* (*frumos*).
Boy-the this (nice)

70. *Acest* (*frumos*) *băiat* (*frumos*).
This (nice) boy (nice)

71. *Frumos (*acesta*) *băiat.*
Nice-the (*this) boy

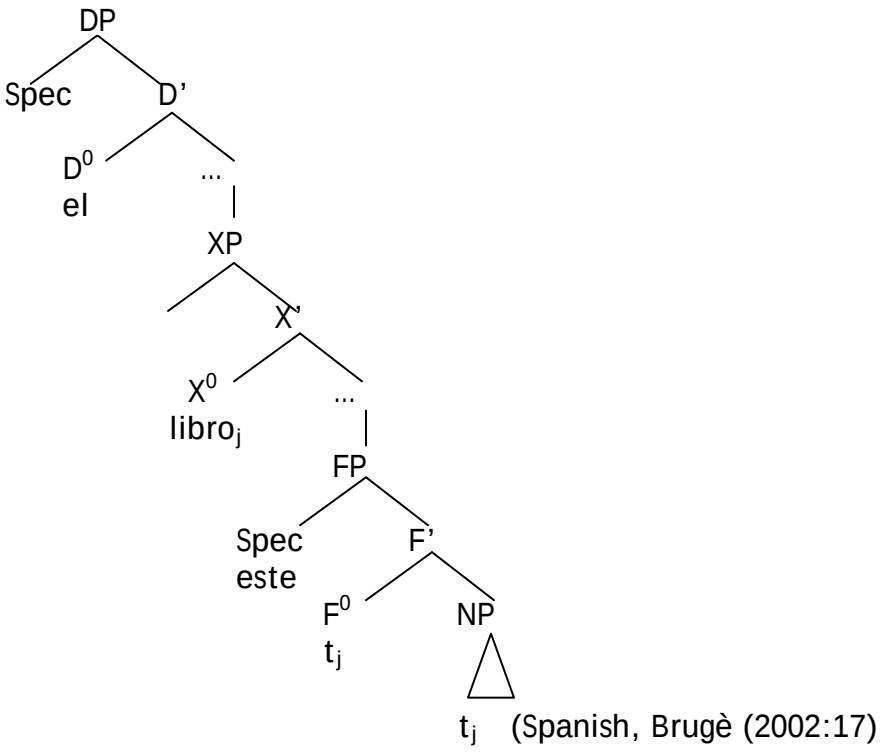
'This nice boy.' (Brugè, 2002:16)

The appearance of the demonstrative in Spanish is illustrated in (72) – (75).

72. El libro este/ese/aquel.
    the book this/that/that
    'this/that book.'
73. Los libros estos/esos/aquellos.
    the books these/those/those
    'these/those books.'
74. Este/ese/aquel libro.
    'This/that/that book.'
75. Estos/esos/aquellos libros.
    'these/those/those books.' (Brugè, 2002:15)

In (69) – (75), the demonstrative appears in two distinct positions – after the head noun and before the head noun (*băiat(ul), libto*). According to Brugè (2002) the two different surface word orders – prenominal and postnominal appearances of the head noun, are not unique but highly related to each other. Drawing from Giusti (1993), Brugè (2002) points out that the demonstrative in Spanish is base generated in low Spec FP position in the extended nominal projection and can be realized in this position (postnominal) (67 – 69) or in the high Spec DP position (prenominal) (72 – 75). The derivation involving the postnominal demonstrative in low Spec FP position is illustrated using *el libro este* 'this book' in (76).

76.



(Spanish, Brugè (2002:17)

In (76), the demonstrative appears in base generated position; Spec FP. According to Brugè (2002), the postnominal appearance of the demonstrative results from the movement of the head noun *libro* 'book' to the initial position. This view, according to Brugè (2002), follows Cinque's (1994) approach which suggests that only the head noun (N^0) moves to higher functional heads (X^0), while modifiers stay in their base positions unless they need to check some feature in a higher specifier – the approach which is on a par with Kayne's (1994) antisymmetric approach on c-command that places a rigid Specifier>Head>Complement order across languages. In this order, a head appearing in the structure to the left of its specifier must have raised to a head position; asymmetrically c-commanding its trace and the specifier as illustrated in (76).

Of relevance to phrasal (XP) movement is the appearance of the demonstrative in Spec DP position as assumed in examples (69) – (75). According to Brugè (2002), in these examples the demonstrative appears in Spec DP and that the appearance of the demonstrative in this highest specifier position in Spec DP stems from its movement from low specifier (FP) position to the maximal Spec DP position. At the same time, the head noun raises to X^0 (illustrated in (76)) as previously assumed. The consequence of the movement is the order Dem>Noun - *este libro* 'this book'. Brugè

(2002) notes that the raising of the functional category is in accordance with Cinque's (1994) position that modifiers rise to higher positions in order to check some feature in a higher specifier. According to Brugè (2002), the demonstrative appearing in postnominal or prenominal position provides a referential and deictic interpretation. In this view, the movement of the demonstrative to Spec DP is motivated by feature checking in the sense that the demonstrative which is specified for [+Def(inite Article)] and [+Deictic] features has to raise to [Spec DP] in order to check the definite article feature which is in D^0 by Spec-head relation. Thus in the postnominal position, the demonstrative base generated in Spec FP appears in Spec DP after Spell-out, while the prenominal position the demonstrative occupies is said to be derived 'due to the long movement of the demonstrative itself from Spec FP to Spec DP before Spell-out' (Brugè, 2002:30). The movement to Spec DP explains why the co-occurrence of the prenominal demonstrative and the article is disallowed as illustrated in the following examples.

77. **Este el libro.*
This the book
78.** Libro este.*
Book this
79. **Un libro este.*
A book this (Brugè, 2002:18)

In (77), the appearance of the sequence Demonstrative>Article leads to ungrammaticality since the the article in D would block the raising of the Demonstrative to Spec DP as illustrated in (76). It can also be revealed that the presence of the article in D is obligatory when the demonstrative follows the noun (ungrammaticality of (78)) and that the form of the articles when the demonstrative follows is definite (ungrammaticality of (79)). Giusti (2002) goes further, raising the issue of second position of the demonstrative in Romanian and Spanish not covered in Brugè (2002) – data illustrated in (80) – (81).

80. *El (ultimo) cuado redondo este (*el) suyo* (Spanish).

81. *Tabloul acesta rotund al său* (Romanian).

'This round painting of his.' (Giusti, 2002:71)

According to Giusti (2002), the order of elements in (77) is Art (…)> N> descriptive AP> Dem> possessive AP while in Romanian in (81) is N+Art> Dem> descriptive AP> possessive AP. In both languages, Giusti (2002) observes that the postnominal descriptive adjective is higher than the postnominal possessive adjective. However, Giusti (2002) notes two differences. First, the head noun in Spanish is in an intermediate position (it is preceded by the definite article and can be so by a prenominal adjective), while the head noun in Romanian is the first element in the noun phrase. Second, the demonstrative in Spanish is lower than all specifiers except the possessive adjective, while in Romanian, it is the highest specifier, being the second element after the head noun inflected for the definite article. Due to the adopted framework, the descriptive adjectives check their ϕ-features by Spec head agreement with the local functional head. They have no need to move. It is assumed that the position of the descriptive adjective is basic in the two languages. Assuming the Spanish order (78) to be basic, Giusti (2002) assumes that the appearance of demonstrative past the descriptive adjective in Romanian comes from its raising. Alternatively, Giusti (2002) points out that the demonstrative can move to an intermediate position before moving to Spec FP^{max} as in (82).

82. [FP_{max} ~~dem~~. [N+*art* [FP4 *dem.* [~~N~~ [FP3 ~~*d*~~*esc.AP* [~~N~~ [FP2 ~~dem~~. [~~N~~ [FP1 *poss.AP* [~~N~~]]]]]]]]]]

83. *Acest băiat frumos al său.*

84. ***Băiatul frumos acesta al său.*

85. *Băiatul acesta frumos al său.*

86. ***Acest băiat* (*frumos al său).* (Giusti, 2002:72)

In (82), Giusti (2002) shows that the head noun moves cyclically, first across the possessive AP, then across the descriptive AP. At this stage, the demonstrative must

move to Spec FP4, as shown by the grammaticality of (83)) and the ungrammaticality of (84). At this point, the merging procedure can stop. In (83) the demonstrative is in Spec FP^{max}, the noun phrase complies with the assumption that the interpretation of a noun phrase at LF is done in its highest Specifier position, and no article is merged in this structure. However, an enclitic article can be merged to create a further projection, as in full structure in (85). Merging of the article triggers further N-movement and the creation of a new Specifier position, which must remain available for further movement of the demonstrative at LF. Example (86) is excluded by the assumption that the merging of the article is a last resort procedure. If Dem is in Spec FP^{max}, the head F^{max} needs to not be overt and thus cannot. With this brief explanation it suffices to argue that there is an intricate interplay of the elements of functional phrases within DP in Spanish as is in Romanian. It also shows that different structural or syntactic configurations in Spanish and Romanian DPs involving movement of XP led by a functional element provides the different realizations of the structural output at PF. It has been noted in the previous sub-section that the forces of Move and Attract operates within DP to give nominal expressions complex structures. Some of these assumptions on the movement of phrasal categories and the distribution of demonstratives will also be shared when analyzing Swahili DPs. For instance, the XP movement involving *n*P in Swahili is similar to the demonstrative in Spanish and Romanian where the demonstrative is realized in the highest position in DP structure following movement from a lower specifier position. Although there are different categories involved in the movement to specifier position in Swahili, Romanian, and Spanish, the procedure is alike, and the XP is involved in both cases as is exemplified in specialized chapters throughout the thesis.

1.8 Thesis Organization

This thesis is organized into chapters as follows. Chapter 2 presents descriptions on class, determiner, and demonstrative, exploring issues related to the analysis and derivation of the DP in Swahili. Included in the discussion is what has been termed secondary derivation of *n*Ps with the aim of providing a unified analysis showing that Swahili *n*Ps are not deviant from *n*Ps in many other Bantu languages as assumed. The

chapter also introduces the determiner in the derivation of the Swahili DP, showing that the prenominal demonstrative serves as the definite article. Chapter 3 presents the structure of the possessive construction in Swahili DPs. The chapter reveals that Swahili possessives can best be considered as Analytical Genitives which falls under two types – the pronominal (involving possessive pronouns) and non-pronominal (involving the possessive preposition/*-a* phrase), which are analyzed distinctively in the Swahili DP structure. The chapter classifies the possessive DPs into simple and embedded possessive structures analyzing each in separate sections. The structure and derivations of the possessive DPs is undertaken in relation to the demonstratives. Chapter 4 presents what has been termed the Num(eral) category which in essence combines both numeral and non-numeral elements in DP structure. The analysis and derivation of the DP involving the numeral category is undertaken alongside the demonstratives and the possessives. Chapter 5 presents Swahili DPs involving the adjective and proceeds to map the adjective in relation to the demonstrative, possessive, and the adjective. The most significant finding is that Swahili DPs are derived by the movement of *n*P to Spec DP. The order of *n*P dependents (elements) Demonstrative, Numeral, and Adjective follows *n*P and that this order is the opposite of Greenberg's (1966) typology on the order of elements in a DP. Eventually, the chapter shows that the variant orders of Swahili DPs are attributable to the freedom of the possessive to appear in certain positions postnominally. Chapter 6 is a conclusion. It presents a synthesis of the preceding chapters highlighting crucial findings. It wraps the findings of the thesis showing how the findings progressed from Chapter 1 to Chapter 5. All descriptions of Swahili DPs are accompanied by structural derivations.

CHAPTER TWO

CLASSES, DETERMINER, AND DEMONSTRATIVES

2.0 Introduction

This chapter analyzes class and gender in Swahili DPs, showing that noun prefixes and stems are embedded in the intricate system of noun classification organized as classes and genders. The chapter reveals that, in the noun classification system, noun prefixes are categorized in terms of number feature – singular (one) and plural (not one), called classes. The chapter shows that noun classes are organized according to Gender system whereby two noun class pair are said to form one Gender – common to the group of *n*Ps such as human, animate plants, or artifacts. The chapter shows two strands for analyzing Gender – one which assumes that semantic features such as human, animate, plants, or artifact resides on noun stems and that noun class affixes (prefixes) are added as number morphology only and; the other which assumes that the two Gender features and number features resides on noun class prefixes. This latter approach presupposes that noun stems are not categorized for any lexical information and that noun class prefixes acts as nominalizers. In deriving Swahili DP, the chapter shows that XP movement is responsible for the structural configurations of Swahili DP. The chapter presents evidence for adopting XP movement as a unified approach which can be used to analyze the structure of DPs in other Bantu languages.

The chapter shows that class information can be used as the source of secondary classification to derive DPs with augmentative and diminutive readings. These readings are different from the readings conveyed by the regular noun class prefixes referring to the traditional Meinhof noun classification system. The chapter suggests a unified approach in which augmentative and diminutive *n*Ps across the many Bantu languages, including Swahili, can be derived higher than ther non-augmentative and non-diminutive *n*Ps which suggests that at no point in the derivation process would the diminutive class prefix raise to a higher level. This approach has the advantage of avoiding misinterpretation in case of homophonous diminutive/augmentative class prefixes. The chapter argues that Swahili DPs have the option of projecting overt

determiners using the prenominal demonstrative in D configuration, and in the absence of this element the *n*P raises to Spec DP.

The chapter is organized into sections as follows; section 1 presents class and gender, section 2 attempts to map and derive Swahili *n*Ps into a DP structure, section 3 presents evidence for supporting XP movement within Swahili DPs, section 4 presents derived classes of nouns – augmentatives and diminutives, and suggests a unified approach toward their mapping in a DP structure. Section 5 discusses the determiner and the role of demonstratives as definite articles in Swahili DPs, and section 6 presents the demonstrative-locative sequences in Swahili DPs. Finally, section 7 presents the chapter summary.

2.1 Class and Gender

It was explained in Chapter 1 that Swahili nouns comprise of noun prefixes and noun stems; borrowing from Carstens (1991). It was also explained that the term 'stem' was assumed alongside N(noun), NP, or simply noun. The prefixes were separated from noun classes under the assumption that the noun classes are assigned in the assumed Meinhof noun classification system where they are numbered in ascending order, while the stems were conceived as being part of *n*Ps to which prefixes are added. In this section, a discussion of related terms – Class and Gender, is attempted. As is the case with the analysis of prefixes and stems, the descriptions of classes and gender have not been pursued with relative ease.

Schadeberg (2001:9) states that 'many grammars and textbooks of Swahili avoid taking a clear stand on the issue of 'class versus 'gender'' adding that 'while most authors use the term '(noun) class' to the exclusion of the term gender, they see no problem in having the same term referring to either the class proper or to the gender in different contexts.' The inseparability of gender from class in Bantu languages is also observed in statements such as 'noun class system is gender-based, noun class prefixes being the spell-out of singular and plural for each gender' (Carstens, 1991:26). The description of noun classes and gender has been a subject of contention

among linguists, specifically in the area of Bantu linguistics. Despite the observable inconsistencies in using the terms class and gender, linguists still find it hard to explicitly separate class from gender, in the same way as it has been difficult to separate noun classes from noun prefixes; the task that was accomplished in Chapter 1. The inability to coherently distinguish class versus gender could stem from the widespread analysis of sex-based typology or theory of gender in various languages. In these typologies number and gender are conflated and expressed semantically in terms of male, feminine, and neuter. According to Fehri (2015) in standard Arabic, for instance, natural sex gender is crucially productive as in (1) – (3).

1a. *Kalb.*
dog – Masculine
'(He) - dog.'

2b. *Kalb - at.*
dog - Feminine
'She - dog.'

2a. *Qird.*
monkey – Masculine
'(He)-monkey.'

2b. *Qišš-at.*
monkey – Feminine
'She - monkey.'

3a. *Himaar.*
donkey – Maculine
'He-donkey.'

3b. *Himaar-at.*
donkey – Feminine
'She-donkey.' (Fehri, 2015:2)

In the above, (a) sets are differentiated from (b) sets based on the inflection suffix *–at* which marks the feminine gender. In addition, Fehri (2015) points out that the feminine is expressed as an inherent lexical gender in (b) sets as opposed to (a) sets. Conversely, Swahili DPs lack a sex-based gender of the Arabic type. Instead of using gender morphemes like suffixes found in Arabic, Swahili uses separate words which mean female and male genders when assigning DPs gender values as illustrated in (4) – (6).

4a. *Mbwa.*
9 dog
'Dog.'

4b. *Mbwa jike/dume.*
9/10 dog female/male
'Female/male dog(s).'

5a. *Njiwa.*

5b. *Njiwa jike/dume.*

9 dove

'Dove.'

9/10 dove female/male

'Female/male dove(s).'

6a. *Mpapai.*

3 pawpaw tree

'Pawpaw tree.'

6b. *Mpapai/mipapai jike/dume.*

3/4 pawpaw tree female/male

'Male pawpaw tree(s).'

In (4) – (6), different from standard Arabic examples which uses *-at* gender suffix for FEMININE, Swahili uses separate words *jike* 'female' and *dume* 'male', when gender distinction is to be assigned. Different from other modifiers, the two modifiers bear no agreement from respective *n*Ps. It is common in Swahili to refer to any plant that does not produce crops as *dume* 'male', hence *mpapai* 'pawpaw tree' would be the generic term, but *mpapai dume* 'male pawpaw tree' refers to a deciduous pawpaw tree. Based on these facts it becomes apparent that there is no sex based gender distinction of the Arabic type in Swahili. Another aspect of gender assignment, according to Fehri (2015), is idiosyncratic gender assignment in which certain words in language are categorized masculine or feminine genders through idiosyncratic formal means. In this view, for instance, words like *sams* 'sun (Feminine)', *gamar* 'moon (Masculine)', and *nahr* 'river (Masculine)' in standard Arabic are assigned different genders idiosyncratically. It is also reported that gender assignment is not the same across the languages in that words assigned to one gender in one language might not be assigned same genders in another language. Fehri (2015) draws from French showing that the above words in standard Arabic are assigned quite opposite genders in French – *soleil* 'sun (Masculine), *lune* 'moon (Feminine) and *rivière* 'river (Feminine). Nevertheless, Fehri (2015) explains that a common form of gender manifestation relates to singulative and plurative illustrated in standard Arabic in (7) – (8).

7a. *Nahl-at.*

'Bee-unit/ a bee.'

7b. *Nahl.*

'Bee/bees.'

8a. *Saakin.*

'Inhabitant.'

8b. *Saakin-at.*

'Inhabitants/population.' (Fehri, 2015:3)

According to Fehri (2015), suffix *–at* in *nahl-at* (7a) is singulative and, in this context, it does not count as female gender. Quite the contrary, it is highlighted that the *–at* in (8b) is a gender morpheme; which forms a group or a collection of individuals from a singular or a plural of individuals. Thus, in standard Arabic, suffix *–at* encodes sex gender, and singularity in the cited cases. In Swahili, although the DPs have a singular/plural distinction based on the noun prefixes (singular – one, plural – not one), there is no sex gender distinction of the standard Arabic type. The singular and plural distinctions are illustrated in (9) – (10).

9a. *M - toto.*
SING. child
'Child.'

9b. *Wa - toto.*
PLUR. child
'Children.'

10a. *M-tu.*
SING. Man
'Man.'

10b. *Wa-tu.*
PLUR. men
'People.'

In (9) – (10), singular-plural distinction is observable from prefixes *m-* and *wa-*. Studies show that such prefixes are called class prefixes or noun class prefixes when used to define classes of nouns as per Meinhof's noun classification tradition. In this tradition, nouns are categorized into classes using prefixes. The prefixes are paired and each class pair is given numbers such as Class 1/2, Class 3/4, Class 5/6, and so on. The numbers are such that the left is SINGular and the right number is PLURal. It is assumed that the noun class prefixes carry class information of number and they are added to stems in the inventory of noun classes (see Chapter 1) as number morphology only. Mismatches between singular and plural pairings have been noted, although they do not alter the established classification in languages which have been studied. As noted in Chapter 1, all Bantu languages do not have the same number of noun classes. It was noted that nouns in Bantu languages have suffered attrition of varying degress to the extent that singular-plural pairs is in no way reflected. Maho (1999) observes that noun classes in Bantu language are better considered as reduced to the extent that some languages have remained with only three noun classes.

It was mentioned in Chapter 1 that all substantival constructions in Bantu languages are of the pattern prefix + stem. Thus, the constituents of the nouns are prefix + noun stem as opposed to; say adjectives – prefix + adjective stem, or demonstratives – prefix + demonstrative stem, and so forth depending on the type of subsantival construction in question. Noun prefixes are called noun classes when they appear as part of the noun classification inventory. Hence, it can be said that noun classes are noun prefixes presented following the Meinhof tradition – according to numbers which reflect singular (meaning one) or plural (meaning not one). In the same tradition, paired noun classes common to a group of nouns are termed Genders. Genders are assigned based on assumed denotations or lexical information that commonly defines nouns in respective Genders. Carstens (1991, 1993), for instance, shows that stems -*toto* in (9) and –*tu* in (10) are associated with Gender A which specify HUMAN/ANIMATE entities. In this view, Gender is a subcategorization of nouns using lexical information such as human/animate, plants, liquid, vitality, and so forth for specific groups of singular/plural pairs of noun classes. Thus, for example human or animate entities are placed in Class 1/2, plants or trees are placed in Class 3/4, liquids and uncountable nouns Class 5/6, and inanimate nouns are placed in Class 7/8 (Carstens, 1991, 1993; Katamba, 2003; Maho, 1999). In this understanding; singular and plural Classes (number morphology) form a single Gender. According to Carstens (1991), in Swahili, noun stems carry Gender information and that ignoring this fact, would lead to ungrammatical Swahili DPs in (11) – (12).

11. **N – tu.*
    Cl 9 person
    'Person.'
12. **Mi – atu.*
    Cl 4 shoe
    'Shoes.' (Carstens, 1993:154)

According to Carstens (1993), the ungrammaticality of (11) and (12) is due to the mismatch in combining the noun class prefixes and noun stems and assuming that prefixes themselves bear gender (lexical) information for categorizing noun stems.

Carstens (1991, 1993) reveals that the observed ungrammaticality can only be removed by assuming the opposite, i.e. the selection of noun stems determines the Gender of the respective nouns. The grammaticality of (13) – (15) is illustrative of Gender being attached to noun stems and not noun classes.

13. *Wale* *vi–jana* *wa – na – cheza* *m–pira.*
    2 those 8 youth 2agr-prog-play 3 ball
    'Those young guys are playing ball.'
14. *Ki–pofu* *m–refu* *a – li – ingia* *ghafla.*
    7 blind 1 tall 1agr-pst-enter suddenly
    'Suddenly a tall blind man entered.'
15. *Nyanya* *a – li – fariki* *zamani.*
    9 grandmother 1 agr-pst-die 9 long ago
    'Grandmother died long ago.' (Carstens, 1993:156)

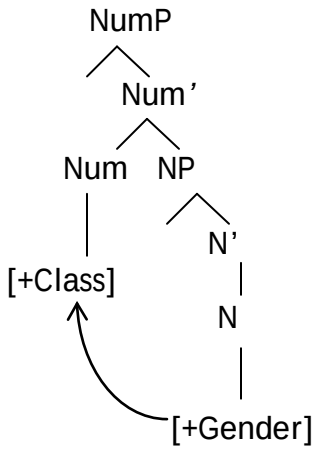
In (13) – (15), Carstens (1991) shows that it is the stems that are assigned lexical information (denotation). It is also well illustrated that the stems are responsible for agreement on the modifiers and verbs. This view is shared with Katamba (2003) who comments that, in Swahili, animacy considerations are paramount, and that animate nouns take corresponding Class 1/2 agreement regardless of the class membership they are in as illustrated in (13) – (15). For example, Class 7/8 nouns *vi-jana* 'youth', *ki-pofu* 'blind', and Class 9 noun *nyanya* 'grandmother' all take underlying Class 1/2 agreement regardless of their actual class membership. Carstens (1991, 1993) concludes that if class information were a property of noun prefixes, the shared agreement facts in (13) – (15) would be anomalous showing that the noun prefixes (classes) are specified for number only, and that the stems of such nouns, like *–jana* 'youth', *–pofu* 'blind person', and *nyanya* 'grandmother', belong to specific Gender, assumedly Gender A; while other stems (represented by singular and plural pairs) would be grouped into Gender B, Gender C, Gender D, and so forth as illustrated in (16).

16. The categorization of gender Class 2/1 – 9/10

Gender A	Stems of classes	1 and 2	
Gender B	Stems of classes	3 and 4	
Gender C	Stems of classes	5 and 6	
Gender D	Stems of classes	7 and 8	
Gender E	Stems of classes	9 and 10	Carstens (1991:18, 1993:154)

In (16), noun Class 11/10 which is not part of the above listing would be placed in Gender F, Class 12/13 would be placed in Gender G, and Class 14/6 would be placed in Gender H, according to their pairing overlaps. The categorization above is expected to bring grammatical results whenever it is applied in the analysis of Swahili DPs. Carstens (1991) points out that, assuming (16), the disputed redundancy problems posed by the Meinhof noun classification system are solved since each prefix is categorized as a complement of the appropriate Gender but not the head. This revised system of classification presupposes that the stems are categorized for particular classes consistent with Meinhof noun class system Class 1/2, Class 3/4, Class 5/6, Class 7/8 and so forth. In turn, each class comprising singular and plural prefixes would form one Gender under Carstens' (1991) analysis. Carstens (1991, 1993) analyzes noun class prefixes as Num and noun stem as NP as illustrated in (17).

17.



In (17), Carstens' assumptions are obvious – 'gender is universally a lexical property of nouns and that noun class prefixes are gender-specific spellings-out of number features' (Carstens, 1991:15). The class features are provided by the noun class prefixes under Num while lexical information is provided by the noun stems under NP. In forming the noun, the stem moves to attach to the class prefix – assuming that number and gender are treated separately (see details in 2.2).

Kihm (2005) provides a contrary view of analyzing noun classes and stems (under this analysis the term Roots is assumed) in Manjaku, a noun class language from the Atlantic sub-family of the Niger-Congo. Kihm (2005) shows that Manjaku has a system of noun classes and stems comparable to those found in Swahili and many of the Bantoid languages. In this analysis, noun prefixes are assigned both class information and Gender information. Noun class information and Gender information are assigned to the noun prefixes because it is assumed that the Roots are not categorized for lexical information. Since Roots are not categorized for denotation, the noun classes are assigned grammatical function as nominalizers – dubbed *n* functional category (borrowed from Marantz's (1997) Distributive Morphology – DM), revealing that that is the or one possible content of the *n* head, and that the differences as to their position and degree of fusion with the Roots are related to how contentful that head is.

Kihm (2005) illustrates, for instance, that the difference in meaning in a Manjaku series *lik* 'to draw water', *pë-lik/ i-lik* 'well(s)', *m-lik* 'water', and *ka-lik* 'fruit juice' can only be accounted for assuming that the different DPs which share a common Root

(√LIK) have a broader global concept such as 'water', but lack descriptive content or denotation. According to Kihm (2005), Manjaku nouns are comparable to Arabic DPs like *ktb* which, despite having the global concept of 'writing', do not have empiric content and meaning found in the verbs like *kataba* 'he wrote' and the noun *kitaab* 'book' when certain vowels are added to the respective Roots. The analysis of Manjaku DPs which resemble Arabic Roots suggests alongside Fathi and Lowenstamm (2016) and Marantz (1997) that Roots are simply Roots since they cannot be validated for content. The view suggests that the empiric content of roots can only be validated by looking at fully derived items which combine Roots and stems.

In explaining how the phenomenon transformation works, Kihm (2005) and Marantz (1997) refer to 'encyclopaedic' hypothesis – a component of grammar where terms having denotational relation with language-external reality are given their effective meaning, to illustrate that the current view of *n* bounded Root ensures that linguistic items are used not only grammatically but also felicitously. Kihm (2005) illustrates that only fully derived items – prefixes and Roots, are susceptible to possess encyclopaedic meaning.

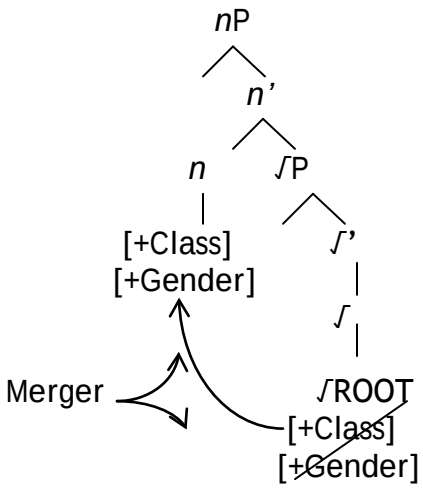
He explains that in Manjaku and Arabic, Roots appear unable to express encyclopaedic meaning on their own and; therefore, fail a test for constituent-hood meaning that they are not fully developed and cannot be asigned meaning or denotation. He concludes that the Roots like √LIK in Manjaku which are assumed to be uncategorized for meaning or content and must be merged with a noun-forming functional category (*n/* f-morpheme) like *pë-* in Manjaku for example, for such Roots to be fully derived for use as arguments in a DP. In this view, Manjaku √LIK is categorized for denotation only when attached to *p*ë-/ *i-*, *m-*, and *ka-* in *p*ë-*like*/ *i-lik* 'well/ wells', *m-lik* 'water' and *ka-lik* 'fruit juice' and not otherwise. Since Manjaku has a noun class system which is similar to Swahili, one would assume that the noun prefixes in Swahili would equally be analyzed as *n* nominalizers or categorizers for the Roots – which by the assumptions shared in this section; lack descriptive content or content-hood.

In deriving DPs, Kihm (2005) adapts Marantz's (1997) Distributive Morphology (DM) showing that Roots are not categorized for lexical information (denotation) or phonological form. This view argues that Roots acquire category-hood and phonological form by being inserted in a particular syntactic configuration, thus making them morphemes. According to this view the morphemes are associated with phonological features in the vocabulary component of morphology, and thus they may be called 'exponents'. Supporters of Marantz's (1997) view, Fathi & Lowenstamm (2016), Baker (2008), and Kihm (2005), concede that the prefixes determine class and membership of a noun in a particular group or Gender, and that the affix's grammatical function is a nominalizer, an *n* category, which selects the Root as its complement. Fathi and Lowenstamm (2016) observe that Roots can only be categorized for denotation when attached to categories such as *n*, *a,* or *v*. They argue that the categorization is only possible when the Roots are involved through a systematic selection by the *n* categories via morphological Merger. Marantz (1989) defines the morphological Merger as follows.

> At any level of syntactic analysis, independent syntactic constituents X and Y standing in a relation at that level (or heading phrases standing in a relation) may merge into a single word, X + Y, projecting the relation between (the constituent headed by) X and (the constituent headed by) Y onto the affixation relation X + Y. In accordance with the projection principle, other relations involving X and Y (and constituents headed by X and Y) must continue to be projected in the usual way (Marantz, 1989:107).

If this definition is applied to Swahili, it can be observed that the Merger would involve *n* (X) and Root (Y) which stand into a relation such that *n* heading Y merge into a constituent *n* + Root according to the projection principle – *n*^Root (X^Y). The process results into one word such as *m-toto* 'child', *wa-toto* 'children', *m-tu* 'man', and *wa-tu* 'men' all of which can be derived using (18).

18.



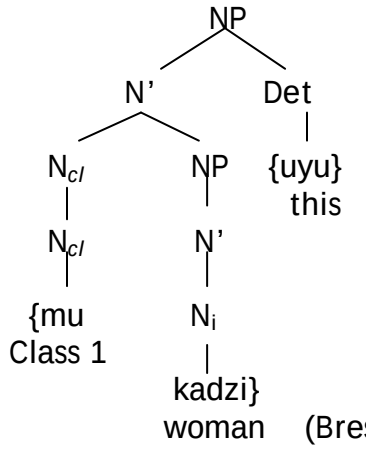
(18) is an instance of nominalization by *n* via Merger of *n* + Root. When the process is accomplished at *n,* the structure is subject to further syntactic projections of the DP structure. The consequence of this derivation is to suggest that the relevant features of Root are eventually transferred to *n* where they are assigned denotation and given lexical attributes – human, animate, plants, liquids, inanimates, and so forth. The *n* corresponds to *Num* in Carstens' (1991, 1993) analysis where it is treated as the functional head of NumP. However, in the two approaches the substantival and constructional pattern remains the same – prefix + noun stem. Referring to the class prefix as Num or *n* and the stem as Root or NP does not presuppose any supremacy since they both represent constructional alternatives. These separate approaches are treated in more details in the next section which attempt to derive the Swahili DP.

2.2 The Derivations of Swahili DPs

It has been a traditional view in Bantu linguistics that the substantive category of nouns are formed by prefixes and noun stems (Bresnan & Mchombo, 1995; Carstens, 1991, 1993, 2008). There are at least two considerations in analyzing the relationship between the noun stems and prefixes when it comes to deriving DPs in Bantu languages: the noun stems and prefixes are analyzed as either separate words or as morphologically bound noun stems and prefixes via movement of the noun stems. Bresnan and Mchombo (1995) point out that while Doke (1929) advocates for the morphological approach, Myers (1987) (in Bresnan and Mchombo (1995)) argues using Shona that Bantu prefixes and noun stems are independent syntactic elements.

Bresnan and Mchombo (1995) point out that in Myers' (1987) analysis the noun class marker (N*cl*) takes an NP sister in a syntactic structure to form a single *p*(honological) word as illustrated in (19).

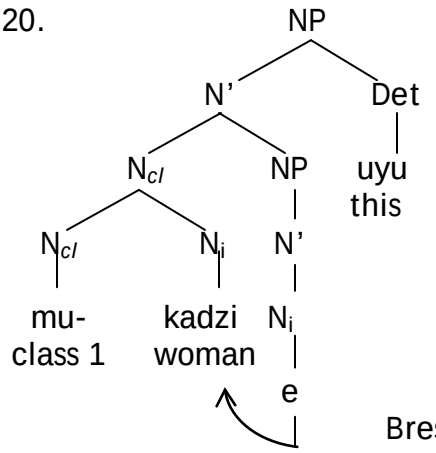
19.



(Bresnan & Mchombo, 1995:185)

According to Myers (1987), in (19) no movement is required for deriving NP since Noun (N) and Noun class (N_{cl}) are two separate words syntactically, but are realized as one phonological word. From this point of view, N and Ncl become one only when N_{cl} cliticizes on N to form *mu-kadzi* 'woman'. Bresnan and Mchombo (1995) note that this view is extended to all noun class markers appearing with nouns and verb stems. In a different view, Bresnan and Mchombo (1995) further show that Carstens (1991), Kinyalolo (1991), and Corbett (1991) disagree with Myers (1987) on the distinct existence of prefixes and noun stems by proposing that the nouns are realized through syntactic head movement of the noun stem to the classifier position. Bresnan and Mchombo (1995) illustrate head movement in (20).

20.



Bresnan and Mchombo (1995:186)

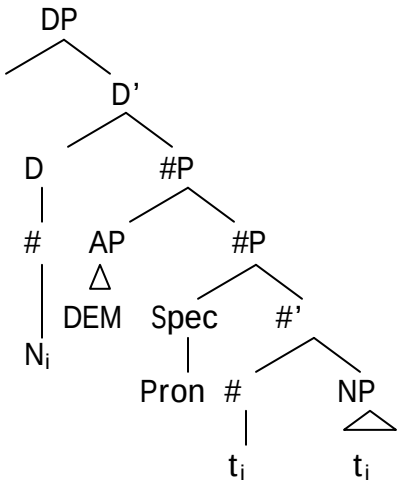
Bresnan and Mchombo (1995) show that N_i (stem) *-kadzi* 'woman' raises to the affixal position N_{cl}. in (20) to form a single morphological word *mu-kadzi* 'woman'. Carstens (1991, 1993) adopts Ritter's (1988, 1990, 1991) N-raising analysis of Hebrew Construct State (CS) DPs in deriving Swahili head-initial order DPs. In Hebrew, N-initial order DP is achieved via head movement of the NP to D position through intermediate functional projection NumP. Carstens (1991, 1993) adopts the same approach pointing out that in Swahili N-initial order of, say possessive DP in (21) (author's example), is achieved via head movement in which Num^0 raises to D^0 as illustrated in (22).

21. *Kikombe hiki changu.*

7 cup 7 this 7 my

'This my cup.'

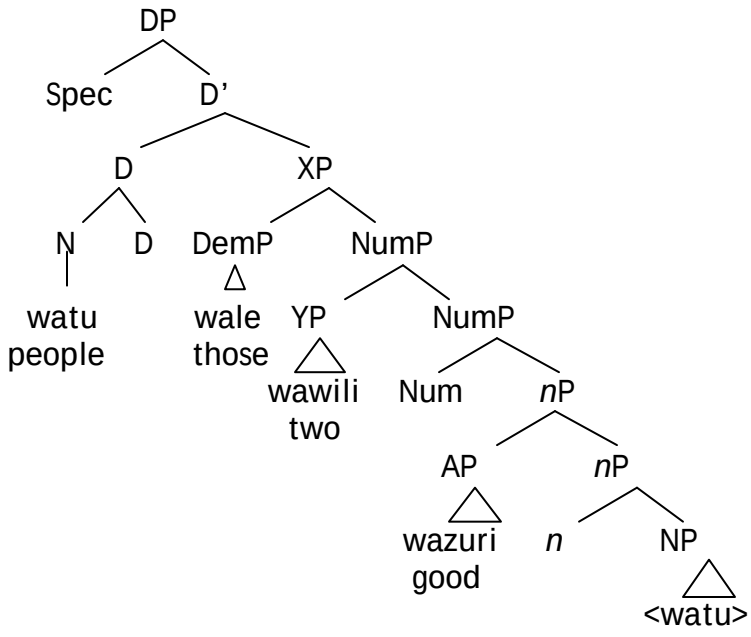
22.



(Carstens, 1991:107)

In (22), Carstens (1991) argues that the N raises to incorporate itself in Num^0 before raising to D^0. Traces (t_i) serve to mark the landing and take-off grounds of the movement to D^0. Carstens (2008) updated the derivation of Swahili DPs by introducing the *n* element to replace Num, but the NP complement was retained. The modified DP structure is presented in (23).

23.



(Carstens, 2008:150).

In (23), despite the fact that Num for class prefix has been replaced with the *n* element, the modus operandi remains the same – head-to-head movement, as in (22). The head movement presupposes that the Swahili DP has a null D in the absence of which the Num (as in (22)) or *n* (as in (23)) raises to D. The consequence of this approach also suggests that other elements of DP structure such as demonstratives, numeral, and adjectives are analyzed as specifiers. Consequently, when assuming these elements are specifiers and Num or *n* raises to D agreement via *n*P movement and Spec head relations are not explicable. Based on this approach, it is explained that Spec head agreement is not possible in Swahili DP and that agreement relations are explained in terms of Government via head Specifier relations instead.

Déchaine et al. (2014) adopt Wiltschko and Déchaine's (2010) Interface Syntax Model to illustrate the fact that Shona noun class prefixes are multifunctional and that the multifunctionality can be mapped using the nominal spine (N-SPINE). The N-SPINE is considered to be able to reflect that some noun class prefixes can code several constrasts (expressive content) in additional to the regular (canonical) descriptive content – the idea which stems from Fortune (1984). According to Fortune (1984), nearly all noun class prefixes have descriptive function in the sense that they provide regular class information like human, animate, plants, liquids, artifacts, and so forth.

Fortune (1984) refers to this classification as 'primary classification' and calls the descriptive content class prefixes 'primary class prefixes' since they serve to convey canonical information. Unlike the descriptive content class prefixes, Fortune (1984) points out that some class prefixes have expressive function in the sense that they provide evaluative information like augmentative and diminutive, perjorative, and horrific. Owing to the multifunctional nature of Shona noun classes – being able to code several constrasts, Déchaine et al. (2014) argues that the different constrasts of the noun class prefixes can be mapped accurately using N-SPINE as illustrated in (24).

24. [DET… [EVALUATIVE [OuterNAsp Sg/Pl [InnerNAsp Sort [nP *n*]]]]
HONORIFIC SIZE COUNT MASS STEM
↑ ↑ ↑ ↑
N-class N-class N-class N-class

(Déchaine et al., 2014:28)

The above suggests that a noun stem can have several contrasts depending on the class prefix with which it attaches in N-spine. This view is illustrated in (25) where noun stem *ta* 'bow/bows' convey several contrasts based on the level of class attachment in N-spine.

25.	[Evaluative ↑	[OuterNAsp Sg/Pl ↑	[InnerAspN Sort ↑	[*n*P *tá*$_{14}$]]]]	Gloss
a.	—		*ú*$_{14}$	*tá*$_{14}$	'bow/bows'
b.		*má*$_{6.PL}$	*ú*$_{14}$	*tá*$_{14}$	'bows'
c.	*má*$_{6.PL}$	~~*má*~~$_{6.PL}$	*ú*$_{14}$	*tá*$_{14}$	'not well-crafted bows'

(Déchaine et al., 2014:29)

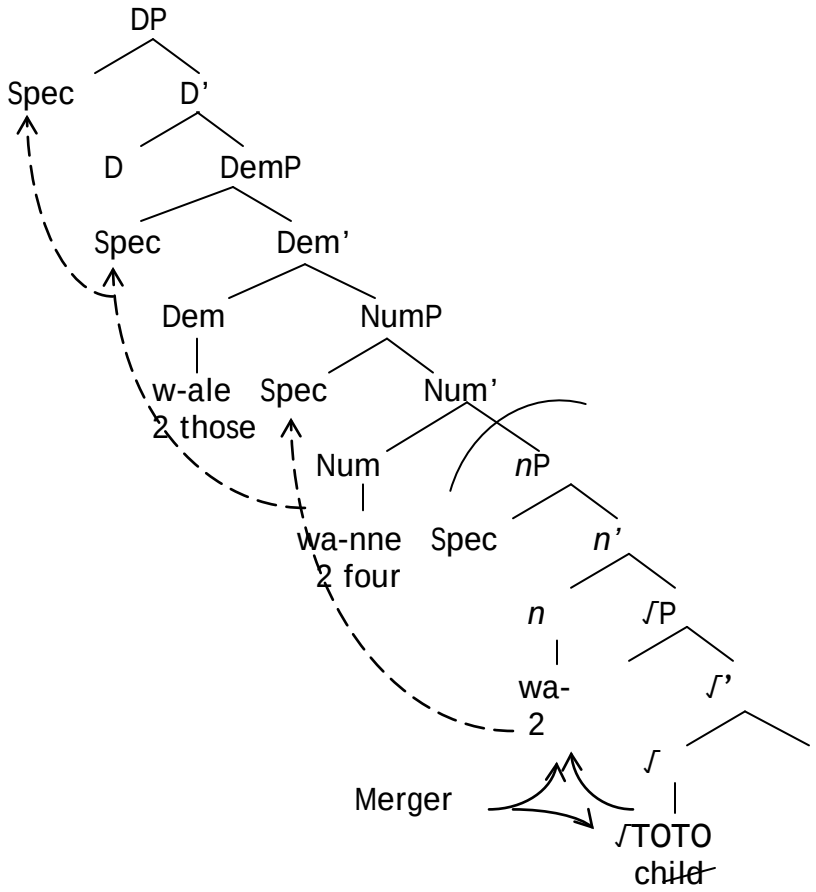
In (25), it is obvious that *ú* is a neutral number noun class prefix which is attached to the noun stem (25a). The prefixed noun stem can attach to another prefix to mark plurality (25b). Finally, the prefixed noun stem obtains evaluative meaning when attached to another noun class prefix (25c). However, ambiguity is detected when studying the data in (25) in which the noun class prefix *ú* can mean singular or plural

of 'bow' – especially with reference to mass and countable nouns (details see Déchaine et al. (2014). Ambiguity is also detected when noun class prefix *má* is attached to a prefixed stem – descriptively it can mean 'bows' (plural) and evaluatively it can mean 'not well crafted bows' (pejorative). Although the model captures semantic contrasts, it differs significantly from Myers (1987), Carstens (1991, 1993, 2008) and Kihm (2005) approaches above by claiming that the noun class prefix exists outside the local domain of *n*P. Myers (1987), Carstens (1991, 1993, 2008) and Kihm (2005) illustrate that the regular noun class prefix N*cl,* Num, or *n* appear within the domain of NP, NumP, or *n*P. In this view, the noun class prefix like *ú* in *ú-tá* 'bow' would be analyzed as part of the internal structure of NP, NumP, or *n*P. Contrarily, facts in (25) presuppose that in Shona *n*P comprises the noun stem only and that the regular noun class prefix appears external to *n*P. Since the Syntax Interface Model is designed to provide a unified account for the analysis of noun's syntax and semantic contrasts, its inability to accurately situate *n*P would reflect the inability to situate *n*P in other Bantu languages like Swahili. This is because the basic internal structure of Swahili *n*Ps comprises noun prefixes and noun stems. Thus, the analysis adopted for Shona where, for instance, Class 14 prefix (*n*) *ú* is external to *n*P (stem) like *tá* would hardly explain facts when it comes to the internal structure of Swahili *n*Ps. The approach adapted for deriving Swahili *n*P in this thesis departs from considering regular noun class prefixes like Class 14 prefix (*n*) *ú* external to *n*P (stem) like *tá* by analyzing the class prefix as the functional head which selects the Root phrase.

The adapted version for deriving DP in Swahili is based on the movement of XP category to a maximal specifier position. This view presupposes that not all other elements of DP are analyzable as specifiers. In (27), for instance, elements of *n*P in (26) are not specifiers and the DP is formed by XP movement.

26. *Watoto* *wa-le* *wa-nne.*
2 child 2 those 2 four
'Those four children.'

27.



In (26) – (27), the DP *watoto wale wanne* has the same underlying structure relations as the English *those four children.* However, the surface structure in (26) – (27) reveals that *n*P *watoto* in the Swahili DP appears in the initial position unlike the English structure in which the head noun (*n*P) is in the final or underlying position (XP final order). Assuming that XP final order is canonical (underlying), according to Greenberg's (1966) typology of elements in noun phrases, the assumption in the cited illustration is that XP (*n*P) in the final position moves to the initial position. In this respect, the DP is formed by cyclic movement of XP (*n*P) to spec DP via subsequent stops at Spec NumP and Spec DemP. The XP (*n*P) movement results into the 'exact opposite' of Greenberg's (1966) typology on the order of elements covered in Chapter One. The analysis illustrated in (27) supports the fact that the *n* functional element is

a nominalizer for the root phrase (√P) in line with Marantz (1997) and Kihm's (2005) derivation of *n*P (noun prefixes + Roots) explained earlier. Based on this view, therefore, *wa-* in (27) is analyzed as a *n* functional element – a nominalizer for the uncategorized Root –*toto.* The *n* assigns Root descriptive content required for its interpretation and use in the syntax of DP via Merger operation. The derivation also embraces Ritter's (1988, 1991) N-raising phenomenon albeit of a different kind by assuming phrasal (XP) movement.

The motivation for XP movement to specifier position has been noted in literature – to satisfy the Extended Projection Principle (EPP) (Lasnik, 2001). In the original version the EPP was formulated as the principle P – 'the structural requirement that certain configurations – infinitives and gerunds - must have subjects' (Chomsky, 1981:27). The principle P clearly illustrated that a clause must at least contain a predicate of the category VP as a minimal unit as illustrated in (28).

28. *It rains.* (Chomsky, 1981:27)

According to Chomsky (1981) (28) is the VP predicate and there is no argument contrary to (29) where the predicate itself contains an argument with the VP predicate – *seem*-Clause, and (30) where the predicate – *hit-Bill,* has the object and a subject argument – *John-hit.*

29. *It seems that John is here.*
30. *John hit Bill.*(Chomsky, 1981:27)

The theoretical assumptions above led to the rejection of (31) for violating principle P.

31. **Seems that John is here.*

The ungrammaticality of (31) comes from the fact that the pleonastic element (subject) must be present in English. The original EPP placed a requirement for

predicates to have subjects. Miyagawa (2010) notes that with the advent of the predicate-internal subject hypothesis (also assumed with Sportiche (1988) and Kuroda (1988)) the theory came to account for the movement of the external argument from Spec VP to Spec TP with EPP playing the facilitating role. According to Miyagawa (2010) in order for EPP to be applicable to T, Chomsky (1995) proposes a feature checking mechanism arguing that T has a D feature that needs to be checked; thus attracting a DP to Spec TP. In recent developments, however, the movement of a DP from VP has been attributed to the condition that certain functional heads require a specifier (Chomsky, 2000). Given that the EPP requirement can be met by movement of DP to Spec TP – a specifier position of T, it is assumed along parallel lines that *n*P moves to Spec DP as a sepcifier of D at DP level of structural analysis. In DP *n*P appearing in Spec DP checks its features against D as explained in Chapter 1 on agreement. As assumed in Chapter 1 feature checking is accomplished step-by-step as *n*P raises from base generated position to Spec DP. Therefore, it is plausible to argue that *n*P appearing in the specifier of DP position fulfills the requirement of the EPP. The raising of *n*P to Spec DP is supported by several illustrations showing that the land-site for *n*P is the specifier position as explained in the next section.

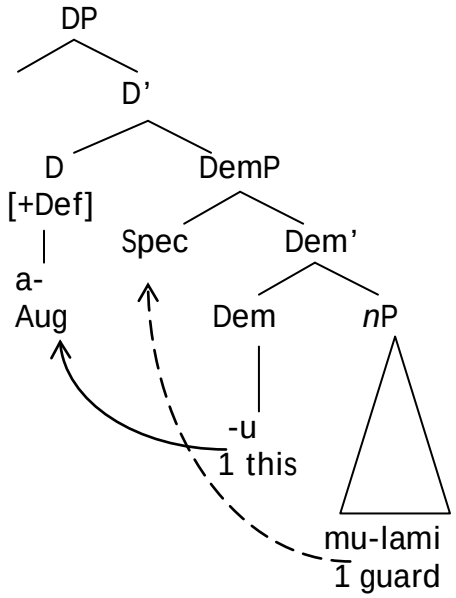
2.3 Evidence for XP Raising to Spec DP

There is evidence to show that in Swahili and many Bantu languages XP movement to Spec DP is more consistent than Num/*n* movement to D. The main evidence which supports this comes from Bantu languages whose DPs have augments or Initial Vowels (IVs). In these languages (also called augment languages) the augment and demonstrative have a tendency of appearing in D suggesting that Spec DP is reserved for *n*P.

de Velde (2005) and Rugemalira (2006) show that in many Bantu languages the demonstrative can appear either prenominally or postnominally. According to Rugemalira (2006), in both positions, the demonstrative functions as the determiner. Contrarily, de Velde (2005) argues that the postnominal demonstrative is the 'demonstrative proper' in the sense that it is 'deictic' while the prenominal

demonstrative has the same function as the definite article in western European languages. de Velde (2005) differentiates augmented demonstratives versus non-augmented demonstratives found in languages like Mbo, Kaonde, Songye, Sanga, and Gisu. According to de Velde (2005) augmented demonstratives appear prenominally while the non-augmented demonstratives appear postnominally as in Songye DPs such as *au mulami* 'this guard' and *muntu'u* 'this person' where *u* is the demonstrative and *a* is the augment. It follows then that the prenominal demonstrative with the augment is more likely to function as the definite article according to de Velde's (2005) observation. In this context the postnominal demonstrative is assumed to be deictic and base generated below D. The prenominal augmented demonstrative, on the contrary, is assumed to function like the definite article occupying D in English. In my view, the appearance of the augmented demonstrative in D comes from raising from Dem below D. This view is illustrated in (32).

32.



In (32), it is assumed that the DP is derived via two movements – XP (*n*P) to Spec DemP, and X^0 (Dem) to D^0. First, the *n*P *mu-lami* 'guard' raises to Spec DemP. The *n*P raises to Spec DemP since the augment *a-* already occupies D blocking further raising of *n*P to Spec DP. In augment languages where the augment functions as the definite article the augment is assumed to be base generated in D. Second, the Dem raises to D where it cliticizes to the augment *a-* in D. In this position, the augmented prenominal

demonstrative functions like the definite article in English. This analysis would not be possible by assuming that *n* raises to D in this language.

Another piece of evidence for XP movement to Spec DP comes from augment languages in which the augment is assumed to be base generated in D where it functions as the definite article. Literature have assumed that augmented nouns serve as nouns with the definite article in English when compared to the non-augmented nouns (Bastin, 2003; Hyman & Katamba, 1993; Katamba, 2003; Progovac, 1993). Data from Dzamba is illustrative.

33. *Mo-ibi anyɔlɔki o-ndaku.*
    'A thief entered in the house.'
34. *O-mo-ibi anyɔlɔki o-ndaku*
    'The thief entered in the house.' (Hyman & Katamba, 1993:214)

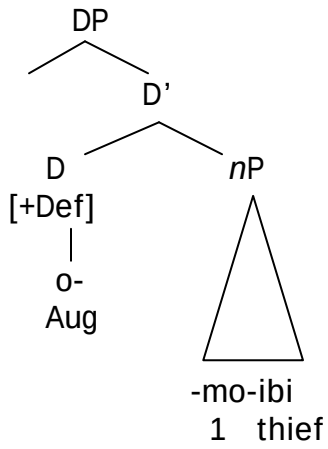
In (33), the non-augmented subject noun *moibi* 'a thief' is not specified for definite reference, hence indefinite. On the contrary, the noun *o-moibi* 'the thief' in (34) is specified for definite reference on the basis of the augment which functions as the definite article. The analysis of Dzamba is comparable to Nande illustrated in (35) – (36).

35. *Johani si anzire o-mu-kali.*
    'John does not like the woman.'
36. *Johani si anzire mu-kali*
    'John does not like any woman.' (Progovac, 1993:262)

Like the augmented subject noun *o-mo-ibi* 'the thief' in Dzamba (34), the augmented object noun *o-mu-kali* 'the woman' in Nande (35) is more determined and specified for definiteness than its counterpart; the non-augmented object noun *mu-kali* 'any woman' in (36). Hyman and Katamba (1993) and Progovac (1993) reveal that the augment functions as the definite article. They argue that the augment has crucial

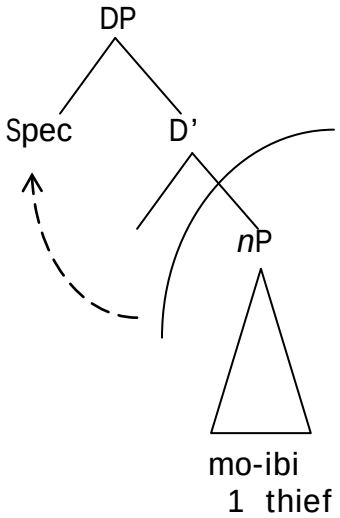
definiteness features specified in D just like *the* in English. This view is illustrated in (37) using Dzamba *o-mo-ibi* 'the thief.'

37.



In (37) the presence of the augment in D presupposes that the usual *n*P raising to Spec DP is not possible. The derivation further supports the view that the augment occupies the position specified for the definite article (Giusti, 1995; Progovac, 1998). The derivation also suggests that only non-augmented noun like *mo-ibi* 'a thief' (33) can raise to Spec DP in which case the nouns would be analyzed without the definite article as illustrated in (38).

38.



In (38), the noun *mo-ibi* 'a woman' (as in (33) is derived with the definite article position – D, null. The null D triggers the raising of *n*P to Spec DP which would not be possible when the augment occupied D as in (37).

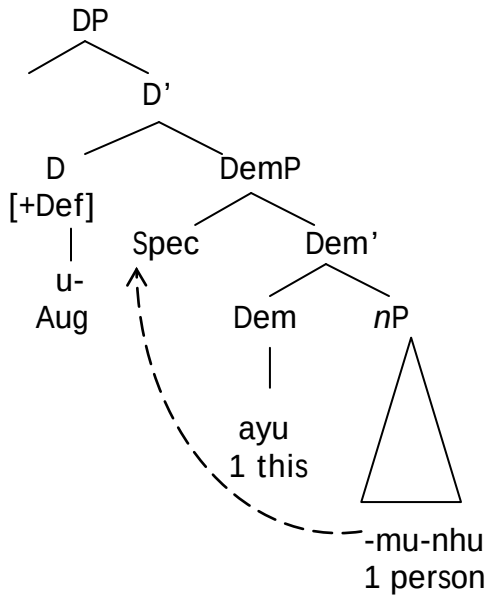
In Gogo, a Bantu language spoken in central Tanzania, the distribution of the augment and prenominal demonstrative reveal that the two elements function as the definite article. Examples in (39) – (41) are illustrative.

39. *U - munhu ayu.*
Aug 1 person 1 this
'The person that.'
40. *Ayu mu-nhu*
1 this 1 person
'The person.'
41. **Ayu u - munhu.*
1 this Aug 1 person
'This the person.' (PC., Amani Chipalo)

In (39), the postnominal demonstrative in Gogo is deictic. On the contrary the prenominal demonstrative in (40) functions as the definite article in the same way the augment *u-* does in (39). While the augment *u-* in *u-mu-nhu* 'the person' and the prenominal demonstrative *ayu* are assumed to function as definite articles their co-occurrence is impermissible as in (41).

The derivation of Gogo *u-mu-nhu ayu* 'the person this' is presented in (42).

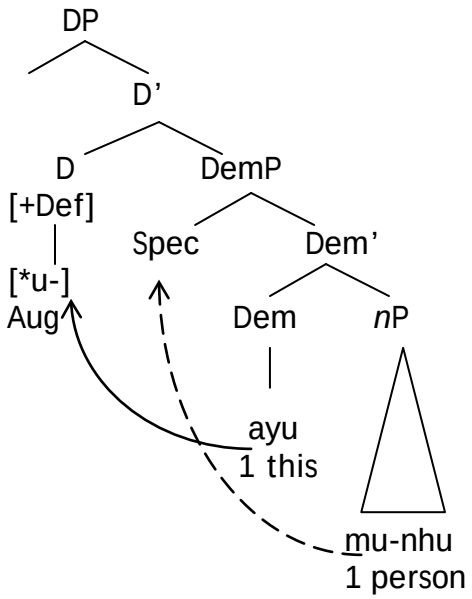
42.



In (42), the augment *u-* appears in D; the position specified for the definite article in article languages like English. The demonstrative *ayu* 'this' appears below D in a position specified for deictic function. The raising of *n*P to Spec DP is blocked at Spec DemP by the presence of the augment *u-* in D. This finding concurs with Shlonsky (2004) who shows that the order *n*>Dem in Beiruti Arabic results from the raising of *n*P to Spec DemP (see 2.5.2).

In Gogo, the appearance of the demonstrative *ayu* prenominally stems from its raising from the position below D as illustrated in (43).

43.



In (43), the augment in D blocks the raising of *n*P to Spec DP in the assumed way. The postnominal demonstrative *ayu* 'this' is base generated in Dem below D in the usual way. The postnominal demonstrative *ayu* raises from Dem^0 to D^0 in order to function as the definite article. However, since the augment and the prenominal demonstrative in Gogo are in complementary distribution, the raising demonstrative deletes the augment. The analysis pursued in this section is in line with Shlonsky (2004), Brugè (1996) and Brugè and Giusti (1996) who show that prenominal demonstratives in many dialects of Arabic (including Egyptian and Moroccan Arabic) are heads which undergo movement from Dem^0 to D^0.

Katamba (2003) shows that the assumptions on the distribution of augments in DPs concurs with findings in some Bantu augment languages like Xhosa, Masaaba, and Luganda which show that augments function as the definite article in English. Commenting on the function of the augment in Luganda, a Bantu language spoken in Uganda, Hyman and Katamba (1993:210) point out that "the temptation to view the augment as an article of some sort has been irresistible for students of Luganda and other Bantu languages exhibiting the augment phenomenon." Although the role of augments as definite articles has been challenged in some studies (Progovac, 1993), it suffices to argue that in some languages, including the languages cited in this section, that the augment serves as the definite article and in these languages the augment

occupies the D position. This analysis would not presuppose *n*P raising to D, rather raising to Spec DemP or Spec DP as illustrated in the previous section. It is interesting to note that the analysis of prenominal demonstrative in Swahili DPs will show a similar tendency (details in 2.5.2). The next section presents the derivational role of Gender into augments and diminutives – the secondary classification of nouns according to Fortune (1984).

2.4 Derivational Aspect of Gender – Augmentative and Diminutive DPs

One aspect of noun classes which has been well explored pertains to the derivational role of the noun classes. Fortune (1984) calls this function 'secondary classification' of noun classes in the sense that the regular class prefixes (primary/canonical noun class prefixes) are replaced by class prefixes from other noun classes and gender resulting into DPs with 'overtones' of sarcasm, criticism, and caricature as they make their implied comment on an item's size or quality. Data from Shona illustrate the different semantic strands involving *n*P *mukadzi* 'woman'.

44. *Mu-kadzi* (Cl.1) – 'woman.'
45. *Gadzi* (Cl.5) – 'large woman.'
46. *Ka-kadzi* (Cl.12) – 'small woman.'
47. *Ru-ka-kadzi* (Cl.11) – 'thin, lean, undersized woman.'
48. *Chi-kadzi* (Cl.7) – 'fat, stout, jolly woman.' (Fortune, 1984:35)

In the above, only the *n*P in (44) has the regular meaning associated with 'primary' noun class prefix denoting HUMAN. The other *n*Ps have meanings associated with size and quality – large (45), small (46), thin (47), fat (48), in addition to the primary meaning in (44). The different meanings in (45) – (47) result from attaching to Class 1 noun stem *–kadzi* noun class prefixes from other classes – Class 5, Class 12, Class 11, and Class 7. Fortune (1984) calls such noun class prefixes which contribute to such additional meanings Secondary Prefixes or Commentary Prefixes. The process of re-classifying *n*Ps using these non-regular noun class prefixes can also be termed secondary noun classification. In the broad literature the noun class prefixes which

contribute to additional demeaning meanings fall unto categories such as diminutive and augmentative prefixes. The *n*Ps formed after the diminutive or augmentative noun class prefixes are added are referred to as diminutives and augmentatives or diminutive nouns and augmentative nouns. The term semantic gender has come to refer to noun classes whose function is to encode diminutive and augmentative meanings onto regular nouns – *n*Ps.

Semantic gender is not only found in Bantu languages like Swahili, Chewa, and Shona. Fehri (2015) points out that in classic Arabic semantic gender is used to assign augmentatives and diminutives and that augmentative nouns are internally formed in such a way that a noun like *raahil* 'travelling, traveller' becomes *rahhaal* 'a big traveller'. In the same language a suffix *–at* is added to *rahhaal* to tell 'a feminine big traveller' (*rahhaal-at* 'traveler + augment + feminine'). Diminutive nouns are likewise (internally) formed – the Arabic noun *zayt* 'oil' becomes *zuwayt* 'oil-diminutive', a small quantity of oil. Commenting on gender assignment in Bantu languages, Katamba (2003) points out that nouns can be assigned gender on a semantic basis or in a mechanical, semantic arbitrary fashion. Katamba (2003) illustrates semantic gender in (49) – (50) using Nyankore, a Bantu language spoken in the southwestern part of Uganda.

49. *Mushaija muhango.*
    'Large man.'
50. *Kitabo kihango.*
    'Large book.' (Katamba (2003:113)

According to Katamba (2003) *mushaija* (49) is Class 1 and bears the Class 1 prefix *mu-* since it denotes human and the adjective modifying it takes the corresponding prefix *mu-*, the agreement marker for Class 1, since it qualifies the noun with feature [+HUMAN] – this is what Katamba (2003) refers to as the semantic assignment of gender. Likewise, *kitabo* (50), which refers to an inanimate object, is assigned to Class 7, a typical class for inanimates (artifacts), and takes the prefix *ki-* denoting objects or inanimates. The adjective modifying it takes the corresponding agreement

ki-. Conversely, when gender is assigned arbitrarily, the categorization based on lexical information like animate, human, or inanimate becomes absent. Gender assigned without semantic grounding is arbitrary as Katamba (2003) illustrates in (51) – (52).

51. *Zee* *yu-le.*
1 old man 1 that
'That old man.'
52. *Zee* *li-le.*
5 old man 5 that
'That funny/extraordinary/extremely old man.' (Katamba, 2003:113)

In (51), the noun *zee* 'old' is inherently Class 1 *n*P (Gender A 'human' in Carstens' (1991, 1993) analysis) but in (52) the same *n*P is augmentative for the reason of agreement with Class 5 prefix which results in the reading 'that funny/extraordinary/extremely old man'. While the categorization of gender in (51) is based on semantic grounds, gender assignment in (52) is arbitrary, according to Katamba (2003). Arbitrary assignment of Gender is related to diminutive and augmentative *n*Ps where DPs receive meaning outside 'ordinary' semantic grounds. Schadeberg (2003) points out that augmentative and diminutive DPs often have affective values which can be equated to pairings such as 'small is beautiful' and 'big is ugly and dangerous', though the inverse relationship also occurs. Beauty (pretty/ugly), size (big/small, large/little, tiny), and quality (extraordinary, exceptionally) are among the value dimensions communicated by augmentative and diminutive DPs.

Carstens (1991, 1993) has claimed that Swahili is different from many Bantu languages including Shona and Chewa for not having special diminutive and augmentative class prefixes which trigger agreement distinct from that of any other noun classes. Swahili and Chewa examples (53) – (56) are illustrative.

53a. *M-toto.* 53b. *Ki-toto.*

1 child 2 child

'Child.' 'Tiny child.'

54a. *Wa-toto.* 54b. *Vi-toto.*

2 child 8 child

'Children.' 'Tiny children.' [Swahili, Carstens (1991:30)]

55a. *Mu-nda.* 55b. *Ka-mu-nda.*

3 field 12-3 field

'Field.' 'Small field.'

56a. *Mi-nda.* 56b. *Ti-mi-nda.*

4 field 13-4-field

'Fields.' 'Small fields.' [Chewa, Carstens (1991:34))

In the above, Carstens (1991) assumes that the diminutive prefixes in Swahili and Chewa are analyzed differently when attached to noun stems in DP structure. It is assumed that Chewa diminutive prefixes *ka-* and *ti-* (55b) – (56b) are attached outside of those prefixes corresponding to the noun stem's lexical gender *mu-* and *mi-* in (55a) and (56a) while Swahili diminutive prefixes *ki-* and *vi-* attach directly to the noun stems (53b) – (54b). In addition to this claim, it is argued that the Chewa diminutive prefixes are not comparable to Swahili prefixes in that Chewa prefixes belong to a distinct gender and occupy a distinct level of attachment in DP structure while those in Swahili do not. From this view it is further argued that the Swahili diminutive noun class prefix attaches directly to noun stems different from the Chewa affix which selects a larger category (prefixed stem). This claim has also been adopted by Crisma et al., (2011) in their comparative study of nominal classification in Bantu, Chinese and Romance arguing that Swahili is among the Bantu languages which use derivational class prefixes less regularly than other Bantu languages. The following example from Herero, a southern Bantu language, is given for illustration:

57. *Otji-ru-vyó tj-ándje/ *rw-ándje.*

7 11 knife 7 my 11 my

'My big knife.' [Herero, Crisma et al. (2011:259)]

It is assumed in (57) that the Swahili DP has less derivational strategies to generate an equivalent DP. In this chapter I am going to show that Swahili diminutive DP is invariant as illustrated in (58) – (59).

58. *Ka-m-sumari.*
    12 3 nail
    'Unusually little nail.'
59. *Tu-mi-sumari.*
    13 4 nail
    'Unusually little nails.'
60. *Ka-u-nyasi ka-ngu/ *w-angu.*
    12 11 grass 12 my/ 11 my
    'My thin/long blade of grass.'

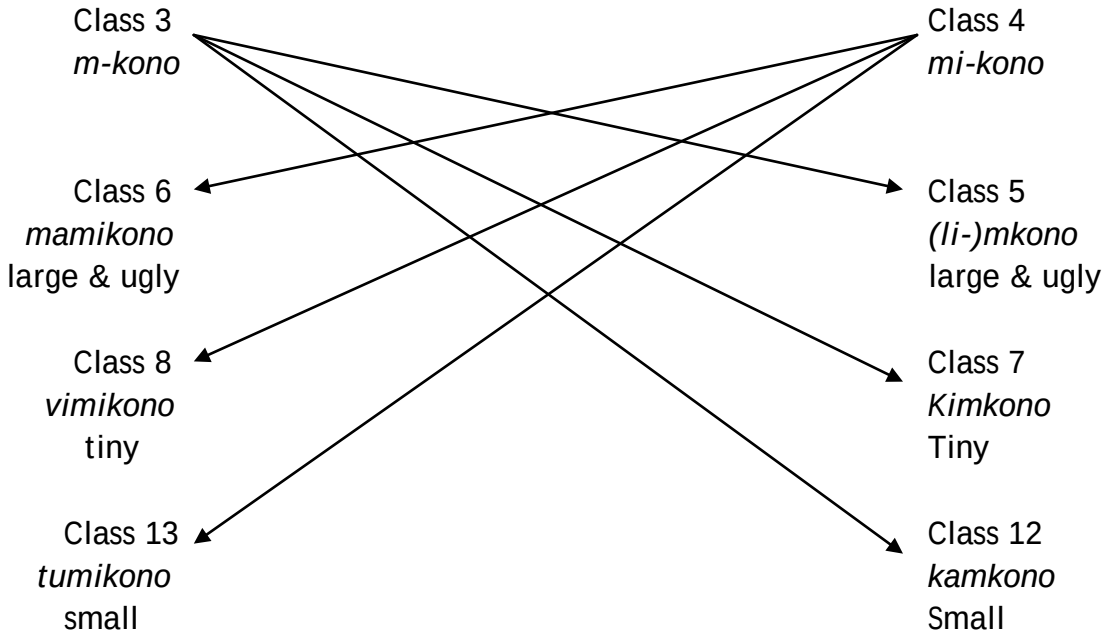
In (58) – (59) Swahili derives the diminutive nouns using Class 12/13 as in Chewa (55b) and (56b) contrary to the claim that Swahili uses Class 7/8 only. In (60), the Swahili possessive DP is like Herero possessive DP in (56) in which the adjective agrees in number and gender with the outer class prefix (diminutive prefix) and not the regular – inner class prefix, attaching to the noun stem. In all cited cases, Chewa, Swahili and Herero diminutive affixes (Class 12/13) attach outside the regular class prefixes. After these facts are established in the course of discussion, a unified account for deriving the diminutive/augmentative and regular nouns in Swahili and other Bantu languages will be proposed. A matrix for diminutive and augmentative values in Swahili is provided in (61).

61. Diminutive and augmentative values for *–toto* 'child' and *sanduku* 'box' in Swahili DP

Diminutives		**Augmentatives**	
Singular	Plural	Singular	Plural
a. *Ki-toto.* 7 child 'Tiny pretty child'	b. *Vi-toto.* 8 children 'Tiny pretty child'	c.*Toto.* 5 child 'Big heavy child.'	d. *Matoto.* 6 child 'Big heavy children.'
e. *Ka-sanduku.* 12 box 'Unusual little box.'	f. *Tu-sanduku.* 13 box 'Unusual little boxes.'	g. *M-sanduku.* 3 box 'Big ugly box'	h. *Mi-sanduku.* 4 box 'Big ugly boxes'

In (61), Classes – 3/4, 5/6, 7/8, and 12/13 are used to assign nouns diminutive and augmentative genders. Considering the pairs identified are correct, Swahili is able to generate 24 augmentative/diminutive DPs by factorial 1 x 2 x 3 x 4. The illustration in (62) can generate at least six (6) diminutive/augmentative forms in class 3/4.

62. Singular/plural pairing for deriving augmentative nouns in class 3/4



In (62), it is assumed that no semantic value beyond the ordinary denotation has been attached to nouns in class 3/4 *mkono* 'hand' and *mikono* 'hands' except when the prefixes of this class attach to stems in Class 5/6, Class 7/8, and Class 12/13 respectively (the corresponding semantic values are parsed below each of the paired nouns). The nouns derived by Class 3/4 spell-out augmentative readings as the pairs *mjitu* 'big and ugly man'/ *majitu* 'big and ugly people*, mdole* 'big and ugly *finger'/ madole* 'big and ugly fingers'*,* and *mjumba* 'big and ugly house' / *mijumba* 'big and ugly houses'. Thus, Class 3/4 can interact with stems from the other three classes as illustrated in order to generate 6 of their kind. It is thus logical that using the four (4) identified augmentative/diminutive classes, 24 DPs of their kind can be derived by the aforementioned factorial 1 x 2 x 3 x 4. It is assumed that all of the four class pairs above are able to interact with stems in other classes (except classes 15 and the locatives) to derive diminutives or augmentatives – the details are provided in the proceeding sections.

2.4.1 Augmentative DPs

Augmentative DPs, simply augmentatives, are formed by attaching Class 3/4 prefixes to the noun stems of other noun classes, except Class 15 and the locatives (Class 16,

Class 17, Class 18), with the effect that the respective *n*Ps come to mean size (exceptionally/extraordinarily big/large/small/fat/thin), height (exceptionally/extraordinarily short/tall), and beauty (exceptionally/extraordinarily beautiful/pretty/ugly), among other semantic strands. According to Schadeberg (2003) augmentative *n*Ps are widely formed by assigning nouns to Class 3/4, a view which is widely shared in literature (Carstens, 1991, 1993; Katamba, 2003; Kihore et al., 2012; Maho, 1999). Examples of augmentatives are illustrated in (63) – (66).

63a. *ø–Sanduku.*
5 box
'Box.'

63b. *Ma–sanduku.*
6 box
'Boxes.' (Carstens, 1993:161)

64a. *M–sanduku.*
3 box
'Big/heavy/ugly box.'

64b. *Mi–sanduku.*
4 box
'Big/heavy/ugly boxes.' (Carstens, 1993:161)

65a. *Ji–pu.*
5 boil
'Boil.'

65b. *Ma–ji–pu.*
6 5 boil
'Boils.'

66a. *M–ji–pu.*
3 5 boil
'Large/swollen/ugly boil.

66b. *Mi–ji–pu.*
4 5 boil
'Large/swollen/ugly boils."

In (63) and (65), *sanduku* 'box', *ma-sanduku* 'boxes', *jipu* 'boil' and *ma-jipu* 'boils' which belong to Class 5/6 *n*Ps are not augmentatives; they are regular *n*Ps. In (64) and (66), nouns with same noun stems are augmentative having been assigned Class 3/4 noun class prefixes. It can thus be said that Class 3/4 is responsible for an augmentative reading in addition to semantic classification. Assuming Carstens' (1991, 1993, 2008) view that noun stems bear null augmentative/diminutive affixes and that prefixes of Classes 3/4, 5/6, or 7/8 are added as number morphology, in the usual way, the derivation of augmentatives *m–sanduku, mi–sanduku, m–ji–pu* and *mi–ji–pu* is explicated. Carstens (1991) points out that *ji–* is traditionally analyzed as a Class 5 prefix for monosyllabic noun stems such as *–pu* in (65) – (66) and that the polysyllabic Class 6 noun stems bear no class prefixes as illustrated in (67) – (68).

67. *ø–bega/ ma–bega*
5 shoulder/ 6 shoulder
'Shoulder/ shoulders.'
68. *ø–tawi/ ma–tawi*
5 branch/ 6 branch
'Branch/ branches.'

In (67) – (68), Class 5 noun stems *bega* 'shoulder' and *tawi* 'branch' are polysyllabic, hence they take zero affixes unlike the monosyllabic *–pu* 'boil' ((65) – (66)) which must take the prefix *ji–*. Carstens (1991, 1993) considers *ji–* an epenthetic element inserted into noun stems which would otherwise violate the condition for word-hood. Carstens (1991, 1993) calls this condition a Two Mora Constraint (TMC). In (69) – (70) the TMC and *ji-* insertion are formalized.

69. The Two Mora Constraint: $*[_N \mu^n]$, $n < 2$.
70. *Ji–*insertion: prefix *ji–* to a form which fails to satisfy (63). (Carstens, 1991:212)

The Two Mora Constraint imposes a strict ban on Class 5 monosyllabic or monomoraic noun stems by requiring them to have more than one mora. Based on this condition, *ji-* is inserted into stems which have less-than-two-mora before the stems can be used in syntax. In deriving augmentative DPs in Class 5/6 using Class 3/4 noun class prefixes *– m-/mi-*, for instance, *–ji-* must be added to the noun stem before the augmentative affixes are added, otherwise the DPs fail to meet TMC condition. This view on deriving augmentative DPs involving *ji-* instertion is illustrated in (71) – (72).

71a. *M–ji–cho.*
3 5 eye
'Big/ugly eye.'

71b. **M–cho.*
3 eye
'Big eye.'

72a. *Mi–ji–cho.*
4 5 eye
'Big/ugly eyes.'

72b. **Mi–cho.*
4 eye
'Big eyes.' (Carstens, 1991:210)

In (71a) and (72a), the DPs are grammatical because the regular Class 5 monomoraic stem *-cho* attaches to the *ji-* before augmentative affixes are added. Unlike (71a) and (72a), (71b) and (72b) are ungrammatical because the *ji-* which must be inserted to the monomoraic stem *–cho* to licence its use in the syntax is missing, hence attaching the stem *–cho* directly to the augmentative affixes as in (71b) and (72b) leads to ungrammaticality. This rule, however, does not apply to regular DPs like *m-tu* 'person' or *m-ti* 'tree' in which noun class prefixes attach directly to noun stems.

It can also be observed from the illustrations above that the inserted *ji-* does not encode 'size' or 'singularity' which supports the idea that the *ji-* only serves to meet TCM. Based on these facts, Carstens (1991) notes that the augmentative or diminutive affixes may not attach directly to the monomoraic noun stems without first inserting *ji-* and that *-ji-* must appear between the monomoraic stems and augmentative or diminutive affix as in (71a) – (72a), otherwise *ji-* attaches to a bimoraic noun stem as an augmentative affix on its own as in *ji-toto* 'big child' illustrated in (73).

73. *Ji–toto lile li – li – m – piga mbwa wangu.*
5 child 5 that 5 Agr PAST OM hit 9 dog 1 my
'That big child beat my dog.' (Carstens, 1993:157)

In (73), *ji–* serves as the augmentative affix which alternates with prefix *li–* when attached to the noun stem *–toto* to form *ji-toto/ li-toto* 'big child'. Based on these facts, two major conclusions can be drawn with regard to the distribution of the *ji–* element in the derivation of Swahili DPs.

First, Swahili like many other Bantu languages does not tolerate monomoraic noun stems. This view assumes a ban against monomoraic stems. Thus, Carstens proposed *ji*-insertion to class 5 monomoraic stems in order for the stems to be used in the syntax of DP structure. Monomoraic stems like *-pu* in *ji-pu* 'boil', *-cho* in *ji-cho* 'eye', *-no* in *ji-no* 'tooth', *-bu* in *ji-bu* 'answer', and *-ni* in *ji-ni* 'jinn' are unacceptable for being monoraic, hence require *ji–* inserted before they can be used in DP structure.

Nevertheless, *ji-* is not the only affix inserted to prevent a violation of TMC. It should be noted that insertions of *ji-* type are quite widespread in Swahili monomoraic stems as illustrated in (74) – (77).

74a. *M-tu.*	74b. *Wa-tu.*
1 man	2 man
'Man.'	'Men.'
75a. *M-ti.*	75b. *Mi-ti.*
3 tree	4 tree
'Tree.'	'Trees.'
76a. *Ki-ko.*	76b. *Vi-ko.*
7 pipe	8 pipe
'Pipe.'	'Pipes.'
77a. *N-chi.*	77b. *N-chi.*
9 country	10 country
'Country.'	'Countries.'

In the above examples, monomoraic noun stems in different Classes attract an epenthesis of a prefix to avoid violating TMC. Thus class prefixes *m-* and *wa-* are added to Class 1/2 monomoraic stems, class prefixes *m-* and *mi-* are added to Class 3/4 stems, class prefixes *ki-* and *vi-* are added to Class 7/8 stems, and class prefix N is added to Class 9/10 stems. Without these insertions the stems would not be acceptable for use in syntax and the DPs would be ungrammatical. This view suggests that affix-insertion is part of a productive process to remedy stems that would violate TMC. In such cases the so nouns formed are not assigned augmentative readings except when the nouns are derived.

Second, *ji–* is an independent Class 5 singular augmentative prefix as illustrated in (78) and (79). This consideration is consistent with Kihore et al. (2012) as illustrated below.

78. *Ji–tu li – li – tu – tisha* (*sisi*).

5 person 5Agr PAST OM threaten (us)

'Big and ugly man threatened us.'

79. *Ma–ji–tu ya – li – tu – tisha* (*sisi*).

6 person 6Agr PAST OM threaten (us)

'Big and ugly men threatened us.' (Kihore et al. (2012:104)

The above shows that the *ji–* element is an augmentative prefix with the autonomy to attach to noun stems like *–tu* in Class 1 to derive *ji–tu* 'big/ugly person' as in (78). It should be noted that the noun stem must be bimoraic before the plural affix can be attached. Thus, in (79) *ji–* is inserted to the monomoraic stem *–tu* before the plural affix *ma–* is added. Schadeberg (2001) and (Crisma et al., 2011) have the Class 5 prefix represented by *ji–/ø* in their list of Swahili noun classes, although they are silent on the use of the prefix for any other function except for number morphology. Commenting on the use of noun Class 5/6 for augmentation, Kihore et al. (2012) observe.

> *'Ngeli hizi zinahusu nomino zinazohusu vitu vilivyo katika jozi, nomino za vitu ambavyo havihesabiki, na nomino zinazohusu vitu vikubwa vyenye nguvu au vyenye kuogofya. Kutokana na sifa ya ngeli hizi, hata vitu vingine ambavyo kimsingi haviingii humu, maumbo yake yanapoongezeka (au nguvu zake zinapoongezeka) na kuvifanya vitu hivi visiwe vya kawaida, navyo huingizwa katika ngeli hizi'* (Swahili, Kihore et al., 2012:104).

Translation

> 'These nominal classes concern nouns of things which are in pairs, nouns of uncountable things, and nouns of large objects which are mightier or have terrifying abilities. Because of these attributes, nouns belonging to other nominal classes but which have extra-large shapes (or believed to have extra-ordinary powers) to the extent of making them extra-ordinary, are included in this class.'

The above observation leads to the conclusion that the distribution of *ji–* as far as Class 5 is concerned is twofold. It is the remedial strategy for TMC on par with Carstens (1991) analysis – the prefix for monomoraic noun stems such as *–pu* 'boil', –

cho 'eye', and *–ko* 'kitchen'. From this point of view, the *ji*–insertion does not constitute augmentative reading as already illustrated. The other view suggests that the *ji*– is a separate Class 5 prefix with augmentative function. In this function, the *ji*- attaches to stems from other Genders to form augmentative nouns as explained above. Class 5 augmentatives have other variants besides *ji*-insertion as illustrated in (80) – (83).

80a. *Mw-anaume.*
1 male/man
'Male/man.'

80b. *Ja-naume.*
5 male/man
'Ugly/evil male/man.'

81a. *Wa-naume.*
2 male/man
'Males/men.'

81b. *Ma-naume.*
6 male/men
'Ugly/evil males/men.'

82a. *U-kuta.*
11 (brick) wall
'Wall.'

82b. *Li-ukuta.*
5 (brick) wall
'Badly built/ugly-looking wall.'

83a. *Kuta.*
10 wall
'Walls.'

83b. *Ma-ukuta.*
6 wall
'Badly built/ugly-looking walls.'

In (80) – (83), set 'a' examples illustrate regular DPs without augmentative readings as compared to set 'b' DPs which have augmentative readings. Thus, Class 5/6 attracts augmentative readings when used with noun stems from other noun classes such as Class 1/2 and Class 11/10 above. With this discussion, the next section presents the analysis of the noun classes of diminutive DPs.

2.4.2 Diminutive DPs

Studies in Bantu nominals by Fortune (1984), Maho (1999), Katamba (2003) and Schadeberg (2003) show that diminutives in Bantu languages are mainly formed by assigning nouns to Class 12/13 and Class 19/13. The studies show that augmentatives are realized by affixes **ka*–/**tu*– and **pi*–/**tu*– (singular/plural spell outs) from Proto-

Bantu. Maho (1999) and Katamba (2003) cite Proto–Bantu linguistic reconstruction by Bleek, Meinhof, Meeussen, Guthrie and Welmers who point out that the affixes **ka–* and **tu–* are numbered 12 and 13 respectively, with some reverses of the order in some instances. According to Katamba (2003), the form of the Proto-Bantu singular prefix is consistently **ka–,* but the plural counterpart alternates between **tu–* (Bleek, Meinhof, Meeussen) and **to–* (Guthrie, Welmers). Schadeberg (2003:83) points out that 'Class 12/13 have very few nouns inherently assigned to them; and these have no obvious semantic features of smallness **ka–ɲʊa* 'mouth', **ka–ja* 'home' **tʊ–bii* 'excrements', and **tʊ–lo* 'sleep''.

Despite the observation on the broader use of Class 12/13 for diminutives across many Bantu languages, studies on diminutives in Swahili are often dismissed for the reason that the diminutive class is absent (Ashton, 1947; Carstens, 1991, 1993, 2008; Creissels, Dimmendaal, Frajzyngier, & König, 2008; Crisma et al., 2011; Schadeberg, 2001, 2003). While Crisma et al. (2011) and Schadeberg (1992, 2001) provide no means in which Swahili can make diminutive DPs, Carstens (1991, 1993, 2008) uses Class 7/8 as illustrated in (84) – (88) assuming that Class 12/13 is absent in this language.

84a. *M-toto.*
1 child
'Child.'

84b. *Wa-toto.*
2 child
'Children.'

85a. *Ki–toto.*
7 child
'Tiny child.'

85b. *Vi–toto.*
8 child
'Tiny children.'

86a. *Sanduku/ masanduku.*
5 box/ 6 box
'box/es.'

86b. *Ki-sanduku/ Visanduku.*
7 box/ 8 box
'Little box/es.'

87a. *Jicho/ macho.*
5 eye/ 6 eye
'Eye/ eyes.'

87b. *Ki-jicho/ vi-jicho.*
7 eye/ 8 eye
'Small eye/ eyes.'

88a. *Jiwe/ mawe.*

88b. *Ki-jiwe/ vimawe*

5 stone/ 6 stone 7 stone/ 8 stone

'Stone/s.' 'Small stone/s.' (Carstens, 1993:160, 161, 165)

Carstens (1991, 1993) points out that Swahili DPs use Class 7/8 to form diminutives unlike many Bantu languages like Shona and Chewa which uses Class 12/13. She also indicates that Swahili diminutives attach straight to the stems as illustrated above where, for instance, *ki-/vi-* attach directly to noun stems *–toto, sanduku, jicho,* and *jiwe.* Unlike Swahili DPs, according to this view, other Bantu languages like Shona and Chewa use Class 12/13 affixes which attach to prefixes stems as pre-prefixes. This claim presupposes that the diminutive affixes in languages like Shona and Chewa select a larger category by being attached outside of the regular affixes (unlike Class 7/8 *ki-/ vi-* in Swahili which, in Carstens' (1991, 1993) view, attach straight to stems as illustrated above). Some Chewa examples are illustrated in (89) – (90).

89. *Ka* – [*mu* – *nda*] *ka* – *nga.*
12 3 field 12 my
'My small field.'

90. *Ti* – [*mi* – *nda*] *ta* – *nga.*
13 4 fields 13 my
'My small fields.' (Carstens, 1991:35)

According to Carstens (1991), diminutive affixes in Chewa are basically pre-prefixes attached outside the regular noun class affixes (in square brackets). This view implies that modifiers of diminutive nouns maintain 'outer concord agreement' by agreeing with the diminutive class prefixes appearing outside the regular noun class prefixes. In the examples above, agreements markers on possessives *ka-* and *ta-* relate to the outer class prefixes (pre-prefixes, diminutive affixes) and not the regular affixes – *mu-* and *mi-.*

The analysis that is pursued in this section departs from assuming that Swahili forms diminutives differently from other Bantu languages by suggesting that Swahili and other Bantu languages form diminutives in the same way. I assume that noun Class

12/13 is used for forming diminutive *n*Ps in Swahili and that Class 7/8 is used alongside as in other Bantu languages. Just like in Chewa, Swahili diminutive class prefixes are realized as pre-prefixes attached to affixed stems as illustrated in (91) – (93).

91a. *Ka - m - koba.*
12 3 bag
'Small bag.'

91b. *Tu - mi - koba*
13 4 bag
'Small bags.'

92a. *Ka - ø - yai.*
12 5 egg
'Small egg.'

92b. *Tu - ma - yai.*
12 6 egg
'Small eggs.'

93a. *Ka - m – tu.*
12 1 man
'Small man.'

93b. *Tu - m – tu.*
13 1 man
'Small men.'

In (91) – (93), diminutive affixes *ka-* 'smallness (singular)' and *tu-* 'smallness (plural)' are attached to noun stems which already have regular prefixes – *m- mi-,* and *ma-.* These diminutive prefixes are thus called pre-prefixes. The pre-prefixes encode smallness just like Class 7/8 in Swahili examples cited earlier in (85), (86b), (87b), and (88b) do. Kihore et al. (2012) observe that sometimes Class 12/13 diminutive *n*Ps drop the inner or the regular prefixes without affecting the underlying structure relations as in (94) – (95).

94. *Ka - ø - vulana ka – me – kuja.*
12 1 boy 12 PERF come
'Small boy has come.'

95. *Tu - ø - vulana tu – me – kuja.*
13 2 boy 13 PERF come
'Small boys have come.' (Kihore et al., 2012:96-101)

According to Kihore et al. (2012), the diminutive *n*Ps above have dropped their regular Class 1/2 prefixes without affecting their interpretive indeces. It is assumed that the diminutives derived from Class 1a – singular and plural, take zero (null) prefixes when

forming diminutives in Class 12/13. In the same way, a Class 5 noun with null affix would also replicate null affixation in deriving diminutives – *ø-gari* 'car' becomes *ka-ø-gari* 'little car' and *ø-tawi* 'branch' becomes *ka-ø-tawi* 'small branches.' However, zero affix is not tolerated in deriving diminutives from monomoraic stems as illustrated in (96) – (99).

96a. *Ka - ji - bwa.*
12 5 dog
'Little dog.'

96b. **Ka - ø - bwa.*
12 dog
'Little dog.'

97a. *Tu - ji - bwa.*
13 5 dog
'Little dogs.'

97b. **Tu - ø - bwa.*
13 dog
'Little dogs.'

98a. *Ka - m - tu.*
12 1 man
'Little man.'

98b. **Ka - ø - tu.*
12 man
'Little man.'

99a. Tu - wa - tu.
13 2 man
'Little men.'

99b. **Tu - ø - tu.*
13 person/man
'Little men.'

The above attest to the earlier observation that zero affixes in monomoraic roots are unacceptable just as the monomoraic roots are unacceptable. It should also be noted that some bimoraic nouns, especially in Class 3/4, are reluctant to drop their regular affixes when forming diminutives as illustrated in (100) – (101).

100a. *Ka - *(mw) - embe.*
12 3 mango tree
'Small mango tree.'

100b. *Tu - *(mi) - embe.*
13 4 mango tree
'Small mango trees.'

101a. *Ka - *(m) - koba.*
12 3 bag
'Small bag.'

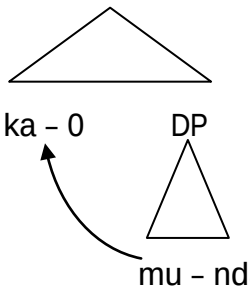
101b. *Tu - *(mi) - koba.*
13 4 bag
'Small bags.'

In (100) – (101), dropping of the regular class prefixes – *m(w)*- and *mi*-, leads to ungrammaticality. The argument here is that Swahili is like other Bantu languages, like the cited Chewa, when forming diminutives using Class 12/13, contrary to the claim that Swahili is deviant. Class 12/13 diminutives are considered regular diminutive affixes, different from Class 7/8 diminutives, which are assumed to derive diminutive DPs. As noted earlier, many Bantu languages have Class 12/13 as inherent diminutive classes in the sense that nouns found in this Gender are diminutives. This group of nouns differs from Class 7/8 nouns which are not inherently diminutive. However, Class 7/8 can be used to derive diminutive nouns as have been explained in this section. The next section attempts to place diminutive and augmentative descriptions in the structure of DP in Swahili.

2.4.3 Structure and derivations of Swahili augmentative and diminutive DPs

Carstens (1991) points out that the position of the diminutive affix Class 7/8 in Swahili is different from that of many Bantu languages including Shona and Chewa. It is argued that the diminutive affix in Chewa is a pre-prefix which attaches to a prefixed noun stem, the diminutive affix in Swahili is a regular prefix which attaches directly to noun stems. Carstens (1993:163) illustrates the behavior of Chewa diminutives in (102).

102.



mu – nda (Carstens (1993:163)

According to Carstens (1991, 1993), the diminutive *ka-mu-nda* 'small field' is formed by two distinct morphological entities – noun stem *-nda* 'field' and the respective class prefix *mu–*, syntactically realized by the raising of the prefixed noun stem *mu–nda* 'field' to the pre-prefix position. In deriving (96), Carstens (1991) assumes that the

base *munda* attaches to a null affix ('0') to the left of the base with the meaning diminutive before it attaches to the pre-prefix *ka–.* In this view, *ka-* is added as both a diminutive affix and number morphology. It is also assumed that diminutives in Chewa and Swahili differ in the level of attachment, where Chewa diminutive and augmentative affixes are analyzed as syntactic affixes located higher than the affixes in Swahili, which are analyzed as morphological affixes attached to noun stems like the regular noun class prefixes. In this view, syntactic affixation is assumed to be more specialized or dedicated for diminutive and augmentative *n*Ps unlike morphological affixation which is not specialized or dedicated for diminutives and augmentative *n*Ps. In other words, Swahili is assumed to lack syntactic affixes for deriving diminutive and augmentative nouns as in Chewa.

The different levels of attaching diminutive/augmentative and regular affixes are also mentioned in Shona. Déchaine et al. (2014) argue that in Shona diminutive/augmentative affixes appear in a dedicated syntactic position called EVALUATIVE in a nominal spine (N-spine) illustrated in (24) repeated in (103).

103. [DET… [EVALUATIVE [OuterNAsp Sg/Pl [InnerNAsp Sort [nP *n*]]]]
HONORIFIC SIZE COUNT MASS STEM
↑ ↑ ↑ ↑
N-class N-class N-class N-class

(Déchaine et al., 2014:28)

In (103), the diminutive/augmentative *n*Ps and the regular (canonical) *n*Ps are assumed to be distinct – the former belong to the EVALUATIVE slot and the later the N-Aspect slot which is divided into the OuterNAsp for deriving countable *n*Ps (singular/Plural) and the InnerNAsp (for deriving Mass nouns). This view presupposes that the diminutive and augmentative *n*Ps are derived using class prefixes in the EVALUATIVE slot while the regular *n*Ps are derived using class prefixes in the N-ASPECT slots. The affixes with EVALUATIVE force of diminutive or augmentative affixes are called EVALUATIVE affixes; borrowing from Fortune (1984), they form part of secondary noun classification. According to Déchaine et al. (2014), the EVALUATIVE

affixes in Shona can form diminutive and augmentative *n*Ps via affix stacking and affix raising. Affix stacking occurs when the EVALUATIVE affix is added to an already prefixed noun stem while affix raising occurs when the EVALUATIVE affix combined directly to an unprefixed noun stem raises to the EVALUATIVE position. These different derivation strategies are illustrated in (104).

104. [Evaluative [N-Aspect [nP *komana*$_1$]]]]

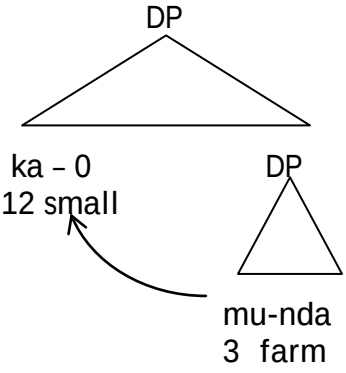
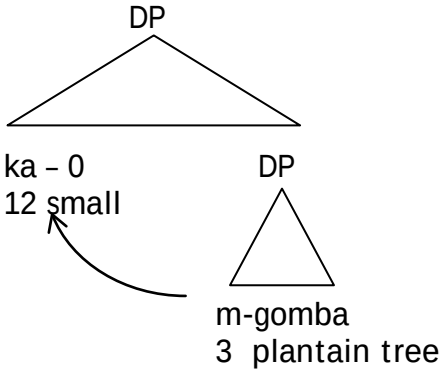
a.	*chì*$_{7.SG}$	*mù*$_{1.SG}$	*kómána*	'Small sturdy boy'	STACKING
	vzì$_{8.PL}$	*và*$_{2.PL}$	*kómána*	'Small sturdy boys'	
b.	*chì*$_{7.SG}$	~~*chì*~~$_{7.SG}$	*kómána*	'Small sturdy boy'	RAISING
	vzì$_{8.PL}$	~~*vzì*~~$_{8.PL}$	*kómána*	'Small sturdy boys'	

(Déchaine et al., 2014:37)

Affix stacking is observed in (104a) when Class 7/8 prefixes *chi-* and *vzi-* are added to *mù-kómána* 'boy' and *và-kómána* 'boys'– the already prefixed noun stems, to yield diminutive meaning 'small sturdy boy(s)'. On the contrary, in (104b) Class 7/8 prefixes *chì-* and *vzì-* are added directly to the unprefixed noun stem *kómána* 'boy' as a substitute for the canonical or regular Class 1/2 affixes – *mù-* and *và-*. It is argued that the homophonous Class 7/8 noun prefixes appear in EVALUATIVE position via prefix raising from their base generated N-Aspect position.

The views on the derivation of diminutive and augmentative DPs above provide a broad picture of how these categories of systactic structures are derived. They also provide some essential clues on how the derivation of Swahili diminutive and augmentative DPs might proceed. However, I would like to comment on a few things before I propose an alternative approach to deriving Swahili diminutive and augmentative DPs. To begin with, although it is claimed that Swahili diminutive prefixes are unlike Chewa diminutive prefixes in that the diminutive prefixes in Chewa attach outside of the regular affix, I am arguing that the diminutive prefixes in the two languages are invariant in the level of attachment in DP structure. I show the parallelism between Chewa and Swahili derivations in (105).

105. Parallel derivations of Chewa and Swahili 'small field'

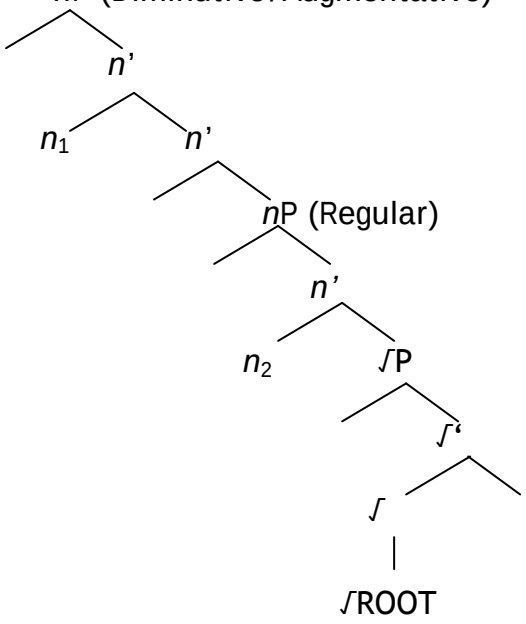
Chewa, *ka-munda* 'small field'	Swahili, *ka-mgomba* 'small plantain tree'
	
Adapted from Carstens (1993:163)	(Author's derivation)

In (105), both Chewa and Swahili derivations have the same underlying structure relations in the sense that they both have the diminutive affix *ka*- attach to prefixed *n*Ps. In the structure, the diminutive affixes in Chewa and Swahili should be assumed to be analyzed as syntactic affixes having the same level of attachment in relation to their bases (prefixed stems). Should this view be taken as a fact, it can be argued that both Chewa and Swahili, and of course many Bantu languages, derive diminutives in a uniform way. It is assumed with Déchaine et al. (2014) that the diminutive and augmentative class prefixes appear higher than their regular class prefix counterparts as illustrated in (103) - (105). The only difference between Carstens (1991, 1993) and Déchaine et al. (2014) approaches is that the latter separates prefix stacking from prefix raising. Prefix stacking examples are readily observed in (104) – (105) where diminutive class prefix attaches to a prefixed noun stem. Additionaly, Déchaine et al. (2014) argue that Class 7/8 diminutive class prefixes raise from their base generated position N-Aspect to EVALUATIVE position the process which is missing in Carstens (1991, 1993) derivation. However, the homophonous nature of Class 7/8 diminutive and its counterpart the regular Class 7/8 suggests that the diminutive and the regular affixes could be analysed as separate *n*Ps; the view which I would like to pursue.

The diminutive and augmentative affixes are derived in a position higher than the position regular prefixes. The higher position relates to Déchaine et al's. (2014)

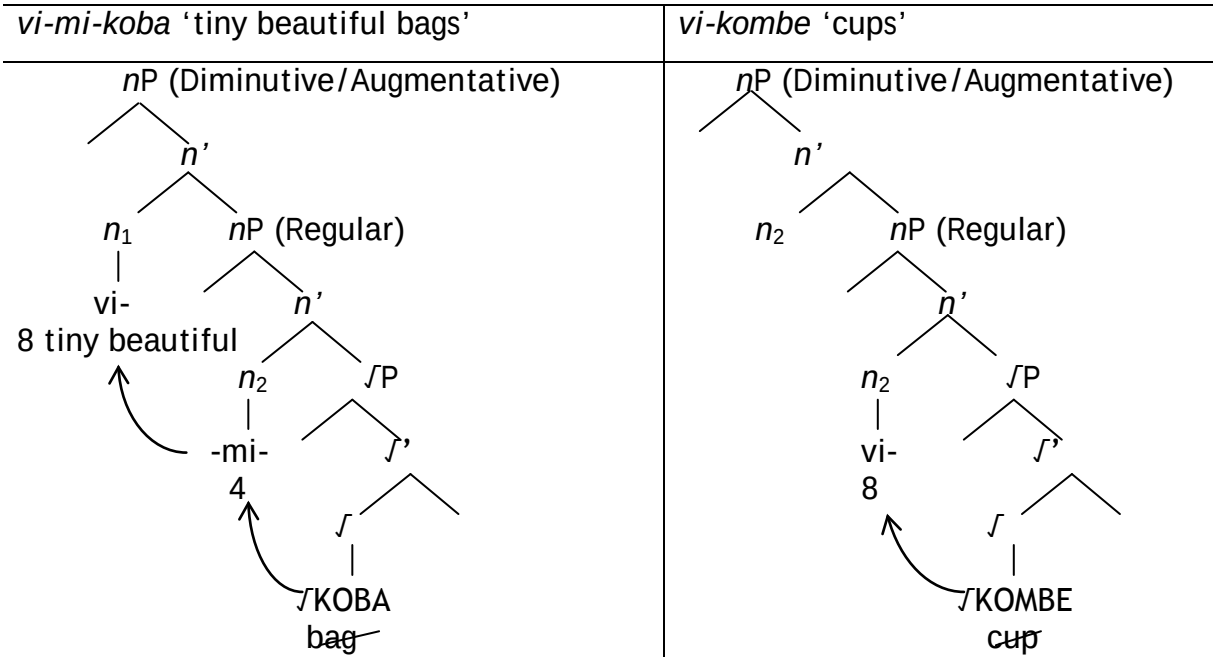
EVALUATIVE position while the position for regular prefixes relates to N-Aspect position in Déchaine et al. (2014). It is proposed in this thesis that diminutive/augmentative noun classes and the regular noun clases form distinct *n*Ps – secondary *n*Ps and primary *n*Ps. The secondary *n*Ps are associated with augmentative/diminutive class prefixes and the primary *n*Ps are associated with regular class prefixes. This approach suggests that the class prefix appearing in N-Aspect does not raise to EVALUATIVE position at any point in the derivation process and that the prefixes occupy distinct syntactic positions in *n*P structure. This analysis has the advantage of avoiding ambiguity caused by the homophonous nature of some derivational class prefixes such as Class 6 illustrated in (25) and Class 7/8 illustrated in (104). Based on the homophonous *ma-* class prefix for *–ta* 'bow' which is used in *m*à-ù-*t*á to code distinct regular (descriptive) and augmentative (evaluative) readings in (25), Déchaine et al. (2014) note that 'the plural-marked forms are ambiguous between a descriptive and an evaluative meaning: *mà-ùtá* may be construed as 'bows' or 'not well-crafted bows' adding that the latter reflects the usage of a noun class prefix with expressive force. This is the exact scenario in (104) where homophonous Class 7/8 prefixes *chì-* and *vzì-* lead to two possible readings – regular and diminutive. The only way to avoid ambiguity similar to the cases cited is to analyze the diminutive/agumentative prefixes and their regular counterparts as distinct heads of distinct *n*Ps with the diminutive prefixes occupying a position higher than the regular prefixes. This view which presupposes distinct syntactic levels of deriving *n*Ps in Swahili is illustrated in (106).

106. *n*P (Diminutive/Augmentative)



It is assumed in (106) that regular *n*Ps are derived in n_2 – a positon which corresponds to Déchaine et al.'s (2014) N-Aspect (Inner/Outer). In this position, n_2 attaches to noun stem to form regular *n*Ps in the usual way. It is also assumed that diminutive and augmentative *n*Ps are derived in n_1 – a position which corresponds to Déchaine et al.'s (2014) Evaluative slot. In this view, n_1 affixes are consistently analyzed as pre-prefixes (diminutive and augmentative affixes) as in *ki-ø-toto* 'tiny child', *vi-ø-toto* 'tiny children', *ki-m-ti* 'tiny tree', and *vi-mi-ti* 'tiny trees' while n_2 affixes are consistently analyzed as ordinary prefixes (regular affixes) as in *m-toto* 'child', *wa-toto* 'children', *m-ti* 'tree', *and mi-ti* 'trees'. The derivation is expected to observe the usual cyclic pathway of movement of the affixes in a bottom-up fashion. In this movement, the stems attach to n_2 (regular affix/N-Aspect) to form regular *n*Ps before attaching to n_1 (diminutive/augmentative affix/EVALUATIVE). In (107) diminutive *n*Ps *vi-mi-koba* 'tiny beautiful bags' and regular noun *vi-kombe* 'cups' are illustrated.

107. Deriving *vimikoba* and *vikombe* in Swahili

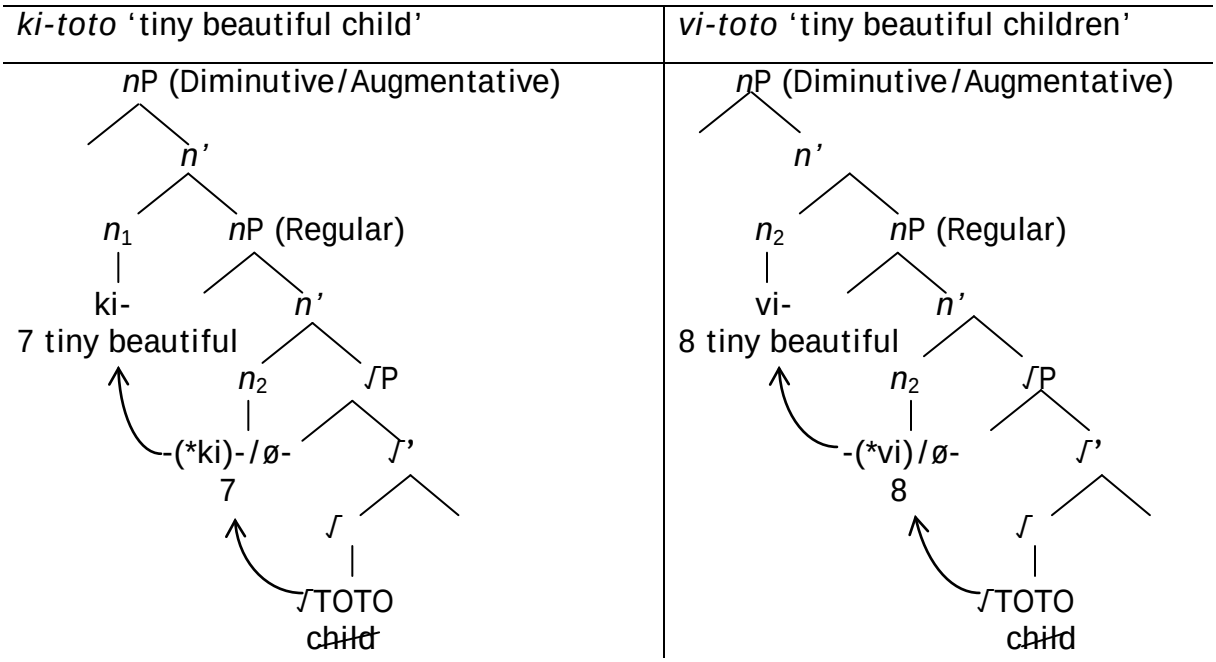


In (107), Class 8 *vi-* is a pre-prefix with the diminutive reading 'tiny beautiful' in *vi-mi-koba* 'tiny beautiful bags' while the same prefix is a regular Class 8 plural prefix in *vi-kombe* 'cups'. The difference between the diminutive affix and the regular one lays in the distinct levels of attachment – the diminutive class prefix is attached high as a pre-prefix than its regular counterpart – the regular class prefix, which is attached in a low position as a prefix.

The syntactic positioning of each affix serves to disambiguate readings of the homophonous prefixes. According to Déchaine et al., (2014), the analysis of the diminutive affixes involving raising of the regular affix to a Evaluative position leads to ambiguity which, in my view, can be avoided by deriving the regular and diminutive affixes in distinct positions as illustrated in (107). In both cases, noun stems raise to regular noun class affixes n_2 in case the noun is regular as in *mi-koba* 'bags' and *vi-kombe* 'cups'. On the contrary, noun stems can raise cyclically to attach to diminutive noun class affixes in n_1 via n_2 in deriving diminutive nouns as illustrated in *vi-mi-koba* 'tiny bags'. It was explained earlier that Class 3/4 *n*Ps such as *m-koba* 'bag' and *mi-koba* 'bags' are reluctant to lose their regular affixes when they derive diminutive *n*Ps

as in the derivation of *vi-mi-koba* above. Unlike deriving diminutives using the Class 3/4 *n*Ps, deriving diminutives *ki-toto* 'tiny child' and *vi-toto* 'tiny children' from Class 1/2 –*toto* 'child', for instance, would not involve the regular class affix as in (108) where only diminutive affixes *ki-* and *vi-* suffice.

108. Deriving *ki-toto* and vi-toto in Swahili



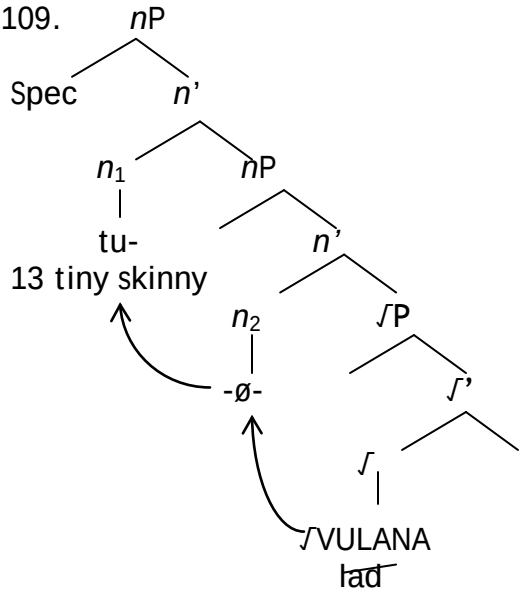
In (108), diminutives are grammatical when a noun stem attaches to diminutive affix in n_1. In such cases, the regular noun class affix position – n_2, is assumed to be null as illustrated and the noun stem is assumed to raise to attach to this null affix (n_2) before it proceeds to attach to n_1. It is assumed that diminutive affixes and regular affixes are specified for in distinct positions – the former is derived higher than the latter, in *n*P structure and that forms like *ki-ki-toto* would be unacceptable on this regard. The form like *ki-ki-toto* would be unacceptable because it assumes 'double diminutives' which under the current alanysis is not permissible.

It should be noted that the analysis pursued here differs from Déchaine et al. (2014) who assume that in Shona the diminutive noun Class 7/8 - *chì*– and *vzì*– in *kómána* 'small sturdy boy' raises from low Aspect position to high Evaluative position (see 104). The consequence of this approach as explained before leads to ambiguity where

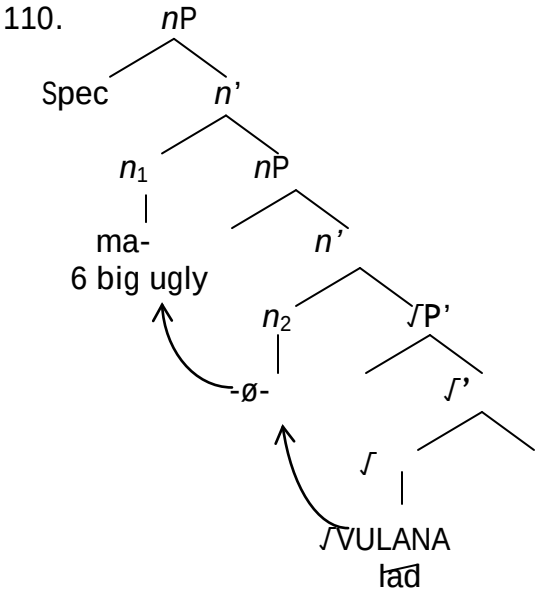
the same affix derives in the same position serves as the regular affix and diminutive affix at the same time. As noted earlier, the derivational pathway followed in this thesis departs from affix raising by suggesting that each affix is derived distinctictly without involving raising.

This same paradigm involving null regular affix can be used to derive diminutive and augmentative nouns such as *tu-ø-vulana* 'tiny lads' (109) and *ma-ø-vulana* 'big ugly/evil lads' (110).

109.

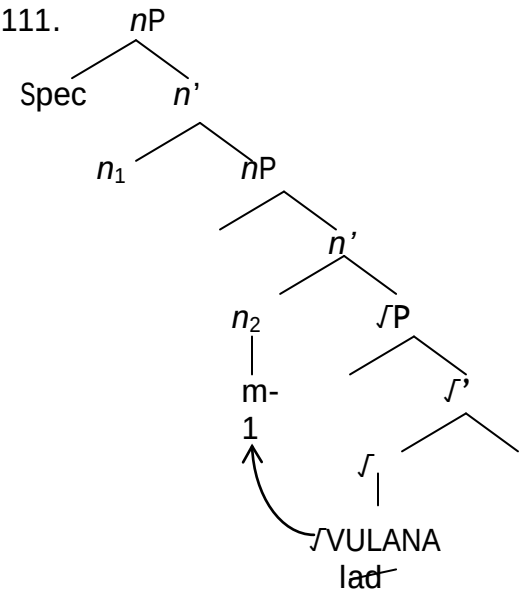


110.

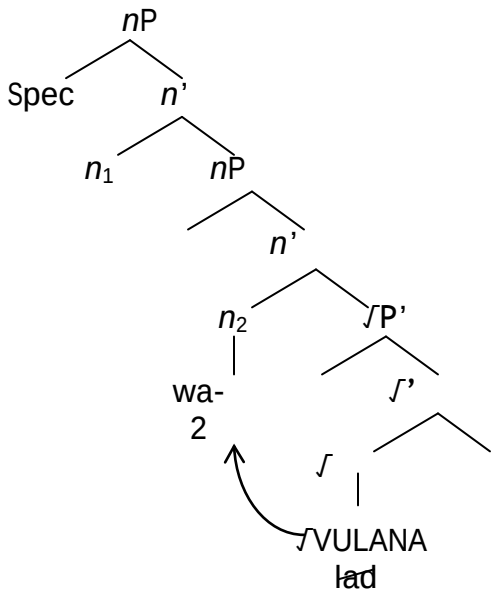


In the above, the diminutive noun (109) and the augmentative noun (110) are derived using pre-prefixes (n_1) occupying a higher position than the position of the regular noun class prefixes (n_2). According to this view, the regular prefixes (n_2) are located lower and used to derive regular nouns such as *m-vulana/ wa-vulana* 'lad(s)/boy(s)' as illustrated in (111) – (112).

111.

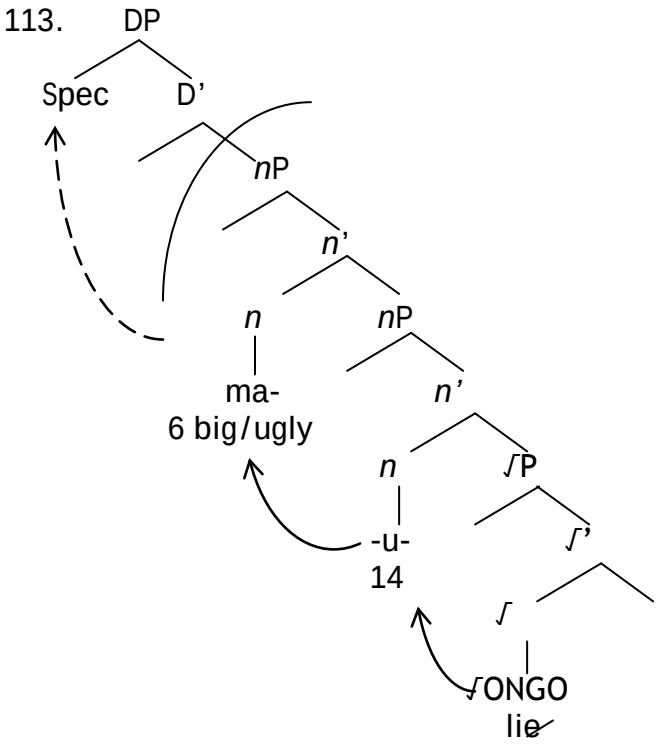


112.

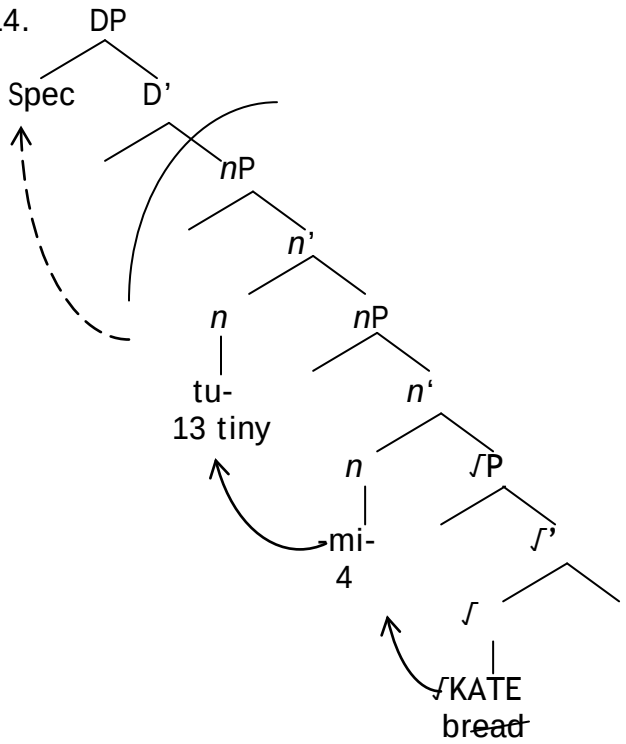


In (111) – (112), the regular prefixes are attached in the usual way; lower than the pre-prefixes. The nouns, so formed, are not assigned any diminutive or augmentative readings. The analysis suggested in this section is unified and could be used to derive a myriad of DPs in many Bantu languages. The *n*P framework presented on the augmentative and diminutive nouns follows the general assumptions in this chapter on deriving Swahili DPs, specifically on the movement of XP. As noted earlier, Swahili DPs are derived by movement of XP (*n*P) to Spec DP; the same applies in mapping any Swahili noun in DP frame. Illustrations are provided in (113) – (114) using augmentative noun *ma-u-ongo* 'big unpleasant lies' and the diminutive noun *vi-mi-kate* 'tiny loaves of bread'.

113.



114.



In (113) – (114), both augmentative and diminutive nouns are derived via the raising of the *n*P to Spec DP. In both cases *n*P is generated below D and then it raises to Spec DP, assuming the conditions of EEP explained earlier and the fact the D is null, otherwise the landing site would be in a specifier position below D (details in the next section).

The unified approach for deriving diminutive and augmentative DPs proposed in this thesis has several advantages. First, it attests that Bantu languages derive augmentative and diminutive DPs in the same way. In this view, there are no differences in the way diminutives and augmentatives are derived in Swahili and other Bantu languages like Shona and Chewa – this is universality for Bantu DPs. Second, borrowing from Déchaine et al. (2014), the approach confirms that the diminutive/augmentative and regular class prefixes are distinct *n*Ps. Third, the approach shows that augmentative/diminutive and other regular affixes occupy distinct syntactic positions in a DP structure – higher lever attachment n_1 for the augmentative and diminutive DPs and lover lever attachment n_2 for the regular DPs. Fourth, the analysis shows that while the augmentative and diminutive affixes appear outside the domain of regular attachment to stems, the regular affixes appear inside

the domain of regular attachment to noun stems. This section and the preceding sections have focused on deriving Swahili DPs via XP movement. XP movement has been responsible for deriving simple DP structures involving regular noun prefixes and complex DP structures involving augmentative/diminutive pre-prefixes. The analysis of augments in cited languages provides a clue that augments and prenominal demonstratives occupy D and function as Def(inite) articles or Det(erminers). This fact supports the assumption that D in Swahili is specified for a category which functions as the definite article. The analysis based on D also provides strong support of the fact that Swahili DP is formed by the movement of *n*P (XP) to Spec DP. The next section draws on these findings to investigate the possibility of projecting determiners in Swahili DP structures.

2.5 Determiners in Swahili

Carstens (1991) points out that Swahili DPs lack overt determiners in comparison to other languages such as Spanish – a Romance language. The contrast between Swahili and Spanish is illustrated in (115) – (120).

115. *La casa bonita.* [Spanish]
the FEM house pretty FEM
'The pretty house.' (Carstens, 2008:153)

116. *El niño pequeño.* [Spanish]
the MASC child MASC small MASC
'The small boy.' (Carstens, 2008:160)

117. *La niña pequeña.* [Spanish]
the FEM child FEM small FEM
'The small girl.' (Carstens, 2008:160)

118. *Uharibifu wa mfalme.* [Swahili]
14 destruction of 1 king
'The destruction of the king.' (Carstens, 1991:84)

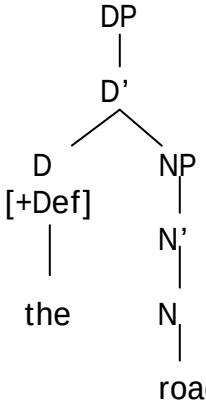
119. *Mti wa mkulima.* [Swahili]
3 tree of 1 farmer

'The farmer's tree.' (Carstens, 1991:120)

120. *Usomaji wa Juma wa kitabu.* [Swahili]
14 read-NOM 14 of 14 of
'Juma's reading of the book.' (Carstens, 1991:120)

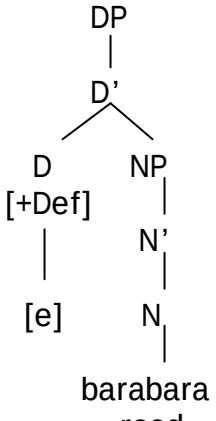
In (115), (116), and (117), Carstens (1991, 2008) shows that DPs in Spanish have definite articles *la* (feminine) and *el* (masculine) which appear with *n*Ps (head nouns) – *casa* 'house (FEMININE)', *niño* 'child (MASCULINE), and *niña* 'child (FEMININE)'. The English definite article '*the'* is also observed in relation to the equivalent translations in Spanish and Swahili respectively. Carstens (1991, 2008) points out that Swahili DPs do not have such determiners – definite articles. The only way to deduce the likelihood of having the definite article reading in Swahili DPs is through observing the English counterparts – *mfalme* translates to *the king, mkulima* translates to *the farmer,* and *kitabu* translates to *the book.* Alternatively, one would have to study information structure looking into such issues as given/old and new information and the analysis of verb arguments – clause structure. Unfortunately, it is not the interest of this thesis to study syntactic structures outside the domain of DP. However, it suffices to argue that Swahili DPs and English DPs are analyzed differently with Swahili DP lacking a determiner where English has a determiner as illustrated in (121) – (122).

121. English DP for *the road*



(Asudeh, Dalrymple, & Toivonen, 2008:9)

122. Swahili DP for *barabara* 'the road'



In (121) – (122), the English DP has an overt D(eterminer) whereas the Swahili DP does not. Despite the fact that the Swahili DP lacks the definite article, based on the English version, one can assume that the empty D position in Swahili is equally specified for the definite article category. Evidence for this view comes from findings showing that articleless languages have the definite article feature [+Def.] specified in D projecting DP above NP.

In the study of Serbo-Croation (SC) – an articleless language, Progovac (1998) reveals that SC exhibits the existence of a DP selecting NP. The main evidence for the existence of a DP comes from noun/pronoun asymmetries which are best captured by placing pronouns in D positions – the view which is drawn from Postal (1969) and Longobardi (1994). Longobardi (1994), for instance, points out that in Italian pronouns occupy the determiner position underlyingly whereas nouns are generated in N positions, and may, in some languages, under certain circumstances, raise to D. Significantly this movement can take place in the absence of articles suggesting that D position is the landing site.

In SC, Progovac (1998) argues that adjectives which can appear with pronouns must necessarily precede the pronouns, in contrast to nouns, which uniformly follow adjectives. Noun-pronoun asymmetries are illustrated in the following Accusative case examples in SC.

123. *I samu Mariju to nervira.*
'And alone Mary that irritates.'
124. ?**I Mariju samu to nervira.*
125. ?**I Mariju samu nju/mene to nervira.*
and alone her/me that irritates
'That irritates even her/name.'
126. *I nju/mene samu to nervira.* (Progovac, 1998:167)

The above examples illustrate that nouns like *Mariju* 'Mary' are generated in N following adjectives as illustrated in (123) and that the attempt to prepose the nouns

with adjectives as in (124) leads to ungrammaticality. It can as well be observed that the pronouns like *nju* 'her' and *mene* 'me' in (126) precede adjectives which suggests that the pronouns occupy D(eterminer) position. This fact is not explicated if it is assumed that the pronouns follow the adjectives as illustrated by the ungrammaticality of (125). According to Progovac (1998), adjectives cannot precede pronouns at all, they can precede nouns, but only if there is an article heading the phrase. In this language, adjectives precede nouns as observed in (123).

Another realization of DP above NP in Serbo-Croation-Bosnian is observed from adjectives which take suffix *–i* (De Bray, 1980; Hlebec, 1986; Leko, 1999; Progovac, 1998). These adjectives are also referred to long adjectives because they take suffix *-i*. Progovac (1998) points out that in Servo-Croatian the adjectives suffixed with long vowel *–i* in SC serve as the definite article when compared with non-suffixed adjectives (short adjectives) which serve as indefinite article as illustrated in (127) – (130).

127. *Nedostaje mi plav-i kaput.*
Misses me-DAT blue-DEF coat
'I am missing the blue coat.'

128. *Nedostaje mi plav kaput.*
'I am missing/ I need a blue coat.'

129. *Murd-i čovek to ne bi uradio*.
Wise-DEF man that not would done
'The wise man would not have done this.'

130. *Mudar čovek to ne be uradio.*
'A wise man would not have done this.' (Progovac, 1998:174)

In SC the suffixed adjectives in masculine nominative case nouns in (127) and (129) are realized as the definite article in English. According to Progovac (1998), the adjectives *plav-i* 'blue' and *murd-i* 'wise' are in D position while the respective Ns – *kaput* 'coat' and *čovek* 'man' are generated in N positions. Similarly, the un-suffixed adjectives are

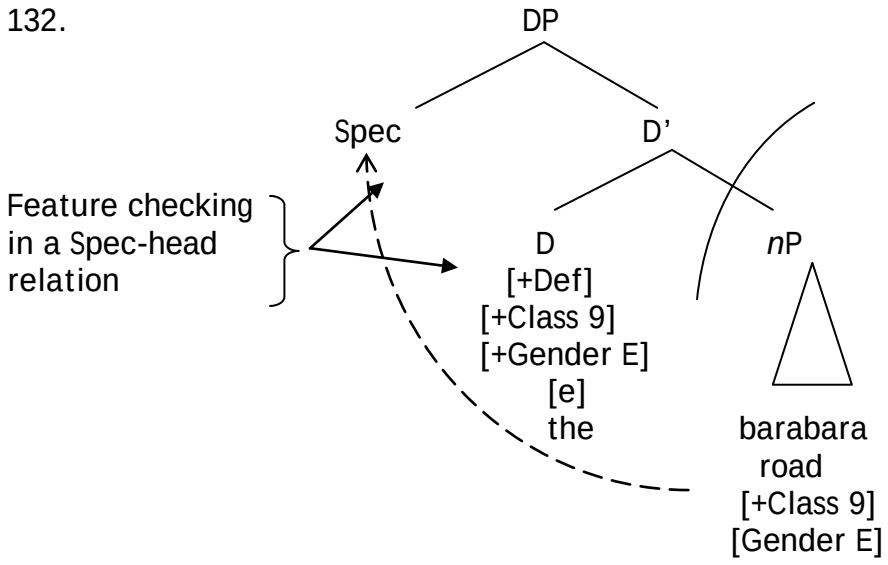
realized in D having indefinite article. On the contrary, in predicate position, only short forms of adjectives are licensed as illustrated in (131).

131. *Ovaj kaput je plav/ *plav-i.*
'This coat is blue.' (Progovac, 1998:175)

In (131), the appearance of a long adjective *plav-i* in the predicate position leads to ungrammaticality (*). Based on these facts, Progovac (1998:166) concludes that the 'definite article feature of a DP is located in D uncontroversially and cross-linguistically' and that even the articleless DPs in Serbo-Croatian (SC) are assumed to project DPs above NPs (*n*Ps) in argument positions as mentioned earlier. Trenkic (2004) has criticized the suggested definite-indefinite long-short form distinction of the adjectives in this language arguing that the long forms should not be analyzed as grammatical categories of definiteness but rather an illustration of specificity. According to Trenkic (2004) the long adjective as in *mudr-i čovek* (129) refers to a specific wise man while the short adjective as in *mudar čovek* (130) refers to any wise man. Despite the criticism based on reference, identifiability and specificity (see details in Trenkic (2004)); Progovac (1998) points out that the long adjectives can be analyzed syntactically as the definite article in article languages.

Giusti (1995, 2002) observes that only articles – definite and indefinite, are indisputably considered to occupy D heading NP. Based on these views on the relationship between the definite article and D in articleless languages, Swahili DPs are assumed to possess an abstract definite article feature [+Def] alongside other relevant features of *n*P in D irrespective of whether or not the language has determiners. This view is illustrated in (132) using example in (122).

132.



In (132), D has a bundle of abstract features corresponding to the features of *n*P (see details in Chapter 1). These features are checked by the specifier like *n*P in a Spec head relation. Thus, the DP is grammatical when the abstract features of *n*P located in D match. According to Alexiadou (2001) languages with strong D feature either an overt determiner or a grammaticalized functional category is in D^{o}. This would presuppose that the features are checked in D by the definite article itself as in English or by the augment as in Bantu languages which have augments serving as the definite article. In the absence of the definite article or a linguistic form like the augment, the features are checked by D itself at LF (Logical Form). Based on these facts, articleless DPs are assumed to have null determiners (Chen, 2004; Cummins, 1998; Portefield & Srivastav, 1988). Thus, languages including Polish, Czech, Hindi, Indonesian (Cummins, 1998; Portefield & Srivastav, 1988; Veselovská & Janebová, 2014), Slavic languages like Polish and Croatian/Serbian/Bosnian (Progovac, 1998; Rutkowski, 2002; Trenkic, 2004), and Chinese (Chen, 2004) which lack the articles project a null D instead. Studies in determinerless DPs in languages like Polish, Czech, Hindi, Indonesian (Cummins, 1998; Portefield & Srivastav, 1988; Veselovská & Janebová, 2014), Slavic languages like Polish and Croatian/Serbian/Bosnian (Progovac, 1998; Rutkowski, 2002; Trenkic, 2004), and Chinese (Chen, 2004) suggest that the determinerless DPs project null D(eterminer) in the absence of the overt determiner category.

According to Giusti (1992, 1995), evidence for the presence of a definite article feature in D, even in languages which lack articles, comes from the study of the distribution of demonstratives and possessives – categories which are said to co-occur with articles in many unrelated languages such as Hungarian, Javanese, and Italian, thus leading to a conclusion that they occupy the specifier position and not the head of DP. In line with this view, Rugemalira (2006) points out that demonstratives and possessives in Swahili are used as determiners, noting however, that possessives can only appear postnominally while the demonstrative can appear pre- and post-nominally. In Spanish, Brugè (2002) points out that demonstratives can appear either prenominally or postnominally as illustrated in (133) – (136) in a position which suggests an intimate relationship with the definite article.

133. *Este/ese/aquel libro.*
'This/that/that book.'
134. *El libro este/ese/aquel.*
'This/that book.' (Brugè, 2002:15)
135. **Este el libro.*
'This the book.'
136. **Un libro este.*
'A book this.' (Brugè, 2002:18)

In Spanish, either the demonstrative (133) or the definite article (134) can appear prenominally. The co-occurrence of the demonstrative and the definite article in the prenominal position is impermissible (135). It can also be observed that only the definite article can appear prenominally when the demonstrative appear postnominally (136). According to Brugè (2002), despite the different distributions of the demonstratives and the definite articles, the demonstrative in Spanish and in other studied languages like Romanian, Catalan, Bosnian, and Albanian, is deictic. The fact that the demonstrative and definite article are in complementary distribution in Spanish provides a clue as to the affinity of the two categories. The affinity between demonstratives and the definite article is also expressed in Swahili DPs in the next section.

2.5.1 Demonstratives and Determiners in Swahili DPs

Chen (2004), de Velde (2005) and Heine and Nurse (2008) concur with Greenberg (1978) who points out that the definite articles evolve stage-by-stage through the grammaticalization of the demonstratives. According to Greenberg (Greenberg, 1978:61) the process of grammaticalization begins when "a purely deictic element has come to identify an element previously mentioned in discourse" adding that "the point at which a discourse deictic becomes a definite article is where it becomes compulsory and has spread to the point at which it means 'identified' in general." Diessel (1999) assumes with Greenberg (1978) that when anaphoric demonstratives develop into definite articles their use is gradually extended from non-topical antecedents to all kinds of referents in the preceding discourse. In this context it is observed that "in the course of this development, demonstratives lose their deictic function and turn into formal markers of definiteness" (Diessel, 1999:129). Chen (2004) summarizes Greenberg's view in (137).

137. Greenberg's Stages of grammaticalization of deictic functional categories

Stage 0	transitional	Stage 1
Situational deictic **>**	Anaphoric >	Shared knowledge association

(Chen (2004:1147)

The analogy in (137) is significant because it provides clues for the affinity between demonstratives and the definite articles. The fact that the definite articles emanate from demonstratives provides strong evidence to support views which suggest that under certain conditions demonstratives function as definite articles. In order to place demonstratives in this line of argument, the discussion begins with the shared assumption that demonstratives are primarily deictic (Brugè, 2002; Carstens, 1991; de Velde, 2005; Dryer, 2007; Givón, 2001; Kihore et al., 2012; Ström, 2015; Trenkic, 2004). Ström (2015), Dryer (2007) and Kihore et al. (2012) point out that demonstratives indicate the proximity and non-proximity of the location of a referent in relation to the position of the speaker and the hearer. Ström (2015) and de Velde

(2005) show that prenominal and postnominal demonstratives in Swahili and many other Bantu languages have semantic or pragmatic difference, adding that postnominal demonstratives in some languages like Bankon have emphatic value. de Velde (2005) illustrates that prenominal demonstratives found in languages such as Bankon, Nkore, Kanyoka, Bemba, and Bolia are emphatic while postnominal demonstratives have no emphatic value. The assumption that the demonstrative can be emphatic pre- and post-nominally does not constrain the assumption on the definite article coding. Another view of looking at the demonstratives which is shared by de Velde (2005) who points out that postnominal demonstratives in some languages like Swahili can be referred to as 'proper demonstratives' meaning that they serve a deictic function – to point to an object. These are illustrated in (138) – (140).

138. *Ki – tabu hiki.*
7 book 7 this
'This book (at my place).'
139. *Ki – tabu hicho.*
7 book 7 that
'This book (at your place)' or 'the book already mentioned.'
140. *Ki – tabu kile.*
7 book 7 that
'That book (far from us).' (de Velde, 2005:436)

The examples above show that postnominal demonstratives ((138) – (140)) are deictic. In Swahili, deictic demonstratives appear in three-tier person-based forms representing proximity with the speaker (Carstens, 1991; de Velde, 2005; Kihore et al., 2012). The forms of the demonstratives distinguish between 'speaker' (first person), 'spoken to' (second person), and 'spoken about' (third person). The demonstratives illustrated in (138) – (140) fall under the same analysis expressing the notion of distance in addition to the deictic force – *here (near/with) the speaker* (138), there (*near/with*) *the spoken to* (139), and *there* (*near/with*) *the spoken about* (140). In saying (138), for instance, it is assumed that the object under discussion is either on the speaker's hand or nearby. Unlike (138), in saying (139) it is assumed that

the speaker refers to an object held by or is near the spoken to. In saying (140), the it is assumed that the object under discussion is far from both the speaker and the spoken to.

Bantu languages are not the only languages with three-tier person-based deictic reference. According to Lyons (1999), Armenian is another language with a three-tier person-based demonstrative system as illustrated in (141).

141. Lyons' (1999:55) three-tier person-based demonstratives in Armenian

Definite article		**Demonstrative**	
–s	the 'near me'	ays	this 'near me'
–d	the 'near you'	ayd	that 'near you'
–n	the 'near him, etc.'	ayn	that 'near him, etc.'

According to Lyons (1999), the three-tier person-based demonstrative elements are marked on the affixed definite articles as well as on the demonstratives (141). The three-tier person-based demonstrative system in Swahili must agree in number and gender with respective nouns they introduce. A complete list of the demonstratives is provided in (142).

142. The three-tier person-based demonstrative system in Swahili

Cl	Prefix	Example	Gloss	Demonstratives		
				Ist Person	**2nr Person**	**3rd Person**
				Near speaker	Near spoken to	spoken about
1	m(u)-	mtoto	child	hu-yu	hu-yo	yu-le
1a	ø	baba	father	hu-yu	hu-yo	yu-le
2	wa-	watu	persons	ha-wa	ha-o	wa-le
3	m-	mti	tree	hu-u	hu-o	u-le
4	mi-	miti	trees	hi-i	hi-yo	i-le
5	ji-	jiwe	stone, eye	hi-li	hi-lo	li-le
5a	ø	panga	matchet	hi-li	hi-lo	li-le
6	ma-	mapanga	matchets	ha-ya	ha-yo	ya-le
7	ki-	kiti	chair	hi-ki	hi-cho	ki-le
8	vi-	viti	chairs	hi-vi	hi-vyo	vi-le
9	N-	nyumba	house	hi-i	hi-yo	i-le
10	N-	nyumba	houses	hi-zi	hi-zo	zi-le
11	(l)u-	(l)ubao	timber	hu-u	hu-o	u-le
12	ka-	katoto	small child	ha-ka	ha-ko	ka-le
13	tu-	tutoto	small children	hu-tu	hu-to	tu-le
14	u-	uwizi	theft	hu-u	hu-o	u-le
15	ku-	kuimba	singing	hu-ku	hu-ko	ku-le
16	pa-	pahala	place	ha-pa	ha-po	pa-le
17	ku-	kwahala	place	hu-ku	hu-ko	ku-le
18	mu-	mwahala	place	hu-mu	hu-mo	m(u)-le

Kihore et al. (2012), point out that the main demonstrative agreement is *h-* which is realized as *hu-, ha-,* and *hi-* for first and second person. The forms of the agreement harmonize vowels of the noun prefixes of respective stems. Thus, the agreement is *hu-* in Class 1, Class 3, Class 9/10, Class 11, Class 13, Class 14, Class 15, Class 17, and Class 18 because the vowel is *-u*. The agreement is *hi-* in Class 4, Class 5, and Class 7/8 when the vowel is *-i*. The agreement is *ha-* in Class 2, Class 12, and Class 16 where the vowel is *-a*. In addition to the three agreement forms for the first and second person, the agreement for third person demonstratives is *-le which* only appears as a suffix different from the counterparts which appear as prefixes. An instance of the three-tier person based demonstratives in class 1 are *hu-yu* 'this near the speaker',

hu-yu-o ‘that near the spoken to’ (the main form is *hu-yo* following the dropping of the vowel of the agreement, according to (Kihore et al., 2012)), and *yu-le* ‘that spoken about’. The plural forms are *ha-wa* ‘these near the speaker’, *ha-o* ‘those near the spoken to’, and *wa-le* ‘those.’

Unlike the postnominal demonstratives, the prenominal demonstratives are assumed to bear a definite article feature. de Velde (2005) claims that the prenominal demonstratives are not ‘demonstrative proper’ but definite articles. According to de Velde (2005), the prenominal demonstratives are quite widespread, as observed in languages such as Chaga, Giryama, Digo, Nyamwezi, and Dciriku. In these languages prenominal demonstratives have the same function as the definite article in western European languages; examples in Swahili are provided in (143) – (145).

143. *Hiki kitabu.*
7 this 7 book
‘The book (that I introduced into your conversation).’
144. *Hicho kitabu.*
7 that 7 book
‘The book (that you introduced or mentioned).’
145. *Kile kitabu.*
7 that 7 book
‘The book (known to both of us).’ (de Velde, 2005:467-437)

According to de Velde (2005), the prenominal demonstratives *hiki* ‘this’ (143), *hicho* ‘that’ (144), and *kile* ‘that (145)’ are used as the definite article '*the'.* The prenominal demonstratives are likely to be used when there is reference to previous mention while the postnominal demonstratives are used when pointing as illustrated in (146).

146. Muuguzi a – li –wa–pa ma-ziwa watoto wale. Wa-le wa-toto
1 nurse 1 Past. 2 give 6 milk 2 child 2 those. 2 those 2 child
wa-li-kuwa wa – na - njaa.
2 Past. are 2 be 9 hungry
'The nurse gave those children some milk. The children were hungry.'

In (146) the postnomial *wale* 'those' is deictic since it serves to point to the location of the children – far from the speaker and the spoken about. The prenominal *wale* 'those', on the contrary, is not deictic and is translated as the definite article. The prenominal demonstrative refers to the shared knowledge among participants in contextual discourse and is based on the established fact mentioned earlier. In this accord, the prenominal demonstrative functions as the definite article in Swahili.

de Velde (2005) notes that the use of prenominal demonstratives as the definite article is part of a gradual development towards grammaticalization into full-fledged definite articles in line with Krifka (1995) who considers the prenominal demonstratives as the definite article. Ström (2015) suggests that in Swahili the prenominal position of the demonstrative is an innovation which triggers the grammaticalization process of the demonstratives into the definite article. However, demonstratives in Swahili are not yet grammaticalized as linguistic forms for definite 'reading' on the same par with English articles.

2.5.2 Structure and derivation of determiner demonstrative in Swahili DP

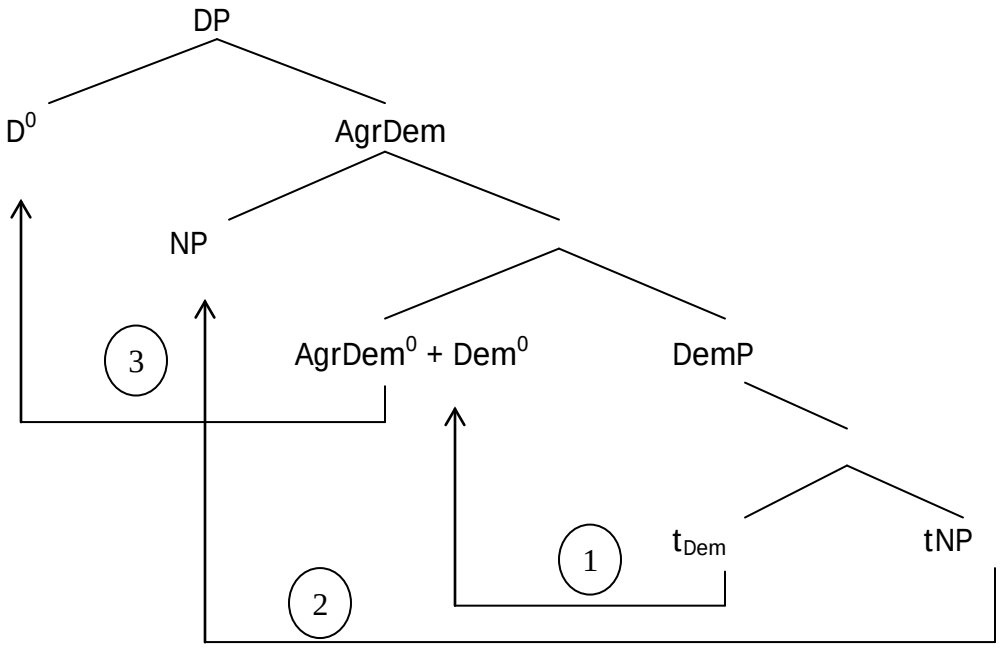
In the study of demonstratives in Spanish, Brugè (2002) cites Giusti (1993) who points out that in Romanian and Spanish demonstratives are deictic and can be realized either in Spec AgrP – postnominally, or by raising to Spec DP – prenominal position. Brugè (2002) notes that the demonstrative in Spanish is always generated in a low position inside the extended nominal projection and that at FP it can be realized either in this position or in the prenominal Spec DP position as illustrated in (147).

147. [Spec DP *este*$_i$ [D^0 [...[XP [X^0 libro$_j$] [FP t_i [F^0 t_j] [NP [N^0 t_j]]]]]]] (Brugè, 2002:18)

In this view, the movement of the demonstrative from FP to Spec DP (147) is only explicable assuming N-to-D movement which leaves the specifier of FP as the only possible landing site for the demonstrative. Giusti (1995, 2002) observes that in DP structures only articles – definite and indefinite, are indisputably considered to occupy D heading NP. Commenting on the status of D, Progovac (1998:166) states 'articles seem to be the only category which occupies the D, uncontroversially and crosslinguistically.' This view suggests that D is associated with the class feature for the definite article. According to Giusti (1992, 1995, 2002), evidence for the prominence of articles on the D comes from demonstratives and possessives which are said to co-occur with articles in many unrelated languages such as Hungarian, Javanese, and Italian, thus leading to the conclusion that, in these languages, demonstratives occupy the specifier position, not the head of DP.

Shlonsky (2004) observes that in Beirut Arabic, the appearance of the demonstrative in prenominal position stems from obligatory movement of the demonstrative. Shlonsky (2004) argues that in this language full prenominal demonstratives like *haydi* 'this' are heads which undergo movement from Dem^0 to D^0. In this view, *haydi* (with its variants – *hayda, hool* for the masculine singular and plural forms) occupies a head position lower than D and enters into a specifier head relation with an XP in Spec/Dem (or in SpecDem) which is followed by further movement of Dem to D as illustrated in (148).

148.



(Shlonsky, 2004:1502)

In (148), Shlonsky (2004) argues that the full postnominal demonstrative, *haydi* moves from Dem^0 and projects Agr.Dem (movement indicated by 1), the NP (or an AgrP containing it) is then raised to Spec/AgrDem (movement indicated by 2). Finally (movement indicated by 3), $AgrDem^0$ undergoes head movement and adjunction to D^0. Shlonsky (2004) illustrates that the movement in 1 is of the sort postulated for other agreement – including functional heads in the nominal domain. The movement in 3 is unique to demonstrative heads. According to Shlonsky (2004), in many languages, the presence of a pre-nominal demonstrative precludes the appearance of a definite determiner. It is also noted that such demonstratives are akin to Levantine Arabic's *hal,* which may only appear prenominally as illustrated in (149) – (150).

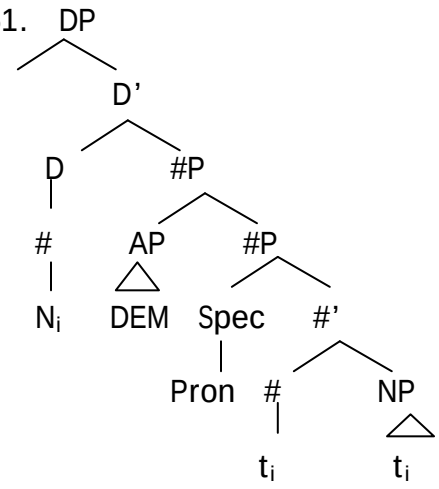
149. *Hal bint.*
This girl

150. *(*l*) *bint hal.*
the girl this (Shlonsky, 2004:1500)

Shlonsky (2004) explains that *hal* 'this' is bi-morphemic, and consists of a half of a 'demonstrative', procliticized onto the definite article *l.* In this view, *hal* can be thought of as the lexicalization of a head in which the demonstrative is fused with the determiner. Based on these facts, Shlonsky (2004) concludes that the demonstrative *hal* 'this' is base-generated in D^0. In (149), the *hal* in question differs from the Beirut Arabic demonstrative *haydi* which is base generated below D and only raises to D to attach to a definite article feature present in D. In my view, the analysis of *hal* in (149) is comparable to the analysis of augments in augment languages like Songye and Gogo cited earlier in which the appearance of the augment in D is explained in three ways. First, the augment is base generated in D. Second, the base generated augment in D can appear alone or cliticise with the prenominal demonstrative. Third, the prenominal demonstrative can delete the augment upon landing in D. Since Swahili is not an augment language, the prenominal demonstrative becomes the only category that can appear in D.

Carstens (1991) points out that the demonstratives can appear prenominally or postnominally, and that post-nominal demonstratives are adjuncts to #P located below D. This view is illustrated in (151).

151.



(Carstens, 1991:107)

In (151), the demonstrative (DEM) is an adjunct to #P. According to Carstens (1991, 1993), the above derivation is only explicable assuming head-to-head movement of N to D (notice the traces '*t*') and the movement of Num across the demonstrative in X^0 would violate the Head Movement Constraint (HMC) (Baker, 1988; Carstens, 1991; Chomsky, 1986; Ouhalla, 1999; Travis, 1984). In (152), the Travis (1984) HMC formulation is adopted.

152. Head Movement Constraint.

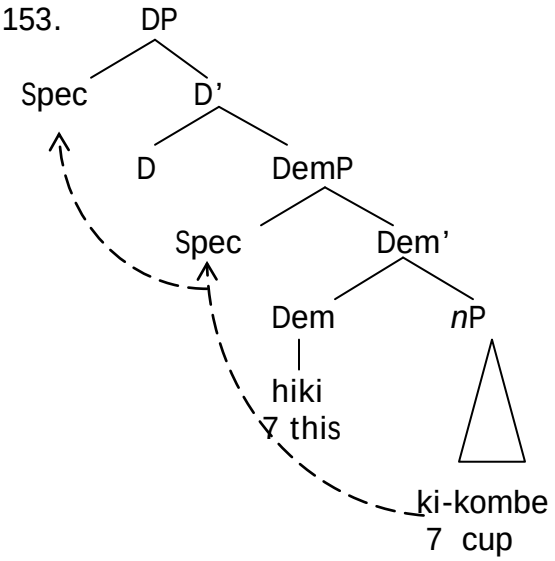
An X^0 may only move to the Y^0 which properly governs it (Travis, 1984:131).

In (152), with the demonstrative as the adjunct to NumP the N-to-D Head Movement Constraint becomes inoperative. Carstens (1991) also notes that the alternative syntactic lowering of the demonstrative to adjoin to NumP would equally not be plausible in that it would not be structure preserving. In this sense, Carstens (1991) concludes that demonstratives are adjuncts to #P and in that position the demonstratives precede all lexical arguments of Num and they can undergo optional raising to Spec DP. According to Carstens (1991) both postnominal and prenominal demonstratives are not in any way analyzed as determiners but deictic categories.

It is suggested that demonstratives are analyzed in two different ways. First, the postnominal demonstratives serve a deictic function by showing relative location or

distance of the referred entity in relation to the participants taking part in contextual discourse. Second, the prenominal demonstratives function as the definite article like *the* in English. de Velde (2005) clearly points out that the prenominal demonstrative is used as the definite article in some Bantu languages like Swahili. Commenting on the difference between the prenominal demonstrative and postnominal demonstrative with regard to their respective positions in DP structure, Ström (2015) argues that the prenominal demonstrative position in Swahili is an 'innovation' accompanied with bleaching out of 'deictic' force or features of the prenominal demonstratives themselves. Shlonsky (2004) indicates that for the demonstrative to appear in the prenominal position it must have raised from its base generated position below D. This view is adopted in deriving the Swahili DP structure in (153) showing the base generated position of the demonstrative in Swahili DPs.

153.

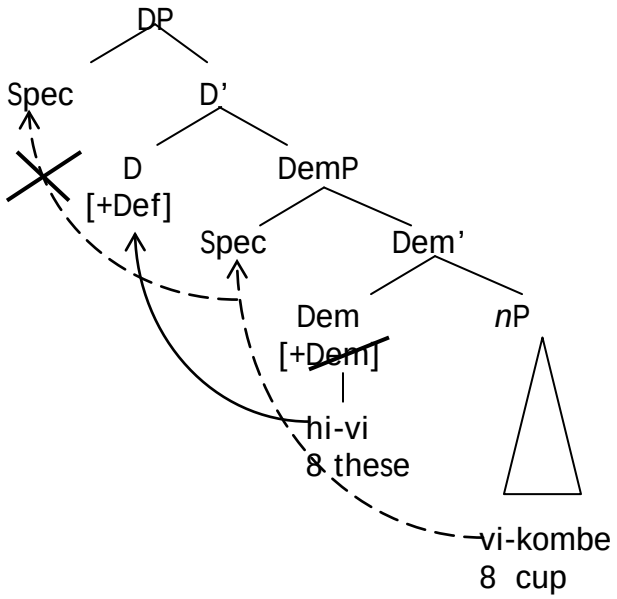


In (153), the postnominal demonstrative appears below D in a position not associated with the definite article suggesting that the demonstrative is the 'proper demonstrative' – deictic, according to de Velde (2005). The underlying structure relations between the Swahili *kikombe hiki* in (153) and the English equivalent *this cup* are the same. The *n*P raises to Spec DP via Spec DemP. In Spec DP, *n*P is able to check its relevant features in D via Spec head relation. Since D is null, the features are checked against D itself at LF contrary to when D is occupied in which case the features are checked against the occupant. It was mentioned in the former derivation

(151) that the raising of the demonstrative to a specifier position was explicable to avoid violating TMC. However, in (153) such a violation is inoperative since the demonstrative is no longer in the adjunct to NumP as in Carstens' (1991) derivation. With the demonstrative under Dem below D, *n*P obligatorily raises to Spec DP resulting in the order *n* Dem.

Ström (2015) noted that the prenominal position of the demonstrative in Bantu DPs is an innovation meaning that it is not canonical. This view suggests that the prenominal appearance of the demonstrative is the result of some modification in the DP structure. Sacleux (1909:130) quoted in Ström (2015:139) points out that in Bantu DPs 'it is not common for the demonstrative to precede the noun'. Ström (2015) and Heine and Kuteva (2002) indicate that the prenominal order of the demonstrative is part of the changing process toward the grammaticalization of the demonstrative. I assume alongside the related literature that the prenominal demonstrative appears in D where it functions as the definite article. Since the prenominal appearance is assumed to be an innovation, it is assumed that the prenominal demonstrative appears in D following its raising as illustrated in (154).

154.



In (154), the Dem raises obligatorily to D. The raising of Dem is triggered by the strong definite article feature in D. Hence, with the demonstrative in D, the raising of *n*P to Spec DP is blocked and consequently the *n*P lands in Spec DemP. This finding confirms

Roberts and Roussou's (2003) hypothesis on grammaticalization of demonstratives into definite articles; a process which amounts to changing in category membership to the functional head immediately above, assuming the hierarchy [D–Dem–*n*]. Considering the argument that the property [+Dem] is lost when the demonstrative appears prenominally in D (also indicated in (154)), one might wonder why not base-generate the anaphoric demonstrative under D as with the definite article in English. The only current possible explanation is that the demonstrative in Swahili is not fully evolved as a grammatical category – a definite article, as in languages like English or French which have full-fledged grammaticalized articles – definite and indefinite. The next section is going to discuss the possibility and implications of having the sequence of the demonstrative and the locative in Swahili DPs assuming that the sequence is common in some of the other languages studied.

2.6 Demonstrative and Locative Sequences

Brugè (2002) highlights that in Spanish the locative form *aqui* 'here' can be realized at the same time the demonstrative *este* 'this' appears. In this language, according to Brugè (2002), the locative needs to be preceded by the preposition *de* 'of' to generate *este de aqui* 'this of here.' The locative in such situations functions to reinforce the deictic value of the demonstrative which is assumed to be already specified. She points out that the interpretation of the DP does not change whether or not the locative is present or absent as *este libro* 'this book' and *este libro de aqui* 'this book of here.' In this view, the information expressed by the two DPs – the former with no locative word and the latter with the locative is the same. Similar sequence of demonstrative and locative is found in Swahili except that in Swahili the preposition is absent as illustrated in (155).

155. *Walimu hawa hapa.*
2 teacher 2 these here
'These teachers here.'

In (155), the demonstrative and locative follow *n*. The sequence demonstrative and locative (henceforth, Dem-Loc) emphasizes the deictic force of the demonstrative. de Velde (2005) notes that, in some Bantu languages, the co-occurrence of the prenominal and the postnominal demonstratives provide emphasis to the deictic force. It appears that in Swahili the deictic force is achieved by the locative. It was noted in this chapter that Bantu languages like Swahili have a three-tier person-based deictic system. The category of locatives also fall under a similar pattern which is realized as *hapa* 'here' which translates to 'speaker (reference)', *hapo* 'there' translating to 'spoken to (spoken to reference)' and *pale* 'there' translating to 'afore mentioned (spoken about reference)'. The distribution of Dem-Loc sequences in Swahili is summarized in (156).

156. The Distribution of Dem-Loc Forms in Swahili Noun Class System

Class	CPx	Example	Dem+Loc	Dem+Loc	Dem+Loc
1	*m-*	m-tu 'person'	huyu hapa	huyo hapo	*yule pale*
1a	*ø*	baba 'father'			
2	*wa-*	wa-tu 'people'	hawa hapa	hao hapo	*wale pale*
3	*m-*	*m-ti*	huu hapa	huo hapo	*ule pale*
4	*mi-*	*mi-ti*	hii hapa	hiyo hapo	*ile pale*
5	*ji-*	*ji-we*	hili hapa	hilo hapo	*lile pale*
6	*ma-*	*mawe*	haya hapa	hayo hapo	*yale pale*
7	*ki-*	*ki-ti*	hiki hapa	hicho hapo	*kile pale*
8	*vi-*	*vi-ti*	hivi hapa	hivyo hapo	*vile pale*
9	*N-*	*ng'ombe*	huyu hapa	huyo hapo	*yule pale*
10	*N-*	*ng'ombe*	hawa hapa	hao hapo	*wale pale*
11	*u-*	*u-kuta*	huu hapa	huo hapo	*ule pale*
12	*ka-*	*ka-toto*	haka hapa	hako hapo	*kale pale*
13	*tu-*	*tu-toto*	hutu hapa	huto hapo	*tule pale*
14	*u-*	*u-siku*	huu hapa	huo pale	*ule pale*
15	*ku-*	*ku-lima*	huku hapa	huko hapo	*kule pale*
16	*pa-*	*pa-hala*	pahala hapa	pahala hapo	*pahala pale*
17	*kw-*	*kw-ahala*	kwahala huku	kwahala huko	*kwahala kule*
18	*mw-*	*mw-ahala*	mwahala humu	mwahala humo	*mwahala m(u)le*

CPx = class prefix, Dem = demonstrative, Loc = locative

The above shows that, unlike demonstratives which agree with the *n*P they introduce, the locatives have an independent existence which does not agree with the *n*P in any way. This suggests that the locatives are dependent on the demonstrative for their interpretation and that the construction is ungrammatical in the absence of the demonstrative as illustrated in (157) – (158).

157. *Watoto* *(*hawa*) *hapa.*
2 child 2 these here
'These children here.'

158. *Miti* *(*hii*) *hapa.*
4 tree 4 these here
'These trees here.'

In (157) and (158), demonstratives agree in class and number with the nouns they introduce whereas the locatives are invariant – they do not agree. In languages where there is the sequence Demonstrative+Locative omitting the demonstratives, but not the locatives, leads to ungrammaticality. This tendency is also observed in other languages such as Spanish as illustrated in (159) – (162).

159. *Este libro de aqui.*
'This book of here.'
160. *Este libro* (*de aqui*).
'This book (here).' [Spanish, Brugè (2002:25)]
161. *Watoto* *hawa* (*hapa*).
2 child 1 this (here)
'These students here.'
162. *Wanafunzi* *hao* (*hapo*).
2 student 2 those (there)
'Those students (there).'

According to Brugè (2002), the locative *de aqui* in (159) is not indispensable and can be omitted without affecting the interpretive index. The same applies in Swahili where the locative, but not the demonstrative, can be dispensed with, as in (161) – (162). Brugè (2002) points out that the information expressed by *este libro* 'this book' in (160) (with optional locative) is the same as that expressed by *este libro de aqui* 'this book of here' in (159) (with the locative). However, several differences can be noted with regard to the ordering of demonstrative and locative between Spanish and Swahili. First, the locative in Spanish is obligatorily preceded by the preposition *de* 'of', and the resulting sequence is *este de aqui* 'this of here'. Swahili does not need any preposition or other form of a clitic as in (163) – (164).

163. *El libro este de aquí está mal hecho.*
The book this of here is badly made. (Brugè, 2002:25)
'The book here is badly made.'
164. *Kitabu hiki (*ø) hapa kipya.*
7 book 7 this of here new
'This here new book.'

Second, in Spanish the sequence demonstrative and locative can be broken by the demonstrative moving to the pre-nominal position (165). In Swahili, when the demonstrative moves to the prenominal position the constituent hood – Demonstrative+Locative is as well broken as illustrated in (166).

165. *Este libro de aquí está mal hecho.*
this book of here is badly made
'This book here is badly made.' (Brugè, 2002:25)
166. *Hiki ki-tabu hapa ni ki-pya.*
7 this 7 book here be 7 new
'This book here is new.'

The order of elements of the DP in (166) is unacceptable in Swahili because the demonstrative and locative sequence is intervened. However, the prenominal occurrence of the demonstrative and the locative is occasionally observed in some unspecified dialects. This is illustrated in (167).

167. *?Huyu hapa mtoto.*
1 this here 1 child
'The child here.'

The analysis of the appearance of the demonstrative and the locative in this section has shown that the locative and the demonstrative are in an intimate syntactic relation. It is interesting to note that in speech these sequences are often

accompanied by a gesture or a head nod. The next section will attempt to provide a structural derivation of the sequence demonstrative locative in DP structure.

2.6.1 Structure and derivation of Dem-Loc sequence

Brugè (2002) proposes that the sequence demonstrative-locative is to be considered a constituent, adding that arguments to support this hypothesis can be found in other languages in which this sequence is found. Based on examples from Swahili and Spanish, it suffices to concede that the sequence demonstrative locative is a syntactic constituent (prenominally or postnominally).

One of the arguments for this consideration comes from the fact that words which form a constituent are bound to appear together as one linguistic entity as in (168).

168. *Wa-zazi wa – li – m – leta m-toto hu-yu hapa.*
2 parents 2Agr PAST OM bring 1 child 1 this here
'Parents brought this child here.'

169. **Hu-yu hapa wazazi wa – li – m – leta m-toto.*
1 this here 2 parent 2 PAST 1OM bring 1child
'Parents bought this child here.'

170. **Wa-zazi m-toto wa – li – m – leta hu-yu hapa.*
2 parent 1child 2Agr PAST OM bring 1 this here
'Parents brought this child here.'

171. *Wa-zazi wa –li – m - leta hu-yu m-toto hapa.*
2 parent 2 PAST 1OM bring 1 this 1 child here
'Parents brought this child here.'

In the above, the sequence *huyu hapa* (168) cannot be separated from its head noun *mtoto* 'child' (169, 170). In (171), intervening the sequence of the demonstrative and the locative leads to either ungrammaticality or a totally different reading and constituent-hood. This fact is also found in other studied languages like Bosnian and Scandinavian where Brugè (2002) reports that should there be any movement involving

demonstrative and locative, then the two can or must move together to [Spec, DP] before Spell-out. Examples in (172) – (173) from (Brugè, 2002:26) are illustrative.

172. *Ona tamo (nova) knjiga* [Bosnian]
that there (new) book
this here (nice) book [English]
173. *denne here (flotte) bilen* [Norwegian]
this here (nice) car-the (Brugè, 2002:26)

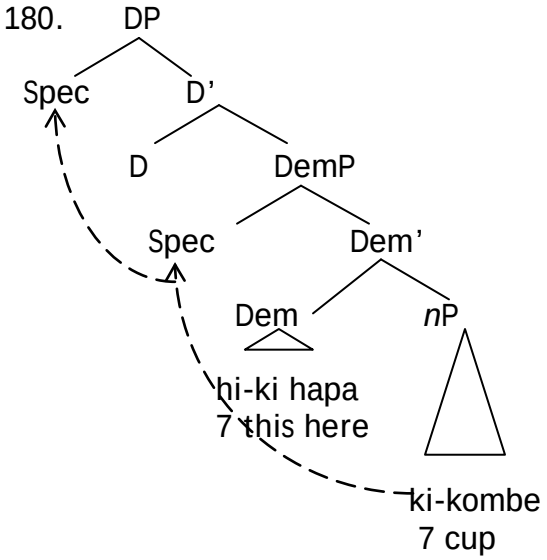
Another licensing aspect of constituent-hood is that the elements which form a constituent cannot be intervened and maintain their constituent-hood under adjacency. This is illustrated in (174) – (179).

174. *Wa – zazi wa – li – m – leta m–toto hu-yu hapa.*
2 parent 2Agr PAST OM bring 1 child 1 this here
'Parents brought this child here.'
175. *Wa – zazi wa – li – m – leta huyu m–toto hapa.*
2 parents 2Agr PAST OM bring 1 this 1 child here
'Parents brought the child here.'
176. *Wa – zazi wa – li – m – leta hapa m–toto huyu.*
2 parents 2 PAST OM bring here 1 child this
'Parents brought here this child.'
177. *Wa – zazi huyu mtoto wa – li – m – leta hapa.*
2 parents 1 this 1 child 2 PAST OM bring here
'Parents the child they brought here.'
178. *M–toto huyu wa – zazi hapa wa – li – m – leta.*
1 child 1 this 2 parent here 2 PAST OM bring
'This child parents brought here.'
179. *Huyu mtoto wazazi wa – li – m – leta hapa.*
1 this 1 child 2 parent 2 PAST OM bring here
'The child parents brought here.'

In (174) demonstrative and locative [...*n*–Dem + Loc#] stand together as a constituent different from (175) where the demonstrative serves as the definite article [...Dem–*n*–Loc#] and the stranded locative is interpreted as the adverb of place. The stranded Loc is an adverb of place since it can be replaced by other adverbs like *pale* 'there' and *kule* 'yonder'. This fact is also true considering (176) [...Loc–*n*–Dem#], (177) [...Dem–*n*...–Loc#], (178) [#*n*–Dem...–Loc...], and (179) [#Dem–*n*...–Loc#] where Loc occurring in different positions is an adverb of place. Conversely, the post-nominal demonstratives in (174) [...Loc–*n*–Dem#] and (176) [#*n*–Dem...–Loc...] are deictic. Different from these two instances of demonstrative and locative, the demonstrative occurring pre-nominally functions like the definite article as in (175) [...Dem–*n*–Loc#], (177) [...Dem–*n*...–Loc#], and (179) [#Dem–*n*...–Loc#]. These different readings are possible when the adjacency in the sequence demonstrative-locative is broken. This analysis confirms that the sequence demonstrative and locative can be considered a constituent in its own right.

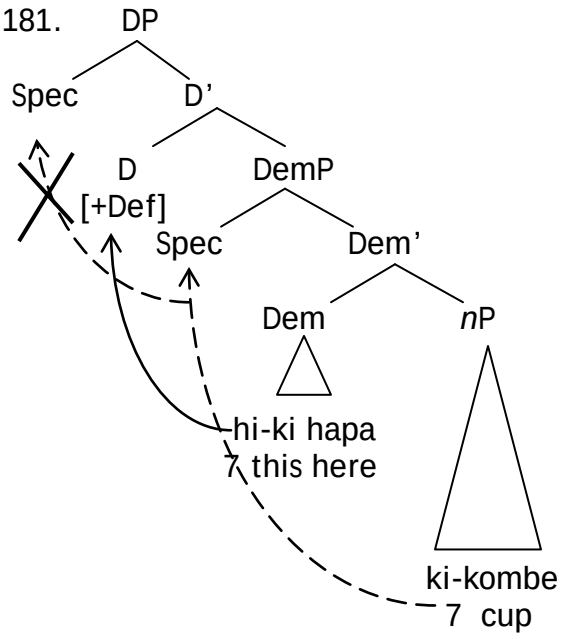
In order to be consistent with Greenberg's (1966) implicational Dem Num N and its surface order in Swahili [N Dem X], I am proposing an analysis which would consider the Demonstrative+Locative sequence a distinct unit – Dem-Loc, base generated in Dem, and that the *n*P rises to Spec DP in the usual way. I illustrate this proposition in (180).

180.



In (180), demonstrative locative appears in Dem as assumed. This position allows movement of *n*P to Spec DP via Spec DemP. The raising of *n*P to Spec DP accounts for the opposite order [n_i-Dem–loc–t_i] in which *n*P appears in the initial position. However, the sequence demonstrative-locative can rise to D position to achieve the definite article effect as illustrated in (181).

181.



In (164), the pre-nominal appearance of Dem-Loc in D stem from the raising from Dem. In D, Dem-Loc blocks further raising of *n*P to Spec DP. This blocking is consistent with the fact that *n*P raises to Spec DP when D is null which is not the case in (164). In the above, the *n*P raises to Spec DemP instead. The realization of the functional category is accomplished at Spec DP at LF after spell-out as assumed earlier. The derivation pursued in (164) follows similar lines suggested earlier in this chapter on XP movement. Furthermore, the derivation shows that the D is specified for definite article and that the prenominal demonstrative and locative appears in D via movement from Dem.

2.7 Chapter Summary

This chapter has argued that noun prefixes and noun stems are related to Class and Gender, and that the prefixes are called noun classes when used with reference to

Meinhof's tradition of noun classification. The noun classes which are realized as noun prefixes are analyzed as number morphology – singular/plural, with each singular/plural pair representing a single Gender. The chapter has revealed that Gender in Swahili and many other Bantu languages is analyzed differently from sex-based gender found in Arabic or Semitic languages where nouns are marked for gender such as Feminine and Masculine. The gender categories in Swahili relates to number (singularity/plurality) and meaning (semantics).

In the analysis of Class and Gender in Swahili DPs, there are two considerations – one which analyzes number and lexical information as the property of the prefixes and the other which analyzes the two separately – number as the property of the prefixes themselves, and lexical information as the property of the stems. In deriving simple *n*Ps involving prefixes and stems the chapter has adopted a Distributive Morphology approach by suggesting that uncategorized stems or Roots adjoin to *n* functional elements to form XP (*n*P). Eventually, the EPP condition motivates the movement of *n*P to a specifier position, specifically Spec DP. In the specifier position, *n*P is able to check its features against D in a Spec head relation.

Related to the EPP is the finding that *n*P raises to Spec DP when D is null. The *n*P lands on a specifier position below D when the demonstrative or appears in D. The chapter has shown that the derivation based on XP movement receives support from the analysis of augment *n*Ps which shows that the augments in Bantu languages are base generated in D and that demonstratives can interact with augments in specific ways in D following movement. In this position the prenominal demonstrative, the augment, or the combination of augment and the demonstrative serves as the definite article like *the* in English.

The chapter has attempted secondary classification of nouns using noun classes to derive augmentative and diminutive Genders. The chapter has argued for a unified approach to derive augmentatives and diminutives contrary to the approach which suggests that Swahili is deviant. The chapter has illustrated that diminutive and augmentative class prefixes are realized as pre-prefixes and differ from the regular

class prefixes by being located higher than the regular class prefixes in *n*P structure. The consequence of this view is to presuppose that diminutive and augmentative *n*Ps are derived higher in the syntactic structure than their regular counterparts – the regular *n*Ps.

Using the unified approach, diminutive and augmentative *n*Ps are assumed to be derived in the same syntactic position higher than the position of the regular *n*Ps. The chapter has argued strongly against the approach which considers Swahili diminutive nouns deviant from their counterparts diminutive and augmentative *n*Ps found in other Bantu languages like Shona or Chewa. The approach adopted for deriving the diminutive/augmentative *n*Ps in Swahili is unified in the sense that it can derive both diminutive and augmentative nouns in other Bantu languages like Shona and Chewa.

One advantage of this approach is to avoid ambiguity caused by homophonous class prefixes like Class 7/8 *ki-/vi-* which inflect for both regular *n*P as in *ki-beriti* 'match-box' and diminutive *ki-m-koba* 'small bag'. Likewise, Class 6 *ma-* which inflects for regular *n*P like *ma-ombolezo* 'mourning' and augmentative *n*P *ma-nyumba* 'ugly looking houses' is subject to ambiguity if the class prefix *ma-* used in the two different contexts is not analyzed in distinct terms and distinct interpretations – as a regular class prefix and as an augmentative class prefix.

The chapter has also shown that Swahili DPs can be analyzed in the same way that English DPs are – having a functional category which functions like the definite article. This analysis follows the analysis of augments by placing the augments in D where they function as the definite article. The chapter has shown in Swahili that the demonstrative appearing prenominally functions as the definite article. Since D position has cross-linguistically and uncontroversially been identified as the locus of definite artice, the chapter has assumed that the prenominal demonstrative in Swahili occupies D. The chapter has shown that the prenominal appearance of the demonstrative stems from raising from its base generated position below D. In D position, the prenominal demonstrative serves as the definite article *the* in English. The chapter has further shown that the locative can co-occur with the demonstrative

in a sequence Dem-Loc in different structural ramifications. Finally, the chapter has concluded that the addition of a locative to a demonstrative prenominally or postnominally does not alter the structural orientation of Swahili DPs. The next chapter presents the analysis of Swahili possessive DPs.

CHAPTER THREE

POSSESSIVES

3.0 Introduction

This chapter presents possessive DPs in Swahili. The chapter shows that possessive DPs in Swahili are classified into two types – pronominal possessives and non-pronominal possessives. The difference between the pronominal possessives and non-pronominal possessives is that the former are introduced by possessive pronouns while the latter are introduced by possessive prepositions – the *–a* phrases. In both cases, the possessive DPs maintain head-dependent functional relations between the possessed and possessors whereby the possessed are heads while the possessors are dependents. The chapter shows that possessive DPs in Swahili fall under the Analytic Genitives (AG) type unlike in other languages like the Semitic and Hebrew where there is a choice between AG and Construct State (CS) possessive types. In the context of AG DPs, the chapter shows that Swahili has two sub-categories – one with the possessive preposition as those in Semitic languages like Maltese and Moroccan Arabic, and the other with the possessive pronoun only. The chapter reveals that each of the possessive DP types is further categorized into simple possessives and embedded possessive constructions. The chapter reveals that the embedded possessive DPs are formed by more than one head and dependents different from the simple possessive DPs which are formed by single head and dependent.

In deriving the possessive DPs, the chapter proposes two distinct approaches for the two types of possessives alongside the movement of XP. One approach to deriving possessive DPs involves the Preposition Phrase (PP) while the other involves the Agreement Phrase (Agr). The possessors are analyzed as adjuncts to the elements with which they occur in DP structure. However, in the unamarked order, the possessors are considered the adjuncts of *n*P following the inversion of the predicate and the introduction of a RELATOR category to mediate the possessive relation.

The chapter further shows that the demonstratives can co-occur with possessives in free order – either before or after the demonstratives. The consequence of the free

ordering has been to suggest separate pathways for deriving possessive DPs which result in [n_i-Dem–Poss-t_i] and [n_i-Poss-Dem-t_i]. In both cases, the *n*P raises to Spec DP as assumed in chapters 1 and 2. The chapter argues that possessive DPs can project D using the prenominal demonstrative which serves as the definite article as assumed in Chapter 2. The chapter shows that the appearance of the demonstrative prenominally stems from raising from Dem^0 to D^0.

The chapter is divided into a number of sections. Section 1 presents a review of possessive DPs featuring analytic and synthetic possessive DPs. Section 2 presents various ramifications of the realization of possessive DPs in Swahili. Section 3 presents the co-occurrence of possessives and the demonstratives. Section 4 presents the determiner in possessive DPs. Section Five presents the chapter summary. In all cases, the descriptions are accompanied by structure and derivations.

3.1 Review of Possessive DPs

Possessive DPs are renowned for their property which brings together what looks like two distinct DPs where one is inserted into another to show possessive link. These 'assumed' two embedded DPs can be viewed as the possessor DP and the possessed (possessum) DP. Traditionally, one of the two DPs would be analyzed as the head of the entire possessive DP while the other as the dependent depending on the language under study. In Swahili, for instance, the possessum is the head of the possessive DP. Kihore, Massamba, and Msanjila (2012) examples in (1) – (6) are illustrative (the morphological parsing and the English equivalent translations are the author's).

1. *Ki-kombe hi-ki m-kono w-ake u - me - katika.*
   7 cup 7 this 3 hand 3 its 3 PERF break
   'The cup its hand is broken.'
2. *N-yumba hi-i mi-lango y-ake ni mi-zuri.*
   9 house 9 this 4 door 4 its be 4 nice
   'This house its doors are nice.'
3. *Shati hi-li ki-shikizo ch-ake ki-mekatika.*

5 shirt 5 this 7 button 7 its 7 PERF break

'This shirt its button is broken.'

4. *Ki-jiji hi-ki nyumba z-ake ni chafu.*

7 village 7 this 10 house 10 its be dirty

'This village its houses are dirty.'

5. *Jengo hi-li paa l-ake ni pana.*

5 building 5 this 5 roof 5 its be wide

'This building its roof is wide.'

6. *Mji hu-u vi-unga vy-ake viko karibu karibu.*

3 town 3 this 8 suburb 8 its be close to each other

'This town its suburbs are very close to each other.' (Kihore et al., 2012:159-160)

In (1) – (6), the asumed 'head-dependent' structural relation is observable. According to Kihore et al. (2012) the above brings about several facts.

First, possessive DPs include *mkono wake* 'her/his hand' (1), *milango yake* 'its doors' (2), *kishikizo chake* 'its button' (3), *nyumba zake* 'its houses' (4), *paa lake* 'its roof' (5), and *viunga vyake* 'its suburbs'. The possessive words (possessive stems) such as *-ake, -ake, -ake,* and *-ake* are called possessive pronouns. The possessive pronouns are made of the possessive stems and consonants which correspond to the noun class prefix of the head noun (*n*P) to which they are related. This correspondence between the class prefix of the possessive pronoun stem and its head *n*P is reffered to as possessum-possessor agreement as explained in Chapter 1. Thus, *-ake* in (1) takes class prefix *w-* which agrees with Class 3 *n*P *m-kono* while *–ake* in (2) takes class prefix *y-* which agrees with Class 4 *n*P *mi-lango.* This analysis corresponds to the analysis of Shona possessive pronouns where Fortune (1984:18) points out that possessive phrases are formed by the possessive prefix consists of non-syllabic possessive affix and a possessive morpheme as in *mw-ana w-edu tose* 'the child of us all'. The possessive pronoun *w-edu* 'of us' comprises of the affix *w-* and the possessive stem *–edu.*

Second, each of the possessive DPs comprises the possessed (possessum) and the possessor pair. The possessum-possessor pairs in (1) – (6) are *mkono* and *wake* (1),

milango and *yake* (2)*, kishikizo* and *chake* (3)*, nyumba* and *zake* (4)*, paa* and *lake* (5)*,* and *viunga* and *vyake* (6)*.*

Third, possessums are the heads of the possessive DPs while the possessors are the dependents.

Fourth, the main possessive pronoun across the board (also called pronominal genitive) in (1) – (6) is *–ake* which takes different agreement forms depending on the class and gender of the respective possessum. As noted earlier, agreement markers are the consonants having the underlying abstract features of class prefixes of the possessums. Thus, *y-* and *w-* agree with Class 3/4 (in (1) – (2)), *ch-* and *vy-* agree with Class 7/8 (in (3) – (6)), *z-* agree with Class 10 (in (4)), and *l-* agrees with Class 5 (in (5)) respectively.

Besides the possessive pronouns in (1) – (6), Kihore et al. (2012) and Carstens (1991, 1993) present yet another kind of Swahili possessive DPs; these are introduced by *–a* phrases. These possessive DPs are illustrated in (7) – (8) (the morphological parsing and the English equivalent translations are the author's).

7. *Nyumba y-a mwalimu.*
   9 house 9 of 1 teacher
   'Teacher's house.'
8. *Kiti ch-a moto.*
   7 chair 7 of 3 fire
   '?Fire's chair.' (Kihore et al., 2012:160)

In (7) – (8), *ya mwalimu* 'teacher's' and *cha moto* 'fire's…' are *–a* phrases. In literature the *–a* phrases are also called of-phrases or possessive prepositions (Benmamoun, 2000; Brustad, 2000; Carstens, 1991, 1993, Den Dikken, 2006, 2007; Koptjevskaja-Tamm, 1996; Ouhalla, 2011). Similar to (1) – (6), four things can be deduced from (7) – (8).

First, each of the possessive DPs comprises the possessed (possessum) and the possessor pair. The possessum-possessor pairs in (7) – (8) are *nyumba* and *mwalimu* and *kiti* and *moto.*

Second, the possessums are the heads of the possessive DPs while the possessors are the dependents. Thus, *nyumba* is the head of the DP in (7) and *kiti* is the head of the DP in (8).

Third, it can further be observed that the *–a* phrases – *ya* and *cha* in the two DPs introduce the possessive relation.

Fourth, the possessive relation introduced is such that the *–a* phrases agree in class and gender with the possessums (heads) via the consonant bearing the underlying abstract features of the class prefix of the head *n*P. Thus like the possessive pronouns ((1) – (6)), the *–a* phrases agree with head *n*Ps (possesums) via the consonants. The consonants which attach to the *–a* phrases need not be the exact copy of the class prefix of the head noun in DP structure. In (7), for instance, *y-* agrees with Class 9 (in (7)) and *ch-* agrees with Class 7 (in (8)).

The analysis of agreement relations between the possessum and the possessor is adopted from Fortune (1984) and Kihore et al. (2012) who assume that it is the consonant(s) of the class prefix of the head *n*P – the possessum, which becomes the agreement marker on possessive pronouns and possessive prepositions. This approach differs significantly from Crisma et al. (2011) whose analysis shows that the full-fledged prefixes – Consonant(s) and Vowel (CV), become the agreement markers. Under Crisma et al's. (2011:254) analysis, for instance, the agreement concord for the possessive pronouns (1) and (2) and for the possessive prepositions (7) and (8) would be the class prefixes *wa-* (Class 3), *ya-* (Class 4), and *cha-* (Class 8) instead of *w-, y-* and *ch-* under the current analysis. The current analysis assumes that the *–a* is the main possessive word 'of' (possessive preposition) and that agreement forms like *w-, y-,* and *ch-* are related to the head *n*P – the possesum.

Commenting on the possessive DPs in Swahili Carstens (1991) points out that these possessives are reminiscent of the rather freely ordered, postnominal *de*-phrases of Spanish. The only difference between the possessive DPs in Spanish and those in Swahili is that the Swahili possessive phrases always agree with the head *n*P (possessum) to which the possessive prepositions are related. For instance, the abstract features of the consonant *y-* in (7) correspond to the fatures of Class 9 *n*P while those of *ch-* in (8) correspond to Class 7 *n*P. This type of relationship between the possessive preposition and the possessum *n*P also known as preposition-possessum relation, is widespread and can be found in many other languages outside the Bantu language area as illustrated in (9) – (10) in Hebrew and Moroccan Arabic.

9. *Ha - dira* *šel* *ha - sar.* (Hebrew, Shlonsky, 2004:1467)
10. *D – dar* *dyal* *l-wazir*. (Moroccan Arabic, Shlonsky, 2004:1467)
The-apartment of the-minister
'The minister's apartment.'

In (9) – (10), the possessive prepositions are *šel* 'of' and *dyal* 'of'. These possessive prepositions *šel* and *dyal* are like the Swahili possessive prepositions *ya* 'of' and *cha* 'of' which introduce possessive links with respective head *n*Ps (possessums). A more observable characteristic of the possessive expressions above is that of preposition-possessum relation and/ or agreement whereby the prepositions agree with possessums and not the possessors (preposition objects). It should also be noted that these possessive DPs including those in Swahili DPs allow modifiers to appear between possessums and possessors as illustrated in (11) – (16).

11. *Ha-dira* *ha-gdola* *šel* *ha-sar.*
the-apartment the-big of the-minister
'The minister's big apartment.'
12. *Dirat* *ha-sar* *ha-gdola.*
apartment the-minister the-big
'The minister's big apartment.' [Hebrew, Shlonsky (2004:1467))
13. *Is-siggu* *z-zghir* *ta' Pietru.*

DEF- chair DEF-little of Peter

'Peter's little chair.' [Maltese, Koptjevskaja-Tamm (1996:247)]

14. *Jumba kubwa la waziri.*

5 house 5 big 5 of 1 minister

'The minister's big house.'

15. *Jumba la waziri kubwa.*

5 house 5 of 1 minister 5 big

'The minister's big house.'

16. *Jumba kubwa lake.*

5 house 5 big 5 her/his

'Big house of hers/his.'

17. *Jumba lake kubwa.*

5 house 5 her/his 5 big

'Big house of hers/his.'

In (11) – (17), the modifiers *ha-gdola* 'the-big' (Hebrew) and *kubwa* 'big' (Swahili) appear between the possessum and the objects of the possessive prepositions (possessors). It also appears that the modifiers and the possessors can exchange positions freely. In (12), (15), and (17), modifiers follow possessors contrary to other cases where modifiers precede respective possessors ((13), (14), (16)).

The literature shows that the possessive DPs across languages fall into at least two broad types – synthetic possessive DPs and analytic possessive DPs (Benmamoun, 2000; Brustad, 2000; Danon, 2008; Den Dikken, 2006, 2007; Koptjevskaja-Tamm, 1996; Ouhalla, 2009, 2011, Ritter, 1995, 1988, 1992). Koptjevskaja-Tamm (1996) and Ouhalla (2011) present examples of the synthetic type in Maltese and Moroccan Arabic in (18) – (21).

18. *Bin is-sultān.*

son DEF king

'The king's son.' (Maltese, Koptjevskaja-Tamm (1996:245-246)

19. *Id ir - ragel.*

hand DEF man

'The man's hand.' (Maltese, Koptjevskaja-Tamm (1996:245-246)

20. *Xal al-bnt.*

'Uncle the-girl.'

21. **Al-xal dyal/ ta' al-bnt.*

'The-uncle of the-girl.' (Moroccan Arabic, Ouhalla (2011:114)

In the synthetic type possessive DPs illustrated in (18) – (21) the non-pronominal possessor appears without any marker which would explicitly specify its relation to the head *n*P (possessum). It can be observed from the above DPs that it is virtually impossible to guess any possessive relationship between the possessum and the possessor in this type of possessives, hence they are said to be inalienable. Another common label for these DPs is Construct State (CS) possessives. Danon (2008) points out that CS DPs consist of a nominal head which is phonologically reduced and must be immediately followed by an embedded nominal phrase – the head and the genitive respectively. Ouhalla (2011) notes that the inalienable possessive DPs have the peculiar property of being incompatible with the genitive preposition and therefore the analytic pattern. Based on this fact, Ouhalla (2011), considers (21) ungrammatical for including the genitive preposition *dya/ ta*' in a CS DP situation.

Another type of possessive construction studied across languages is called the Analytic Genitive (AG). This type of possessive DP usually has the possessive preposition as a unique property. Examples in (22) – (23) are illustrative.

22. *Is-siggu ta' Pietru.*

DEF chair of Peter

'Peter's chair.' [Maltese, Koptjevskaja-Tamm (1996:245)]

23. *Al-ktub dyawl/ taw' al-wld.*

The-books of.Plr the-boy [Moroccan Arabic, Ouhalla (2011:116)]

In (22) – (23), the AG DPs have the possessive preposition *ta'* (Maltese) and *dywl/ taw'* (Moroccan Arabic). These possessive prepositions introduce possessive relationship

between the possessum and the possessor via their agreement with possessums – *is-siggu* 'chair' (Maltese) and *al-ktub* 'books' (Moroccan Arabic). This type of possessive DPs exhibits alienable possession and, based on this property, this type of possessive is called analytic or free state possessive. In both the CS and AG possessives cited, the main constituents are the head (possessed/possessum) and the dependent (possessor). In the cited CS DPs – (18) – (20), the same structural relation – head-dependent, is manifested despite the fact that these DPs (Construct State DPs) do not have any marker that would explicitly specify the possessive relations. However, it is understood that the languages in question have possessums as the heads of possessive constructions based on the available data. It can thus be observed that the heads (possessums) in the said CS DPs – (18) – (20), are *bin* 'son', *id* 'hand', and *xal* uncle', while the dependents (possessors) are *sultan* 'king', *ir-ragel* 'man', and *al-bint* 'girl'. This structural relation between the head *n*P and the dependent *n*P significantly differs from English where the possessor *n*P is the head of the possessive DP. Examples in (24) – (26) are illustrative.

24. *The panther's coat.*
25. *The building's roof.*
26. *The man standing over there's hat.* (Carnie, 2002:145)

In (24) – (26), the possessor-possessum possessive relation is manifested. This possessive relation between possessors and possessums is signaled by the presence of *'s*. The 's links the possessors *the panther, the building,* and the complex possessor *the man standing over there* with possessums *coat, roof,* and *hat.* It can be observed that the *'s* attaches to possessors with which it establishes a possessive relation. In these examples the possessors are head *n*Ps while the possessums are dependent *n*Ps unlike in Swahili, Moroccan Arabic, and Maltese examples where the opposite is the fact. Based on the level of attachment to the possessors, Carnie (2002) points out that the *'s* is not just a suffix but (appears to be) a small word indicating possession. It can thus be said that possessors are head *n*Ps of possessive DPs in English while the possessums are head *n*Ps of possessive DPs in languages like Swahili, Moroccan Arabic, and Maltese.

In some dialects of Moroccan Arabic, possessive prepositions show agreement with respective possessums – preposition-possessum agreement (Ouhalla, 2011). In (22) – (23), for instance, possessive prepositions *ta'* and *dyawl/ taw'* agree with respective possessums '*is-siggu* 'chair' and *al-ktub* 'the books' to their left. Swahili possessive DPs are like Moroccan Arabic examples for maintaining preposition-possessum agreement as illustrated in (27) – (28).

27. *Kitabu ch - a Zainabu.*
    7 book 7 of
    'Zeinab's book.'
28. *Habari z - ake.*
    10 news 10 of it
    'News of it.' (Carstens, 1991:83, 85)

In (27) – (28), possessive prepositions agree with the head *n*Ps (possessums) with which they introduce a possessive relation. The possessive preposition *ch-a* 'of', for instance, agrees with the possessum *ki-tabu* 'book' in Class 7 and Gender D (27) and *z-ake* 'its' agrees with the possessum *habari* 'news' in Class 10 and Gender E (28). Although *ki-tabu ch-a Zainabu* is translated with a clitic *–s* in English as *Zeinab's book* in (27), an alternative equivalent translation would be 'the book of Zeinab'. The two English translations – 'Zeinab's book' and 'the book of Zeinab', have the same possessive reading for *ki-tabu ch-a Zainabu* and the selection of one translation rather than the other should not be treated as an anomaly. It should be noted that in Swahili the possessive reading in question relates possessive words and possessums unlike in English where the possessive reading relates possessive words and possessors.

The structural relations of agreement between the possessive prepositions and respective possessums in Swahili are also found in Moroccan Arabic examples cited earlier. Commenting on this relation in Moroccan Arabic, Ouhalla (2011) notes that the preposition-possessum agreement resembles verb-subject agreement in that a given head agrees with a noun phrase that is not its object.

In terms of the preference between CS DPs and AG DPs, Ouhalla (2011) and Koptjevskaja-Tamm (1996) point out that, when the two types of possessive DPs are found in a language, the synthetic pattern (CS) has more restricted use than the analytic (AG) pattern which, according to them, has a broader range of use, including reference to concrete, alienable possession. Koptjevskaja-Tamm (1996:246) shows that, in Maltese, synthetic (CS) possessive DPs are limited to kinship relations and body parts as in (29) – (30).

29. *Bin* *is-sultan.*
Son DEF-king
'The king's son.'

30. *Id* *ir - ragel.*
Hand DEF man
'The man's hand.' [Maltese, Koptjevskaja-Tamm (1996:245-246)]

Despite the limited domain of use on the part of the CS possessive DPs, Koptjevskaja-Tamm (1996) point out that in CS DPs only the (non-pronominal) possessor may have its own determiners ,while in AG DPs, both the head and the dependent are full-fledged NPs. This difference is illustrated in (29) – (30) for CS DPs above and (31) for AG DPs below.

31. *Al-ktab* *dyal/ (n)ta' al-bnt.*
'The book of the girl.' [Standard Arabic, Ouhalla (2011:112)]

According to Ouhalla (2011) the possessive preposition in (31) can either be *d(yal)* or *(n)ta'* subject to (regional) variation. However, it should be noted that the concern in (31) is to illustrate the fact that both the head *n*P (possessum) and the dependent *n*P (possessor) are full-fledged *n*Ps when compared to CS in (29) – (30) where only the possessor of that DP is a full-fledged *n*P. It can also be observed that the two possessive prepositions show agreement in number and gender with the head possessums appearing to their left.

Another obvious difference between CS DPs and AG DPs is that the non-pronominal possessor in CS DPs appears without any markers which would explicitly specify its relation to the head (as in (29) and (30)). In these examples, possessors have no words like the *–a* phrases (possessive prepositions) to introduce possessive relation as in the examples of AG DPs. Furthermore, it appears that the possessor *n*Ps in CS DPs are right adjacent to the possessums. And whenever the possessums have (their) own attributes, these must appear after the possessors. This restriction, however, does not concern AG DPs as illustrated in Maltese in (22) and repeated in (32).

32. *Is-siggu z-zghir ta' Pietru.*
DEF chair DEF little of Peter
'Peter's little chair.' (Maltese, Koptjevskaja-Tamm (1996:247))

One of the distinctive differences between CS DPs and AG DPs cited by Koptjevskaja-Tamm (1996) in Maltese concerns the linguistic distance between the head noun (possessed/possessum) and dependent (possessor) in each type. It is argued in this view that CS DPs involve a 'tighter' structural bond or closer connection between possessums and possessors than the AG DPs. Koptjevskaja-Tamm (1996), further explains that the tightness of the bond between the two constituents (possessum and possessor) in CS DPs requires only the possessor to be full-fledged *n*P, while their AG counterparts require both the possessed and the possessor to be full-fledged *n*Ps. It should be noted that the closer connection between the possessum and the possessor in CS is interpreted as the closer formal linguistic distance between the two expressions. According to Koptjevskaja-Tamm (1996), the connection in question is measured in accordance with the nature and number of morphemes between the possessum and the possessor. This linguistic distance between the possessums and the possessors in CS DPs and AG DPs is summarized in (33).

33. Linguistic distance between elements in CS and AG DPs (Koptjevskaja-Tamm, 1996:248)

	CSC	AGC
Pronominal possessors	X(+t) + Y	X # ta + Y
Nominal possessors	X(+t) # Y	X # ta' # Y

According to Koptjevskaja-Tamm (1996), X and Y refer to the possessums and the possessors respectively, '+' and '#' refer to morpheme versus word-boundaries, and *t* in parentheses refers to *t marbuta* (an ending which marks a subclass of feminine nouns in CS DPs). It is clear from (33) that in both CS and AG DPs with pronominal and nominal possessors, the linguistic distance between X and Y in CS DPs is less than in AG DPs. Observing (33), one would find that Swahili DPs share some crucial characteristics with the presented paradigm. This is the subject of the next section which specifically attempts to analyze possessive DPs in Swahili.

3.2 Swahili Possessive DPs

Carstens (1991) points out that Swahili possessive DPS falls into two categories – those involving Possessive Prepositions (*–a* Phrases) as in (27) and those involving Possessive Pronouns as in (28). The possessive DPs in Swahili appear to be similar to AG DPs found in Semitic languages (Moroccan Arabic and Maltese) and Hebrew for having the possessive preposition. Despite the fact the DPs involving Possessive Pronouns lack the possessive preposition, these DPs differ significantly from the CS DPs in the cited languages for having the possessive pronoun marking the possessive relation. In CS DPs there is virtually no word which provides any clue of possessive links between the possessum and the possessed. This section presents the details of the main possessive forms in Swahili DPs. The Possessive DPs in Swahili are further categorized in simple possessive DPs and embedded possessive DPs. Simple possessive DPs are characterized by a single head and a single dependent, while the embedded possessive DPs have more than one dependent. The two types of possessive DPs are presented in two separate sub-sections discussing the sub-categories of each type in turn. The analysis in each sub-section is followed by details of both structure and derivations.

3.2.1 Possessive DPs Involving Possessive Prepositions (*-a* Phrases)

3.2.1.1 Simple possessive DPs involving Possessive Prepositions

Simple possessive DPs involving the possessive prepositions (*–a* Phrases) (these are also called lexical genitives) comprise a head *n*P and a dependent *n*P. The possessive preposition introduces a possessive relation between the head (possessum) and the dependent (possessor). The possessive preposition agrees with the head *n*P (preposition-possessum agreement) via the consonant(s) – the agreement marker, which corresponds to the consonant of the class prefix of the possessum. These DPs are illustrated in (34) – (36).

34. *Viko vy-a mjomba.*
    8 pipe 8 of 1 uncle
    'Uncle's pipes' / 'pipes of uncle'.
35. **Viko vy- mjomba.*
    8 pipe 8 of 1 uncle
    'Uncle's pipes.'
36. **Vi-ko vy-a vy-ake.*
    8 pipe 8 of 18 of his
    'Pipes of his.'
37. *Ma-panga y-a Yohana.*
    6 cutlass 6 of 1 John
    'John's cutlasses' / 'cutlasses of John.'
38. **Ma-panga m-a Yohana.*
    6 cutlass 6 of John
    'John's cutlasses.'

The possessive DP in (34) has a possessive preposition *vy-a* which appears to be like the *'s* possessive word in the English equivalent translation *uncle's pipes.* However, unlike the English possessive word which is related to the possessor via *'s* attachment to the possessor – *uncle,* the Swahili possessive preposition *ya* is related to the possessed (possessum) *viko* 'pipes' in both class and gender. The relationship between

the possessive preposition and possessum is called the preposition-possessum agreement. In (34), *y-* of the *–a* Phrase agrees with the possessum (head *n*P) in Class 8 and Gender D. The agreement between the possessive preposition and the possessum is known as the preposition-possessum agreement. It can be observed that the preposition-possessum agreement leads to ungrammaticality in the absence of the *–a* phrase which establishes the possessive relation, as in (35), and that the construction is ungrammatical when the possessive preposition object is a possessive pronoun as seen in (36). It can further be observed that the underlying preposition agreement *v-* in (34) is a replica of the consonant of the class prefix of the possessum, it is not the case in (37) where the agreement is a glide. Attempt to introduce the consonant of the possessum in *–a* phrase leads to ungrammaticality as in (38). Thus, possessive agreement in Swahili possessive DPs is not a replica of the head *n*P in some genders (see 39).

Possessive prepositions in Swahili are also categorized in relation to the classes of nouns which they introduce. A complete list of possessive prepositions and respective agreement is summarized in (39) using Meinhof's noun classification system.

39. Possessive prepositions in Swahili

N	Class prefix	Possessum	Gloss	Poss.Prep. Agreement
1	m(u)-	mtoto	child	w-
1a	ø	baba	father	w-
2	wa–	watoto	children	w-
3	m–	mti	tree	w-
4	mi–	miti	trees	y-
5	ji–/li–	jiwe	stone	l-
5a	ø	panga	matchet	l-
6	ma-	mapanga	matchets	y-
7	ki-	kiti	chair	ch-
8	vi-	viti	chairs	vy-
9	N-	nyumba	house	y-
10	N-	nyumba	houses	z-
11	(l)u-	(l)ubao	timber	w-
12	ka-	katoto	tiny	k-
13	tu-	tutoto	child children	tw-
14	u-	uwizi	theft	w-
15	ku-	kuimba	singing	kw-
16	pa-	pahala	place	p-
17	ku-	kwahala	place	kw-
18	mu-	mwahala	place	mw-

In (39), the main possessive preposition is the *–a* (or *-a* phrase). The Class and Gender of the possessum with which the *–a* phrase establishes a possessive relation determines the agreement form. Thus, the possessive preposition is *w-a* when Class 1/2 possessums are involved, the possessive preposition is *l-a* or *y-a* when Class 5/6 possessums are involved, and it is *ch-a* and *vy-a* when Class 7/8 possessums are involved, and so forth. In some other nouns, one preposition-possessum agreement like *w-* or *y-* is related to more than one noun class and gender. For example, the possessive agreement *w-* would appear with possessums in Class 1/2, Class 3, Class 11, and Class 14. Similarly, the possessive agreement *y-* would agree with possessums in Class 4, Class 6, and Class 9.

The possessive preposition objects are proper nouns, common nouns, kinship names, locatives, and titles as illustrated in (40) – (43),

40. *Vi-dole vy-a Yohana.*
    8 finger 8 of 1 John
    'John's fingers.'
41. *Ma-shamba y-a babu.*
    6 farm 6 of 1 grandfather
    'Grandfather's farms
42. *Vi-ti vy-a mfalme.*
    8 chair 8 of 1 King
    'King's chairs.'
43. *Ngoma z-a kw-ao.*
    10 drum 10 of 17 their place
    'Their village's dances.'

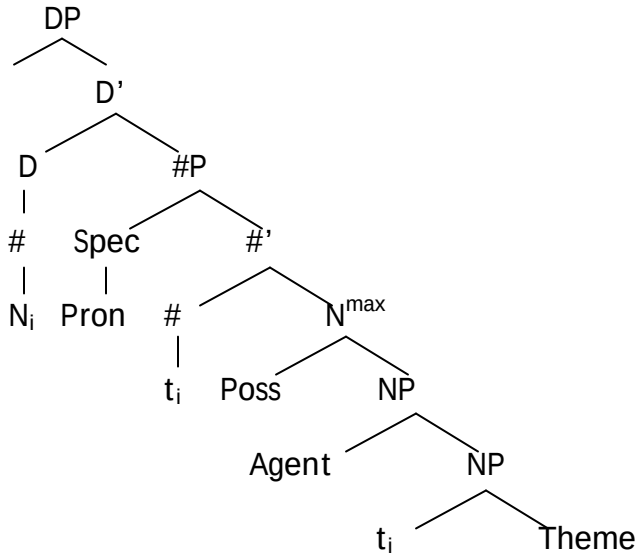
In (40) – (43), the possessive prepositions are *vy-a, y-a-,* and *z-a.* The objects of these possessive prepositions are the proper noun *John,* kinship noun *babu,* title *mfalme,* and a locative *kwao.* The forms of these possessive prepositions are determined by the class and the gender of the respective possessums via structural relation of agreement. The nature of this agreement pattern can be explained by observing how the possessive DPs are derived. The structural derivations are presented in the next section.

3.2.1.2 Structure and derivations of simple possessive DPs with Possessive Prepositions

Carstens (1991) presents two distinct positions for deriving possessive DPs in Swahili – one position for the *–a* phrase (also called lexical genitives or non-pronominal possessives) and another position for the pronominal genitives (also called possessive pronouns). Carstens (1991:81) argues that 'the lexical genitives are always situated

lower in the tree than their pronominal counterparts', further stating that the genitive pronouns occupy a unique structural position located to the left of the base position of N; analyzed as [Spec #P]. In this view, according to Carstens (1991), the Swahili noun raises beyond #, to D^0. The proposed structure is illustrated in (42).

44.



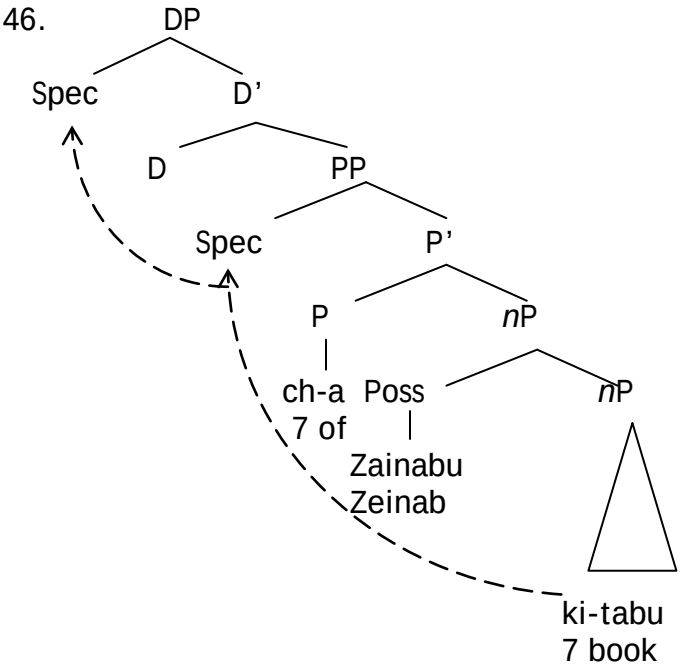
(Carstens, 1991:82)

In (44), the possessive pronoun is located higher than its non-pronominal possessive which is located in the specifier position of N^{max} as assumed. Although the tree is provided and accompanied with a brief explanation on the positioning of the two different types of possessive nouns, it is not clear how the structural relations illustrated are derived. Nevertheless, it suffices to note that the two separate positions are suggested for deriving Swahili possessive DPs – one (the lexical possessive/*-a* phrase) below the other (pronominal possessive).

The derivation pursued in this chapter departs from assuming separate levels of attaching the possessive prepositions (*-a* phrases) and the possessive pronouns by suggesting that they both can be projected at the same level with the possessor being attached as the adjunct to the base generated possessum. In this position, the possessor is the complement (object) of the possessive preposition (P) or the Agreement (Agr). In this section, the derivation of the possessive DP involving the possessive preposition (P) is presented in (46) using possessive DP in (27) repeated in (45).

45. *Ki-tabu ch-a Zainabu.*
7 book 7 of
'Zeinab's book' / 'book of Zeinab.'

46.



In (46), the Swahili possessive DP *kitabu cha Zainabu* 'Zeinab's book' has the same underlying structure relations of English equivalent – *Zeinab's book.* The *n*P raises to Spec DP considering the fact the D is null otherwise it would land at Spec PP. The Poss(essor) *Zainabu* is base generated as the adjunct to *n*P and the object of the possessive preposition *cha*. The preposition-possessum agreement is maintained via the Class 7 agreement *ch-* which links the possessive preposition *-a* and the *n*P *ki-tabu* 'book'. The agreement between the possessive preposition and the possessum is triggered by the cyclic raising of *n*P to Spec DP via Spec PP which results in the order [n_i-of-Poss-t_i].

It should be noted that the realization of the functional category (XP), according to Den Dikken (2006) and Miyagawa (2010), is done at the highest position after all agreement features have been successfully checked. It has been assumed that agreement features in Swahili DPs are checked via Spec head relation as the *n*P rises

to Spec DP via successive specifier positions like the Spec PP in (44). This analysis explains how Swahili possessive DPs maintain preposition-possessum agreement. The order possessum-possessor in Swahili possessive DPs assumes with Ritter's (1988, 1991) strict N-initial NSO order in Hebrew CS DPs and AG DPs which is said to be derived from SNO order. The view of possessive DPs in Hebrew illustrates that the strict noun-initial order of the heads and dependents in both CS and AG DPs stems from the movement of the head *n*P or *n* (possessum) (depending on the language) within the noun phrase domain. The Hebrew formulations are illustrated in (47) – (48).

47. *Beyt*$_i$ *ha - mora* t_i.
house the teacher
'The teacher's house.'

48. *Ahavat*$_i$ *dan* t_i *et acmo.*
Love Dan of himself
'Dan's love of himself.' (Ritter, 1995:407)

According to Ritter (1991), (47) and (48) illustrate a change of order from the basic [SN(O)] → N$_i$ [S t$_i$ (O)]] via leftward head movement (also termed Head Rising - HR) of nouns (N) *beyt* 'house' and *ahavat* 'love' over the subjects (S) *ha-mora* 'the teacher' and *dan* 'Dan'. The consequence of this process is that the head's landing site obligatorily becomes D in Hebrew, specifically in CS DPs. In this language, the D landing site is explicated for CS DPs when considering the fact that these DPs do not allow the definite article (Danon, 2008; Ritter, 1991, 1995; Shlonsky, 2004). A second landing site for the moving head was introduced between D and N in deriving AG DPs. The introduction of the landing site between D and N provided room for D to be occupied by the definite article in Hebrew as illustrated in (49) – (50).

49. *Ha-bayit*$_i$ *Sel ha-mora* t_i
The-house of the-teacher
'The teacher's house.'

50. *Ha-ahava*$_i$ *Sel dan* t_i *et acmo.*
The-love of Dan ACC himself

'Dan's love of himself.'

In (49) – (50), a change in the order of elements in AG DPs similar to the CS DPs introduced earlier is observed – [SNO] → N [S t_i O]. The introduction of the definite article assumes that the noun in AG DPs do not raise to D but to a position below D and to the left of base generated N. The consequence of this latter movement is to assume that the D is reserved for the definite article, and that the noun targets a fresh landing position between the identified coordinates – D and N. In earlier analysis (Ritter, 1991, 1995), the addition space was created in relation to a separate Num category as a distinct category between D and N. In later development the same provided space for the introduction of the possessive preposition *sel* between the reversed categories [N_i *Sel* [S t_i O] in deriving AG DPs. Swahili derives possessive DPs in the same manner with similar consequences which reverse [SN] pattern to N_i [S t_i] coupled with the introduction of the preposition phrase (PP) between the two categories to result in the order [N_i P [S t_i].

Den Dikken (2006) argues that the change [SNO] → [N_i [S t_i O] stems from a predicate inversion parallel to the subject-verb inversion in clause structure. In this view, N (possessum) is considered the Predicate which raises leftward over its Subject (possessor) resulting in an inverted order of the elements which is also manifested in (44), where the Predicate *kitabu* 'book' raises over the Subject *Zainabu.* According to Den Dikken (2006), the predicate inversion process is mediated by a RELATOR, the functional head – in this case the Relator is *cha* 'of', which links the inverted Predicate and its Subject. Den Dikken (2006) points out that the RELATOR functions as a means to mediate preposition-possessum agreement in languages where there is Subject-predicate inversion as observed in Semitic languages, Hebrew and Swahili.

In a similar view, Ouhalla (2011) presents an approach to the analysis of possessive DPs whereby the preposition-possessor agreement like the one found in English would be inconsistent. In English, the structure is canonical so that the genitive word relates to the possessor which appears as the head of the possessive DP. Different from the English DP possessor-possessum order, Ouhalla (2011) shows that in Semitic languages

like Moroccan Arabic the possessum and not the possessor is the head of the possessive DP. It is also pointed out that the possessive preposition in AGC DPs relates to the possessum (preposition-possessum agreement) unlike in English which is contrary to this fact. In English, the possessive word is exclusively associated with the possessor (preposition-possessor agreement) as illustrated earlier in (24) – (26). In English, according to Ouhalla (2011), the possessive preposition does not enter into any structural relation with the possessum that can account for the agreement relation between them at any stage in the derivation. Ouhalla (2011) illustrates the two different derivations in (51) – (52).

51. [DP D [FPNum [NP] DP/PP (OF) POSSESSOR] [N' [N POSSESSUM]…
52. [DPD [NPOSSESSUM]…[FPNum [NP [DP/PP (OF) POSSESSOR] [N' …
    (Ouhalla, 2011:113)

According to Ouhalla (2011), the derivation in (51) is consistent with English preposition-possessor agreement while (52) is consistent with Moroccan Arabic preposition-possessum agreement which, in my view, might also apply in deriving Swahili possessive DPs. Ouhalla (2011) further points out that the noted preposition-possessum agreement is consistent with the structure of analytic noun phrases proposed by Den Dikken (2006, 2007). Swahili possessive DPs appear to observe a similar agreement paradigm which is mediated by the possessive preposition as illustrated in (46). Although the Predicate-Subject inversion approach originated in the study of clause structure, Den Dikken (2006) points out that a similar approach can be used in the analysis of functional categories identified by the cartographers – both inside the clause and within the complex noun phrase. This section has employed the same principle to derive possessive DPs in Swahili. The next section attempts to analyze possessive DPs involving multiple dependents.

3.2.1.3 Embedded possessive DPs involving Possessive Prepositions (*-a* Phrases)

The need to treat possessive DPs with multiple dependents comes from Koptjevskaja-Tamm (1996) who considers the analytic (AG) possessive DPs in Maltese as part of the

innovative process in a continuum of development from synthetic (CS) possessive DPs. One of the conspicuous characteristics of this development is the introduction of the possessive prepositions which have been covered in the preceding section. Another noticeable feature is that which allows the stacking of possessives within a single possessive DP. This section presents a replica of this latter aspect of possessive DP structure in which the possessive DP has more than one dependent (multiple dependents). DPs with more than one in Maltese are illustrated in (53) – (54).

53. *Ir-ritratt ta' fotografu professjonal ta-l-katedral.*
DEF-portrait of photographer professional of-DEF-cathedral
'The photo of the cathedral by the professional photographer'
54. *Il-ktoba ta' Pietru ta' l-awtur favorit tiegh-i*
DEF-book:PL of Peter of DEF-author favorite of-1SG
'Peter's books by my favorite author.' [Maltese, Koptjevskaja-Tamm (1996:266)]

In (53) – (54), Maltese possessive DPs are considered to have multiple dependents. The multiple dependents are represented by the double occurrence of the possessive preposition *ta'.* According to Koptjevskaja-Tamm (1996), the CS in (53) contains a picture noun, while the CS in (54) refers to the relation of authorship and possession, and those of material and possession respectively. Koptjevskaja-Tamm (1996) points out that other languages like Italian and Moroccan Arabic also allow stacking possessives within respective possessive DPs as illustrated in (55) – (58).

55. *Una fotografia della cattedrale di un fotografo professionista.*
'The photo of the cathedral by the professional photographer.'
56. *I libri di Pietro del mio autore preferito.*
'Peter's books by my favourite author.' [Italian, Koptjevskaja-Tamm (1996:266)
57. *Lə-kəswa djal lə-hri:r djal Nadja.*
DEF-dress of DEF-silk of Nadja
'Nadja's dress of silk.'
58. *T-təhdim djal lə-mdina djal lə-ʕdu.*

DEF-destroy:AN of DEF-city of DEF-enemy

'The destruction of the city by the enemy.' [Moroccan Arabic, (Koptjevskaja-Tamm, 1996:267)

Carstens (1991) notes that the possessive DPs in Swahili allow for the stacking of dependents within a single possessive DP. Examples are provided in (59) – (60).

59. *Uharibifu wa mfalme wa maadui.*
14 destruction 14 of 1 king 1 of 2 enemy
'The king's destruction of the enemies.'

60. *Habari za watalii wa Nairobi.*
10 news 10 of 2 tourist 2 of
'The tourists' news (reports) of Nairobi.' (Carstens, 1991:84-85)

In (59) – (60), embedded possessives in each example give the impression that there are two possessive DPs in a single DP. In (59) for instance, *uharibifu wa mfalme* 'king's destruction' and *mfalme wa maadui* 'king's enemies' appear to be two separate possessive DPs. The double possessive nature observed in Swahili illustrations appear to be similar to the Italian and Moroccan Arabic possessive DPs. Agreement is the key to possessive relations (preposition-possessum agreement) in the study; hence the homophonous possessive preposition *w-a* appearing twice in (59) has two distinct agreement relations. It agrees in class and gender with Class 14 *uharibifu* 'destruction' in the matrix *n*P and it also agrees with Class 1 *mfalme* 'king' in the embedded *n*P. In (60), the possessive preposition *za* agrees only with *habari* 'news', while the other possessive preposition *wa* agrees with *watalii.* In (59), the possessive prepositions agree with *n*Ps which belong to the same class, while in (60) the possessive prepositions agree with *n*Ps which belong to different classes. More examples are illustrated in (61) – (62).

61. *Kwato z-a miguu y-a farasi.*
10 hoof 10 of 4 leg 4 of 1 horse
'Hoofs of feet of horse' / 'Horse's feet's hoofs.'

62. *Vi-atu* *vy-a* *wa-toto* *w-a* *Maria.*
8 shoe 8 of 2 child 2 of 1 Maria
'Shoes of children of Mary' / 'Maria's children's shoes.'

The stacked possessive prepositions in (61) are *z-a* and *-ya,* and in (62) these are *y-a* and *w-a* respectively. The possessive prepositions in (61) – (62) agree with *n*Ps which belong to different classes. As observed in (61), the possessive preposition *z-a* agrees with Class 10 *n*P while the other possessive preposition *y-a* agrees with Class 4. In (62), the possessive preposition v*y-a* agrees with Class 8 *n*P, while its counterpart *w-a* agrees with Class 2 *n*P. It can also be observed that each of the possessive prepositions is squarely governed by the respective governor – an *n*P. In (61), the possessive preposition *z-a* is governed by the head *n*P (possessum) *kwato* 'hoofs' in Class 10, while *y-a* is governed by the object of the possessive preposition *miguu* 'feet' in Class 4. In (62), the possessive preposition v*y-a* is governed by the head *n*P (possessum) *vi-atu* 'shoes' in Class 8, while the possessive preposition *wa* agrees with the object of the possessive preposition *wa-toto* 'children' in Class 2. The possessive structural relation above is such that each possessive preposition is subject to its local government and cannot in any way be governed by a governor outside its local domain. This view, which basically comes from Chomsky's (1986) notion of government (details in Chapter 1), presupposes that head *n*Ps (possessums) in Swahili possessive DPs would govern immediate possessive prepositions as in (61) – (62), hence *kwato* and *viatu* exercise control over their immediate possessive prepositions *za* and v*ya,* but not *ya* and *wa;* which agree with *miguu* and *watoto* in stacked possessive constructions. It follows that *miguu* and watoto in the stacked relation act as barriers (details in Chapter 1) for the head nouns to exercise control over the respective possessive prepositions *y-a* and *w-a* with which *miguu* and *watoto* maintain preposition-possessum agreement.

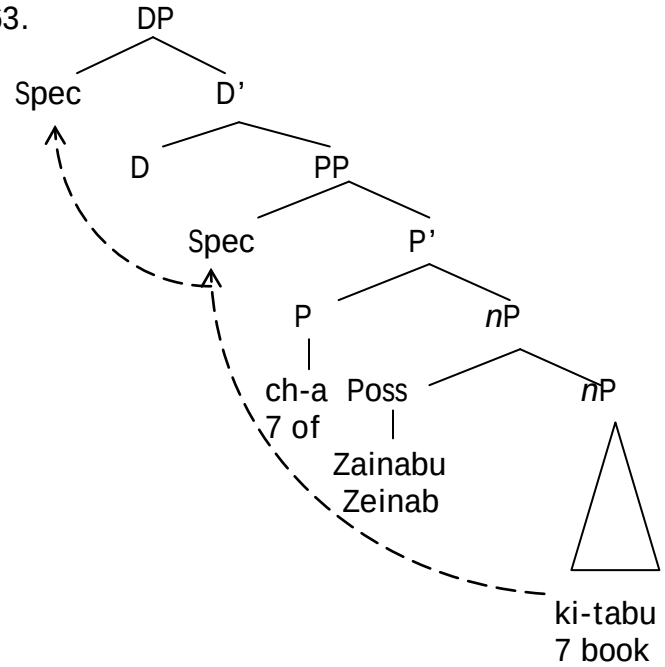
Koptjevskaja-Tamm (1996) considers AG DPs as innovations stemming from structural modification within the CS DPs in Maltese. While AG DPs in Maltese are analyzed as being derived from CS DPs as a part of the grammaticalization process, according to Koptjevskaja-Tamm (1996), it might be premature to draw a parallelism with Swahili

possessive DPs, despite the fact that there are similarities between the structure of CS DPs and the type of possessive construction which does not have the possessive preposition (details in 3.1). In the next section an attempt is made to derive the AG DPs in DP structure considering the assumed movement of *n*P within Swahili DPs.

3.2.1.4 Structure and Derivations of embedded DPs with Possessive Prepositions

It was explained in the preceding section that the possessive preposition in Swahili establishes possessive relation with the possessum unlike in English where the preposition establishes possessive relation with the possessor. However, it was noted that despite the different underlying structure relations between Swahili possessive DPs and English possessive DPs, the two DPs maintain the same underlying structure relations. The derivation frame presented in (46) for a Swahili possessive DP is repeated in (63) for illustration.

63.

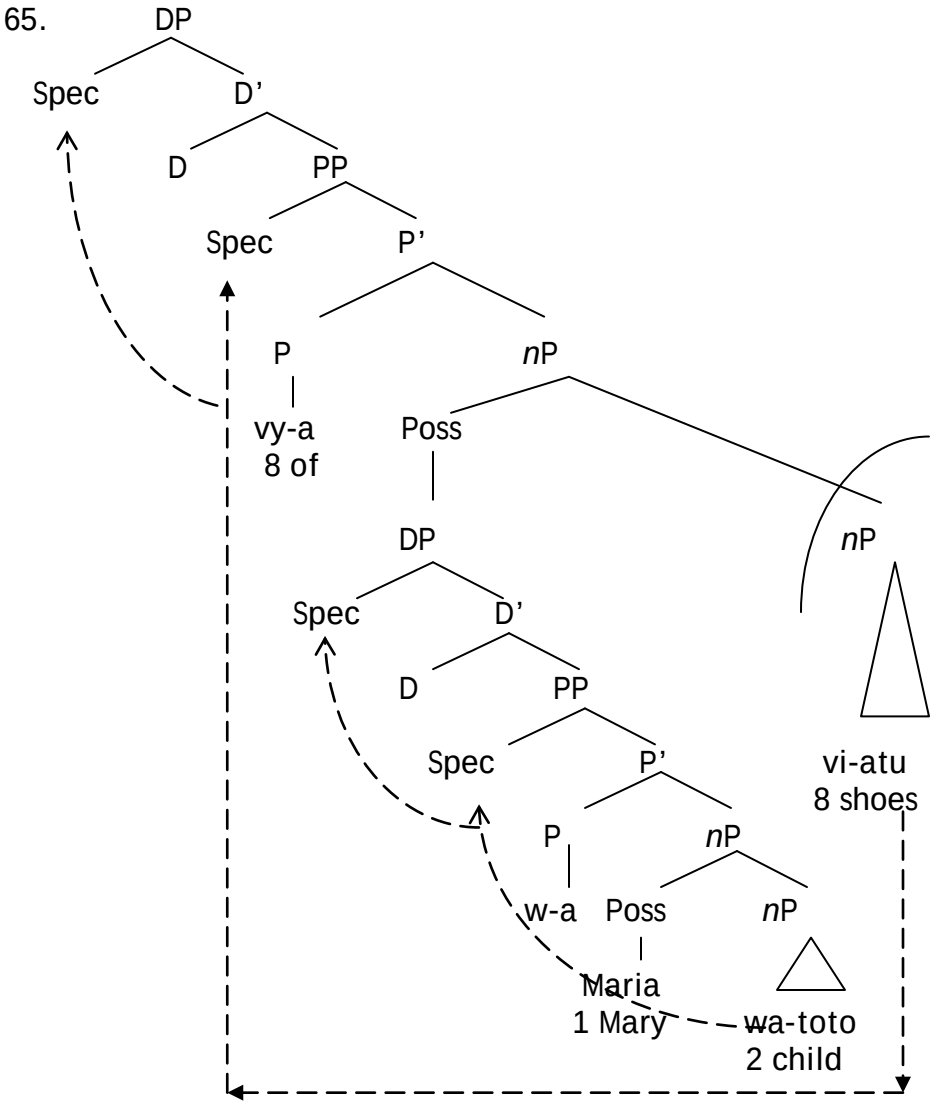


In (63), the possessor *n*P occupies the adjunct position to head *n*P. The possessive preposition agreement is achieved via raising of the head *n*P to Spec DP. The consequence of this raising is that the possessive preposition acquires the head *n*P features of agreement in class and gender, among others. These facts are used in

deriving possessive DPs with embedded dependents as presented above. The derivation of (62) repeated in (64) is illustrated in (65).

64. *Vi - atu vy-a watoto w-a Maria.*
8 shoe 8 of 2 child 2 of 1 Maria
'Shoes of children of Mary' / 'Mary's children's shoes.'

65.



The derivation in (65) is, like (46), repeated in (63) save for the inclusion of the stacked possessives embedded within the matrix possessive DP. In (65), the possessive DP *viatu vya watoto wa Maria* 'Maria's children's shoes' is complex with two

possessive relations – one related to *vi-atu* 'shoes' and another to *wa-toto* 'children'. The DP has the dependent *watoto wa Maria,* a possessive DP embedded within the matrix possessive DP *viatu vya watoto wa Maria.* The stacked possessives are organized in such a manner that they observe a strict hierarchy – specifically government, with the head *n*P *viatu* governing its immediate possessive preposition and its complement *vya watoto wa Maria* which again has an internal head *n*P *watoto* exercising control over its immediate possessive preposition and its complement *wa Maria.* Government is observed by considering possessive preposition *wa* (Class 2) as the governee to the governor *watoto* (Class 2) of the embedded phrase, while the preposition *vya* (Class 8) is the governee to the governor *viatu* (Class 8) in the matrix possessive DP.

This structural configuration is important in that it helps to avoid ambiguity when interpreting the syntactic structure by ensuring that every governee has only one governor – government, and that one governor cannot govern in the domain of another governor – relativized minimality. Other details of the derivation process in (65) are such that *n*P raises to Spec DP via Spec PP in the usual way. As assumed, the movement to Spec DP is only possible when D is null, otherwise the movement would be blocked in a specifier position below D. In Swahili this happens when for instance the demonstrative raises to D blocking the raising of *n*P to Spec DP. Having discussed the structure and derivational analysis of the possessive DPs with embedded possessive phrases, the next section presents an analysis of the possessive DPs with possessive pronouns. The presentation of the discussion is such that simple possessive and embedded possessive constructions are presented separately.

3.2.2 Possessive DPs involving Possessive Pronouns

3.2.2.1 Simple possessive DPs involving Possessive Pronouns

It was mentioned earlier that Swahili has two alternative means of realizing possessive DPs; via *–a* Phrases and Possessive Pronouns. The preceding section has analyzed the structure of possessive DPs involving possessive prepositions. This section analyzes possessive DPs involving the Possessive Pronouns (also called the pronominal

genitives). The presentation is like the one adopted in the previous section in which simple possessive DPs and embedded possessive DPs are analyzed in separate sub-sections. This sub-section analyses the simple possessive DPs involving the Possessive Pronouns. As mentioned earlier, simple possessive DPs have one head *n*P and a dependent as illustrated in (66) – (69).

66. *Mbao z - angu.*
10 timber 10 of mine
'Timber of mine.'
67. *Wa-toto w - enu.*
2 child 2 of your
'Children of yours.'
68. *Mi-keka y - ao.*
4 mat 4 of their
'Mats of theirs.'
69. **Mbao za z - angu.*
10 timber 10 of 10 of mine
'Timber of mine.'

In (66) – (69), the possessive pronouns are *–angu* 'of mine', *-ao* 'of theirs, and *–enu* 'of yours'. The DPs are simple since they each have one head *n*P (possessum) and one dependent *n*P (possessor). The possesums are *mbao* 'timber', *watoto* 'children', and *mikeka* 'mats'. The possessive relation is established by the possessive pronouns themselves *–angu* 'of mine', *-enu* 'of yours', and *–ao* 'of theirs'. The possessive pronouns take agreement markers which agree with the class of the head *n*P (possessum) they relate with. Thus, *-angu* takes Class 10 agreement *z-* in (66), *-enu* takes Class 2 agreement *w-* in (67), and *-ao* takes Class 4 agreement *y-* in (68). The possessive DPs with the possessive prepositions, and the above with the possessive pronouns, differ with regard to the level at which the agreement markers attach. In the former, the agreement markers are attached directly to the possessive prepositions while in the latter the markers are attached to the possessive pronouns.

It can also be observed that the possessive DPs with possessive pronouns are like the Semitic and Hebrew CS DPs for not having the possessive preposition. Thus, the use of possessive prepositions in DPs with possessive pronouns as in (69) leads to ungrammaticality. However, as previoulsy noted, these DPs differ from the typical Semitic and Hebrew CS DPs for having possessive pronouns which introduce possessive relationship with the head *n*P as illustrated in (66) – (68).

It can also be observed that the short linguistic distance between heads and dependents observed in CS DPs in Hebrew and some Semitic varieties cited earlier is also found in Swahili possessive DPs with possessive pronouns. In these languages, the CS DPs lack the possessive preposition or any word that would signify a possessive relationship between heads and dependents, the fact which accounts for the shorter linguistic distance between the two elements. This property is observed in Swahili illustrations in (66) – (68) revealing the possessive DPs which lack possessive prepositions. Thus, it can be said that Swahili possessive DPs with possessive pronouns have a shorter linguistic distance between the heads and their respective dependents than their counterparts – DPs with possessive prepositions, which have a broader linguistic distance. The longer linguistic distance between the head and the dependents in possessive DPs with possessive prepositions is attributed to the possessive prepositions.

The possessive pronouns in Swahili are like demonstratives in observing a three-tier person-based distinction – speaker (first person), spoken to (second person), and spoken about (third person). According to Kihore et al. (2012), the main possessive pronouns in Swahili are *–angu/-etu* 'of mine/our' (first person), *-ako/-enu* 'of yours/your' (second person), and *-ake/-ao* 'of hers/ his/ theirs' (third person). The possessive pronouns are paired according to respective noun classes of the head noun to which they are related. The complete list of agreement for the possessive pronouns is provided in (70).

70. Agreement forms for possessive pronouns in Swahili

	Prefix	N(oun)	Gloss	Agr.	1st Person [Sing/Plur]	2nd Person [Sing/Plur]	3rd Person [Sing/Plur]
1	m(u)-	mtoto	child	w-	-angu/-etu	-ako/-enu	-ake/-ao
1a	ø	baba	father	w-	-angu/-etu	-ako/-enu	-ake/-ao
2	wa–	watu	persons	w-	-angu/-etu	-ako/-enu	-ake/-ao
3	m–	mti	tree	w-	-angu/-etu	-ako/-enu	-ake/-ao
4	mi–	miti	trees	y-	-angu/-etu	-ako/-enu	-ake/-ao
5	ji–/li–	jiwe	stone	l-	-angu/-etu	-ako/-enu	-ake/-ao
5a	ø	panga	matchet	l-	-angu/-etu	-ako/-enu	-ake/-ao
6	ma-	mapanga	matchets	y-	-angu/-etu	-ako/-enu	-ake/-ao
7	ki-	kiti	chair	ch-	-angu/-etu	-ako/-enu	-ake/-ao
8	vi-	viti	chairs	vy-	-angu/-etu	-ako/-enu	-ake/-ao
9	N-	nyumba	house	y-	-angu/-etu	-ako/-enu	-ake/-ao
10	N-	nyumba	houses	z-	-angu/-etu	-ako/-enu	-ake/-ao
11	(l)u-	(l)ubao	timber	l(w-)	-angu/-etu	-ako/-enu	-ake/-ao
12	ka-	katoto	tiny child	k-	-angu/-etu	-ako/-enu	-ake/-ao
13	tu-	tutoto	t.childr en	tw-	-angu/-etu	-ako/-enu	-ake/-ao
14	u-	uwizi	theft	w-	-angu/-etu	-ako/-enu	-ake/-ao
15	ku-	kuimba	singing	kw-	-angu/-etu	-ako/-enu	-ake/-ao
16	pa-	pahala	place	p-	-angu/-etu	-ako/-enu	-ake/-ao
17	ku-	kwahala	place	kw-	-angu/-etu	-ako/-enu	-ake/-ao
18	mu-	mwahala	place	mw-	-angu/-etu	-ako/-enu	-ake/-ao

Agreement is one of the most crucial linguistic properties of DPs in Swahili. Swahili does not tolerate agreement mismatches as illustrated in (71) – (72).

71. *Viti* (**y*)/ *vy– angu/ -ako/ -ake.*
8 chair (*9)/ 8 of mine/ yours/ hers/ his/it
'Chairs of mine/yours/hers/his/it.'

72. *Viti* (**y*)/ *vy- etu/ -enu/ -ao.*
8 chair (*9)/ 8 of ours/ yours / theirs
'Chairs of ours/yours/theirs.'

In (71) – (72), all possessive pronouns agree in class and gender with the nouns with which they introduce possessive relation. Any disagreement with the possessum is treated as ungrammatical as illustrated by (*). Another crucial feature of possessive pronouns is that of contractibility under certain conditions as illustrated in (73) – (75).

73a. *Mw-ana w- angu.*
1 child 1 of mine
'Child of mine.'

73b. *Mw-ana'ngu.*
1 child of mine
'Child of mine.'

74a. *Mw-ana w- ako.*
1 child 1 of yours
'Child of yours.'

74b. *Mw-ana'*(*k*[4])*o.*
1 child of your
'Child if yours.'

75a. *Mw-ana w- ake.*
1 child 1 of hers/his
'Child of hers/his/it.'

75b. *Mw-ana'(k)e.*
1 child of hers/his
'Child of hers/his/it.'

In (73) – (75), 'b' members are said to be derived from 'a' counterparts via the drop of agreement (Agr.) affix and subsequent attachment of the possessive pronoun directly to the head *n*P (possessum). In this context, the final vowel of the head *n*P and the initial vowel of the possessive pronoun (possessor) coalesce accompanied by

[4] Many speakers along the coastline and in the isles (Zanzibar and Pemba) prefer forms *mwanao* 'your child' or *mwanae* 'her/his child' to the underlying *mwanako* or *mwanake.*

compensatory lengthening in speech. Despite the morphological change, the interpretive indeces in (73) – (75) remain unaltered. However, the following 'b' versions of contracted possessives are not acceptable.

76a. *Kikombe ch- angu.*
7 cup 7 of mine
'Cup of mine.'

76b. **Kikombe'ngu*
7 cup 7 of mine
'Cup of mine.'

77a. *Mti w- angu.*
3 tree 3 of mine
'Tree of mine.'

77b. **Mti'ngu.*
3 tree 3 of mine
'Tree of mine.'

78a. *Kasuku* w- *angu*.
1 parrot 1 of mine
'Parrot of mine.'

78b. **Kasuku'ngu.*
1 parrot 1 my
'Parrot of mine.'

In the above, the impossibility to derive grammatical possessive DPs of 'b' sets can be explained in terms of the nature of vowels following the affix drop and the failure of the remaining vowels to coalesce as outlined earlier. It should be noted that a vowel of the same quality merges (coalesce) or harmonizes while vowels of different qualities do not. Thus, harmonization is not possible where the final vowel of the head *n*P and the initial vowel of the possessive pronoun are of different qualities as in (74b) – (76b). It can be observed that the head *n*Ps do not have open vowels as their final vowels, hence their finals vowels cannot merge with the open vowel *a* of the possessive pronouns. In these examples the final vowels of the head *n*Ps are [e] in *ki-kombe*, [i] in *m-ti*, and [u] in *kasuku*, which cannot be harmonized with the open vowel of the possessive pronouns following the deletion of the agreement affix. Having discussed the structure of simple possessive DPs with possessive pronouns, the next section presents the structure and derivations of these DPs.

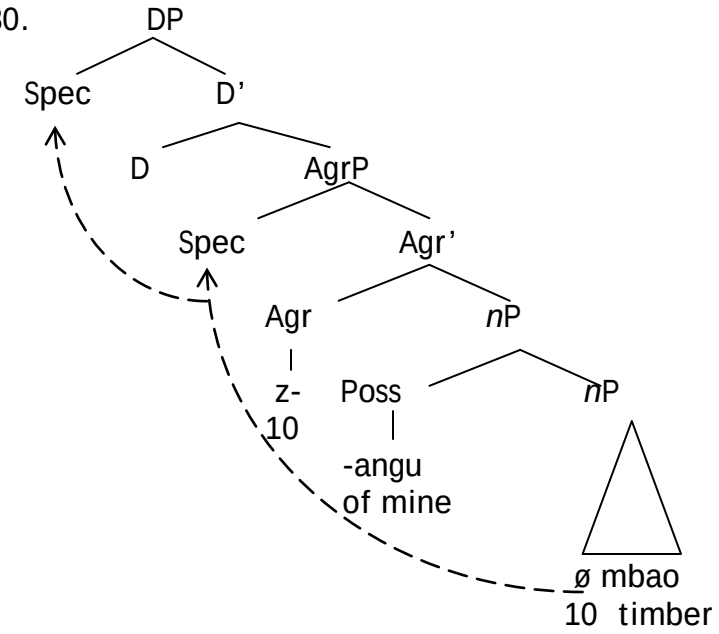
3.2.2.2 Structure and derivations of simple possessive DPs with Possessive Pronouns

The derivation of possessive DPs pursued in this chapter departs from the assumption that there are separate level for attaching the possessive prepositions (*-a* phrases) and the possessive pronouns. The proposed approach suggests that the two possessive forms can be projected at the same level with the possessor being adjoined as the adjunct to the base generated *n*P. In this position, the possessor is analyzed as the complement (object) of the possessive preposition (P). In deriving possessive DPs with possessive prepositions in the previous section, the possessors which appear as adjuncts to the base generated *n*Ps were analyzed as complements of the P(repostion). The derivation approach adopted for the DPs with possessive prepositions assumed that the possessive prepositions introduced possessive relation. The derivation of possessive DPs with possessive pronouns might require slight modification of the previous approach because these DPs lack possessive prepositions. The consequence of this observation is to assume that these kind of DPs have an Agr(eement) category which attaches to the Poss(essor) *n*P, as shall be explained.

Observing the agreement forms in possessive DPs with possessive pronouns, it is obvious that the DPs have an Agr category in the place of the possessive preposition. The Agr takes the possessive pronoun attached as the adjunct to the base generated *n*P as its complement (object). With Agr in the place of P, and its complement (Possessor) appearing as the adjunct of head *n*P, the derivation of the possessive DP in (79) repeated from (66) is illustrated in (80).

79. *Mbao* *z - angu.*
10 timber 10 of mine
'Timber of mine.'

80.



In (80), the Class 10 agreement marker (*z-*) occupies the Agr position, while the Poss(essor) (*–angu* 'of mine') occupies the adjunct to the head *n*P *mbao* 'timber') position in the usual way. At the same time, the Poss is analyzed as the object of the Agr, z- for Class 10 nouns, which agrees with the head *n*P in Class 10 and Gender E. The head *n*P rises cyclically to Spec DP via Spec AgrP resulting in the possessum-initial order *n*-Agr-Poss. The raising of *n*P is responsible for Agr-posssessum agreement as explained in the preceding chapters. This derivation would not be possible assuming that Agr is a form of *–a* phrase, in which case the possessive pronoun would be redundant as in (69). The next section presents the analysis of possessive DPs involving embedded dependents.

3.2.2.3 Embedded possessive DPs involving embedded possessive pronouns

It was illustrated in the previous section that possessive DPs involving possessive prepositions could be stacked in such a way that within a single possessive DP another

possessive DP is embedded resulting in a complex possessive DP. One of the illustrative possessive DPs presented in (60) is repeated in (81).

81. *Vi-atu vy-a wa-toto w-a Maria.*
8 hoe 8 of 2 child 2 of 1 Mary
'Shoes of children of Mary' / 'Mary's children's shoes.'

In (81), the possessive preposition *vya* in the matrix possessive phrase agrees with its head *n*P (possessum) *viatu* 'shoes'. The possessive preposition takes the dependent (possessor) *watoto* 'children' as its object. In turn, the possessive preposition *wa* in the embedded phrase agrees with *watoto* which at this level of analysis becomes the head of the *n*P (possesssum) of the embedded possessive phrase. It was also explained earlier that the relations of government bind each possessive preposition to one governor – one governee one governor relations. In embedded possessive relations the head of the embedded possessive phrase acts as a barrier to government from the head *n*P, this structural relation makes the blocking effect of the intervening governor like *wa-toto* relative to the relevant domain of the embedded possessive phrase on a par with Rizzi's (1990) relativized minimality. Thus, the possessive prepositions are governees for their respective governors in specifier positions. However, when it comes to possessive DPs with possessive pronouns, there is a ban against stacking the possessive pronouns as illustrated in (82) – (83).

82. **Uharibifu wake wao/ wao wake.*
14 destruction 14 his 14 their/ 14 their 14 his
83. **Habari zao zake/ habari zake zao.*
10 news 10 their 10 its/ 10 news 10 its 10 their
'Their news of it.' (Carstens, 1991:85)

In (82) – (83), the stacking of the possessive pronouns *wake* 'his' and *wao* 'their' leads to ungrammaticality unlike in (83) where stacking the possessive prepositions in a single DP does not render the DP ungrammatical. Although it is impermissible to stack

possessive pronouns, the mix of possessive pronoun and possessive preposition DPs is possible as illustrated in (84) – (85).

84. *Uharibifu w -ake w-a maadui.*
14 destruction 14 of her/his 14 of 2 enemy
'Her/his destruction of (her/his) enemies.'

85. *Shamba l- -ake l-a migomba.*
5 farm 5 of her/his 5 of 4 plantains
'Her/his farm of (her/his) plantains.'

In (84) – (85), the possessive preposition phrases are embedded in DPs involving the possessive pronouns. As assumed in the previous sections, the matrix possessive DPs maintain possessum-Arg agreement in which Arg agrees with head *n*P in class and gender. In (84) – (85), Agrs *w-* and *l-* agree with head *n*Ps *uharibifu* 'destruction' and *shamba* 'farm' in respective classes (Class 14 and Class 5) and gender (Gender C and Gender H). In turn, possessive prepositions in embedded possessive constructions agree with their local governors – possessive pronouns (possessive stems), in class and gender. Although, class and gender for the possessive pronouns are not indicated in (84) – (85), it is assumed that they bear the agreement markers of the respective prepositions (see 70). Having discussed the structure of the possessive DPs involving possessive pronouns, the next section presents the structure and derivations of these embedded possessive DPs.

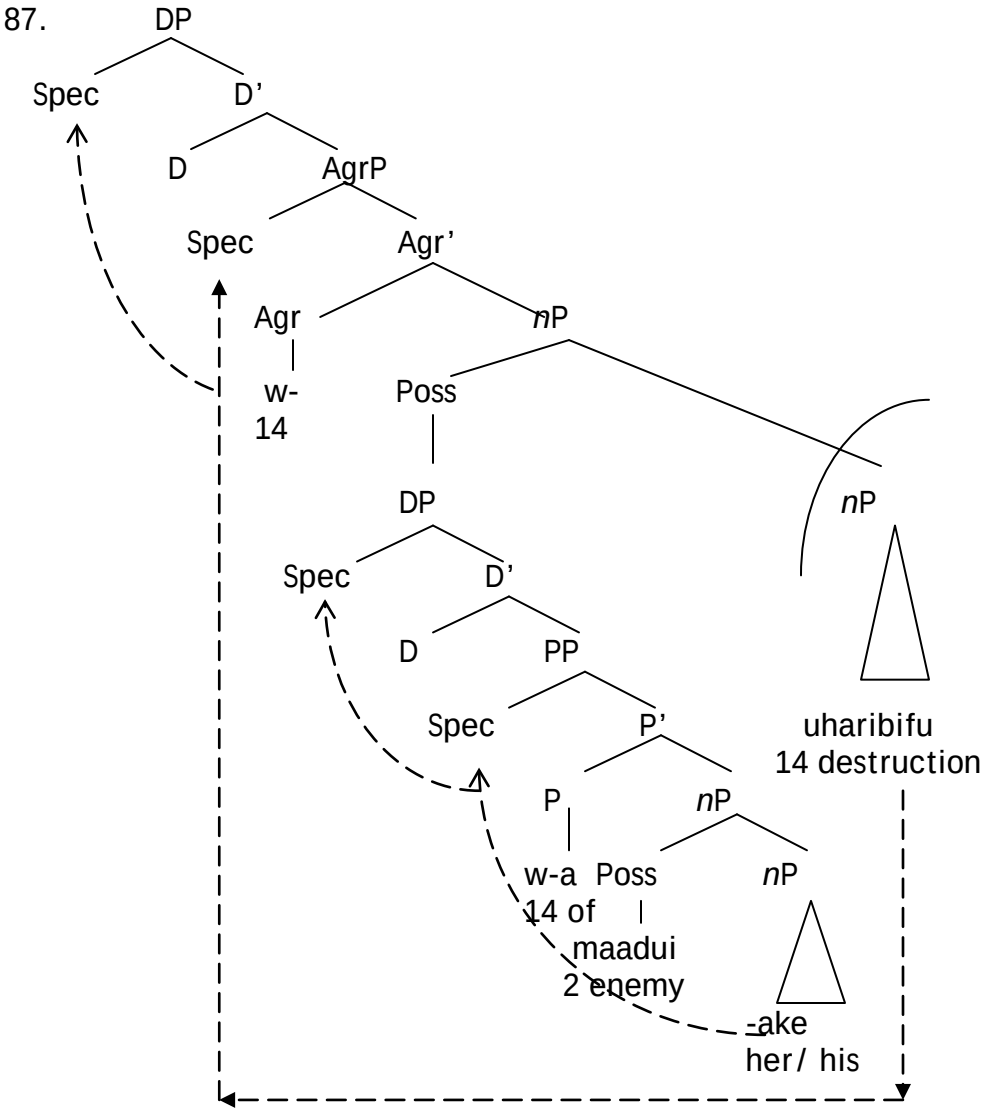
3.2.2.4 Structure and derivations of embedded possessive DPs with Possessive Pronouns

It has been mentioned in this section that possessive DPs with possessive pronouns cannot be stacked unless the DP involves a mix of possessive words; say a possessive pronoun and a possessive preposition. The derivation pursued in this sub-section follows the same assumptions used for deriving simple possessive DPs involving possessive pronouns where the pronoun occupies the adjunct to head *n*P position, also functioning as the complement of Agr. The Agr maintains agreement with head *n*P

which raises to Spec DP. The derivation of the DP in (84) repeated in (86) is illustrated in (87).

86. *Uharibifu* *w-* *-ake* *w-a* *maadui.*
14 destruction 14 her/his 14 of 2 enemy
'Her/his destruction of (her/his) enemies.'

87.



The structure in (87) comprises two possessive constructions within one possessive DP – the matrix possessive phrase and embedded possessive phrase, as was explained in the preceding section. In deriving (87), as in (65), two related stages are involved; first, the raising of the head *n*P (possessum) *uharibifu* 'destruction' in the matrix

possessive construction to Spec DP. Second, the raising of the head *n*P (possessum) *wake* 'her/his' in the embedded possessive construction to Spec DP of the embedded DP. It is obvious that the elements in each construction are properly governed to maintain the structure and avoid cases of ambiguity; as outlined in the derivations in the previous section. In (85), the possessive pronoun in the matrix phrase agrees with the respective head (possessed) in class and gender in the same way as the possessive preposition in the embedded phrase agrees with the possessed in its local domain. The agreement is such that Class 14 *w-* in the matrix possessive construction agrees with the head *n*P *uharibifu* 'destruction' (Class 14) while Class 14 *wa* 'of' in the embedded possessive construction agrees with the pronoun.

Literature has shown a close affinity between possessives and demonstratives with suggestions that the two can co-occur. Giusti (1992, 1995, 2002), for example, reports that possessives and demonstratives can co-occur with articles in many unrelated languages. Rugemalira (2006) shows that, in Bantu languages, the demonstratives and the possessives are determiners occurring immediately following the noun with the possibility of having the demonstrative appearing prenominally. The next section attempts to analyze the structure of possessive DPs in relation to the demonstratives with the aim of finding out how the observed relationship is translated in mapping Swahili nouns into DP structures.

3.3 Possessives and Demonstrative in Swahili DPs

In the preceding chapter, demonstratives were studied in relation to deictic function and definite article function. In relation to the head *n*P it was explained that the demonstrative could appear postnominally or prenominally. The postnominal appearance of the demonstrative in Swahili is unmarked contrary to the appearance prenominally where it is deemed to stem from raising. Prenominal demonstratives are considered to be determiners which are derived from movement since modifiers in Swahili appear postnominally. Thus, it appears that the appearance of any modifier prenominally, including the demonstrative, must be accounted for in terms of raising.

In relation to the possessives, Carstens (1991) points out that demonstratives can intervene between the noun head and the possessive words to generate the order [n_i-Dem-Gen-t_i]. In this regard, it is concluded that demonstratives precede all arguments of the noun including the possessive as illustrated in (88) – (89).

88. *U–somaji huu wangu w-a esimu*.
14 study 14 this 14 my 14 of 9 linguistics
'This my style of studying linguistics.'
89. *Ki–kombe hiki ch-ako ch-a kahawa*.
7 cup 7 this 7 your 7 of 9 coffee
'This your cup of coffee.' (Carstens, 1991:105)

In (88) and (89), the postnominal demonstratives *huu* 'this' and *hiki* 'this' precede the possessive pronouns leading to the order [n_i-Dem-Gen-t_i]. Based on this fact, Carstens (1991) points out that the demonstrative precedes all arguments of the noun, and any intervening element between the head *n*P and the demonstrative would lead to ungrammaticality illustrated in (90) – (92).

90. **Wanafunzi w-a Mario hawa.*
2 student 2 of Mario 2 these
'These students of Mario's.'
91. **Ki–kombe ch-ako hiki ch-a kahawa*.
7 cup 7 your 7 this 7 of 9 coffee
'This your cup of coffee.'
92. **Uharibifu w-ake huu.*
14 destruction 14 his 14 this
'This his destruction.' (Carstens, 1991:104 - 106)

In the above, the phrases are assumed to be ungrammatical when the genitive precedes the demonstrative. On the contrary, Rugemalira (2006) points out that in Swahili the possessive pronoun can precede the demonstrative without affecting meaning. This fact is illustrated in (93).

93. *Mtu w–angu yule.*
1 person 1 my 1 that
'That person of mine.' (Rugemalira, 2007:142)

In the analysis of the position of the demonstrative and the possessive modifiers, Rugemalira (2007) analyses the demonstrative and the possessive pronoun as the determiners which appear in a free order. In (93), Rugemalira (2007) illustrates the order in which the possessive precedes the demonstrative. Based on Rugemalira (2007), I would consider Carstens' (1991) illustrations (90) (92) grammatical. I assume with Rugemalira (2007) that in Swahili the demonstrative and the possessive can co-occur in a free order postnominally. This fact that the possessive can precede the demonstrative is also observed in other Bantu languages like Samatengo as illustrated in (94).

94. *Mwana jw- aki jola.*
1 child 1 of her/his 1 that
'That child of hers/his.' [Samatengo, Ndomba (2006)]

The close relationship between the demonstrative and the possessive is also reported in Czech, an articleless language. Veselovská (2014) points out that in Czech the demonstrative and the possessive occur in an order in which either of the two precedes the other. It appears that in Swahili whatever order [n_i-Dem-Gen-t_i] or [n_i-Gen-Dem-t_i], the interpretive index is not altered as illustrated in (95) – (96).

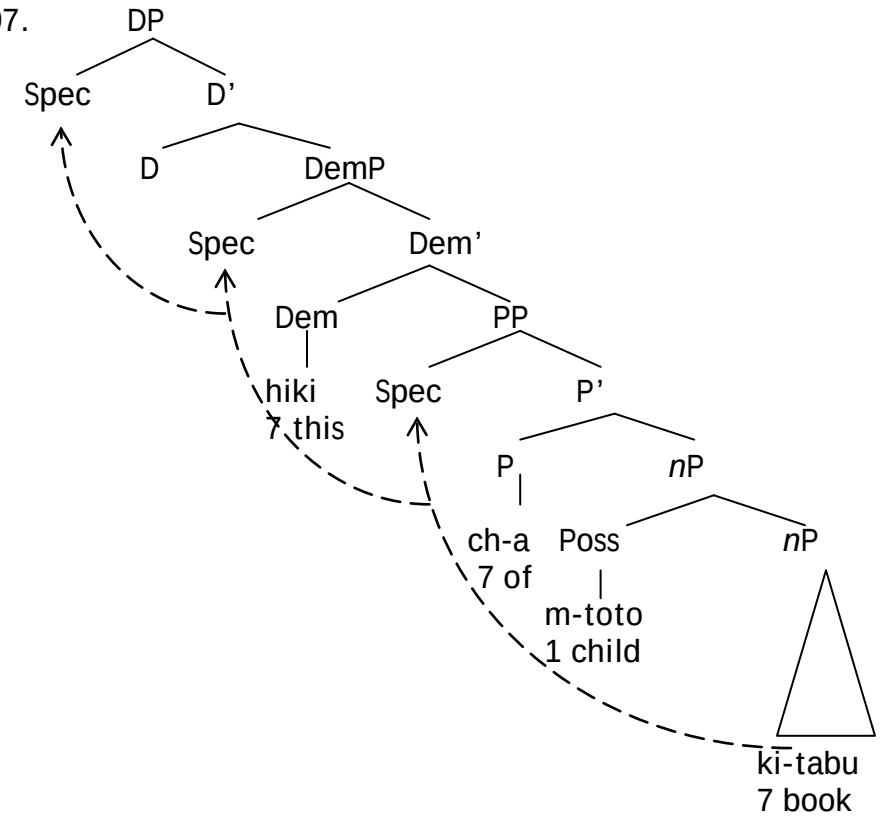
95. *Mi–keka y-ake hii.*
4 mat 4 her/his 4 these
'Her/his mats these.'
96. *Mi–keka hii y-ake.*
4 mat 4 these 4 her/his
'These mats of hers/his.'

In (95), the possessive pronoun precedes the demonstrative while in (96) the demonstrative precedes the possessive pronoun. In the two cases where the possessive and demonstrative swap positions, the interpretive index remains the same. However, (95) would better be interpreted as 'these mats of hers/his'. The next section attempts to derive the possessive DPs with demonstratives.

3.3.1 Structure and derivations of Possessives and Demonstratives

This section has shown that Swahili possessives and demonstratives are freely ordered with respect to one another in the postnominal position. However, the assumption that the demonstrative precedes other elements of the noun can be explained with reference to Greenberg's (1966) implicational Universal 20 which shows that the demonstrative (Dem) precedes all other arguments of the head *n*P. If this is the case, then it can be assumed that only the position of the demonstrative is predetermined in DP hierarchy while that of the possessive is not. Rugemalira (2007) claims that the possessive, in Swahili NPs, can appear (postnominally) in any position. The free order, specifically on the part of the possessive could stem from the fact that this category is not specified for in Greenberg's (1966) typology. In (97), I illustrate *kitabu hiki cha mtoto* 'this child's book' in which the possessive follow the demonstrative.

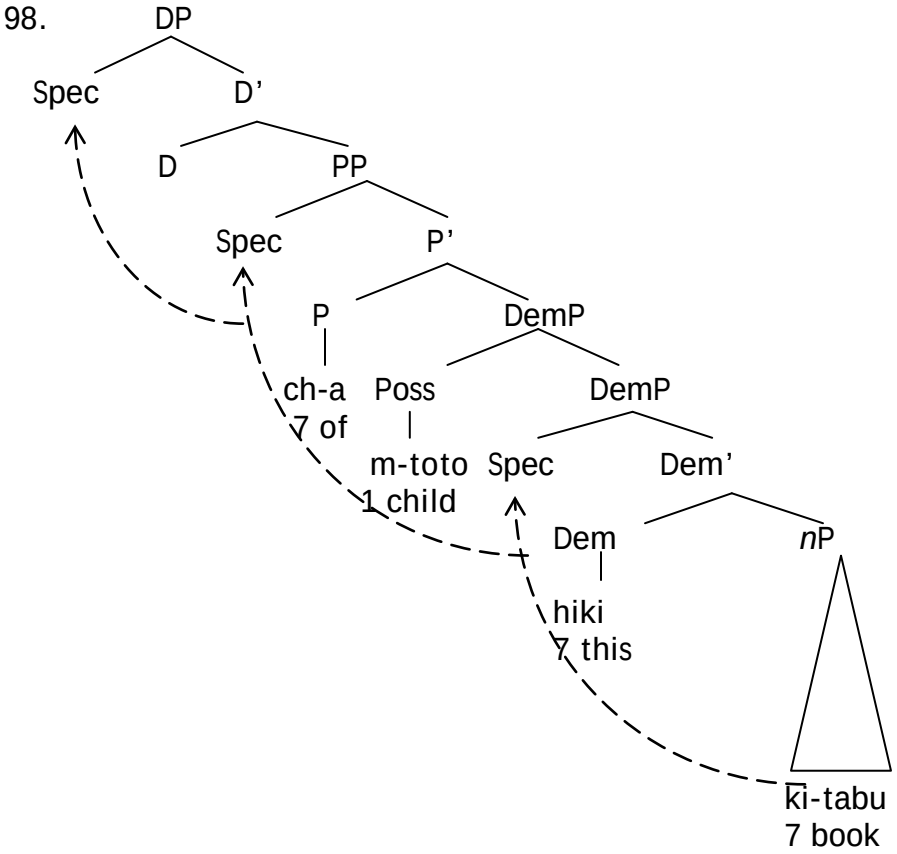
97.



In (97), the derivation follows a similar pathway as the earlier possessive DP derivations. The demonstrative occupies its base generated position just below D heading the possessive, and Poss is base generated as the adjunct to *n*P. Swahili possessive DP is like its English counterpart in the order of elements (structure) and meaning – *this child's book,* except that the Swahili order appears to be the reverse of the English order, [Dem of Poss *n*] → [n_i Dem of Poss t_i]. The Swahili structure is achieved by the possessum (*n*P) raising to Spec DP via Spec PP and Spec DemP. The raising of *n*P is triggered by the need to meet the Extended Projection Principle (EPP) condition discussed in Chapter 2. The raising is also responsible for checking the relevant abstract features for defining *n*P in D. This process is accomplished in a Spec head relation when *n*P appears in Spec DP position. It should be noted that the raising phenomenon establishes functional relations between the specifier (in this case the possessum) and dependents (iP and Dem) in each step of the movement – Spec PP, Spec DemP, and finally Spec DP.

It was noted earlier that the possessive can precede the demonstrative without affecting the meaning. Thus, in (98), the possessive *kitabu cha mtoto hiki* 'this child's book' precedes the demonstrative without affecting the interpretive index of (97) above.

98.



In (98), the derivation is like (97) except that in this case (98) the possessive pronoun precedes the demonstrative. In (98), the possessor occupies the adjunct to DemP position, different from (97) where the possessor is an adjunct to *n*P. Spec-head agreement is maintained by the raising of *n*P to Spec DP via Spec DemP and Spec PP. The raising of the (*n*P) across the demonstrative results into the order [n_i-of Poss Dem-t_i]. The next section discusses the analysis of Swahili DPs involving the determiners.

3.4 The Determiner in Possessive DPs

There are two basic assumptions with regard to the determiner category in Swahili. First, Swahili DPs lack determiners and that they are DPs with empty D^0s (Carstens,

1991, 1993, 2008). Because Swahili DPs have empty D^0s the head nouns (n^0) raise from their base generated position to occupy the D^0s. The difference between DPs with determiners and DPs without determiners in D is illustrated using Swahili and Italian in (99) – (102).

99. *Picha yake nzuri.*
9 picture 9 his/her 9 nice
'Her nice picture.'

100. [DP picha+D [NumP yake t_{Num} [nP nzuri t_{poss} [NP tN]]]]
picture her nice

101. *La mia casa bella.* [Italian, Carstens (2008:146)
the my house pretty
'My pretty house.'

102. [DP la D[NumP mia casa [nP bella t_{poss} [NP tN]]]] [Italian, Carstens (2008:146)
The my house pretty

In (99) – (100), Swahili DPs are presented without the determiner, specifically the definite article, whereas Italian DPs in (101) – (102) are presented with the definite article *la*. As noted in (95), the literal interpretation of Swahili *picha yake nzuri* would be 'her picture nice'. However, the equivalent translation 'her nice picture' is standard considering the structure of English. In terms of the formal linguistic forms that represent determiners, it can be assumed that Swahili DPs lack this category in D. Carstens (2008) suggests that the appearance of the head *n* in the initial position in Swahili DP comes from raising to D.

The second assumption with regard to the determiner in Swahili DP is that the demonstratives and the possessives appearing immediately after or before the head *n*P serve as determiners (Rugemalira, 2007). Rugemalira (2006) uses Mashami (103) – (104) – a Bantu language spoken in northern parts of Tanzania, to illustrate that in Bantu languages the demonstrative and the possessive can co-occur in an order which suggests that the two function as determiners.

103. *Ńndú ulya wákwa.*

'That person of mine.'

104. *Ikusáro lyilyá lyákwa.*

'That thought of mine.' (Rugemalira, 2006:138)

In (103) – (104), Rugemalira (2008) explains that the demonstratives – *ulya* and *lyilyá,* and possessives – *wákwa* and *lyákwa,* are determiners. It was argued in Chapter 2 that the prenominal demonstrative serves as the definite article. The contrast between the prenominal demonstrative and postnominal demonstrative are illustrated in (105) – (106).

105. *Ki-tabu ki-le ch-ake*

7 book 7 that 7 her/his/its

'That book of hers/his/it.'

106. *Ki-le ki-tabu ch-ake.*

7 that 7 book 7 of her/his/its

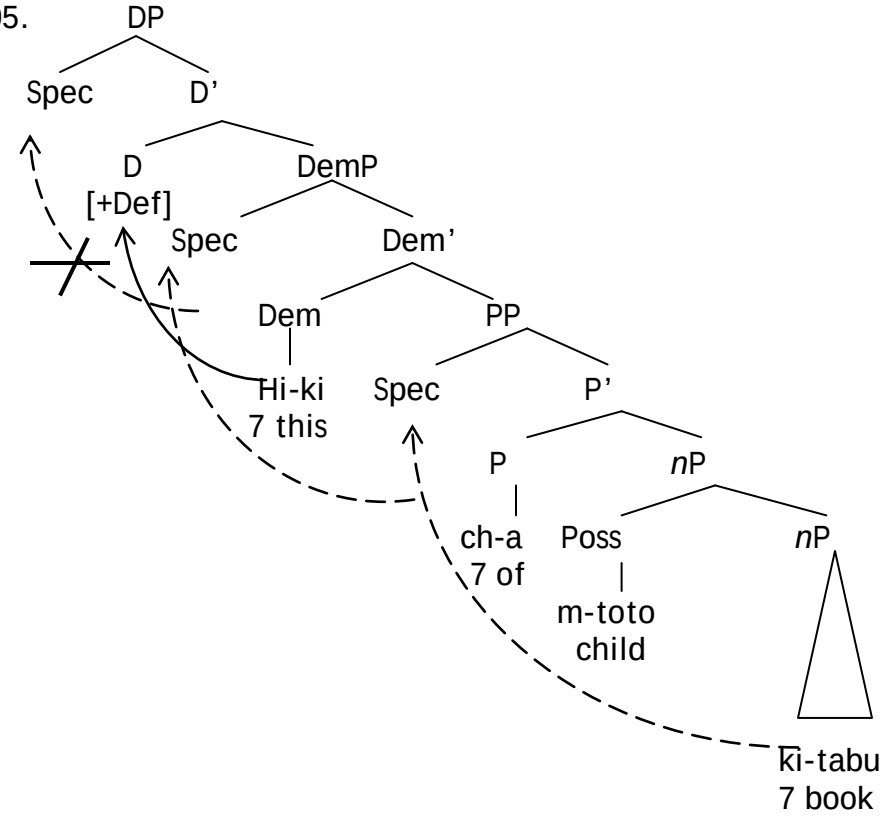
'The book of hers/his/it.'

The examples above show that the prenominal appearance of the demonstrative in (106) is similar to the definite article in article languages like English. Quite the contrary, the postnominal demonstrative in (105) is assumed to be deictic – it serves to point at an object. The deictic understanding is observed when the demonstrative which appears postnominally appears only prenominally. The demonstrative in the prenominal position is assumed to provide a definite article reading just like the definite article in languages like English. Examples from augment Bantu languages in Chapter 2 illustrated the fact that D in Bantu languages is reserved for definite article of the the *the* type in English. The next section presents structures and derivations involving possessives and demonstratives which appear prenominally.

3.4.1 Structure and derivation of the DPs with Possessives and Determiners

It has been argued in this thesis that the prenominal demonstrative appearing in D corresponds to the definite article *the* in English. However, since the demonstrative is base generated below D, its appearance in the prenominal position is said to be derived from movement. In (105), I illustrate *hiki kitabu cha mtoto* '(this) the child's book.'

105.



In (105), the demonstrative is base generated in Dem but raises to D where the feature [+Def] for the definite article is located. It was mentioned in Chapter 2 that D must be occupied in languages where the D has strong features. In this regards, the Def(inite) article feature attracts the raising of Dem. In turn the *n*P raises to Spec DemP via PP as assumed in the preceding chapters and sections of this chapter. The usual raising of *n*P to Spec DP is not possible when D is occupied as in (105).

3.5 Chapter Summary

This chapter has shown that possessive DPs in Swahili are categorized into pronominal possessives (also called possessive pronouns) and non-pronominal possessives (also called lexical possessives). The pronominal possessive DPs are introduced by the possessive pronouns while their non-pronominal counterparts are introduced by the possessive preposition – the *–a* phrase. The chapter has argued that the Swahili possessive DPs are unlike possessive DPs in Semitic languages which are categorized into the Construct State (CS) possessive DPs and the Analytic Genitive (AG) poseessive DPs. Based on their morphology, Swahili possessive DPs can best be described as AG DPs since CS possessive type of possessives are unavailable.

Structurally, Swahili possessive DPs are formed by the possessed – also referred to as the possessum, and the possessor. The possessed and the possessor introduce the dependent relationship in which the possessed (possessum) is the head *n*P of the possessive DP while the possessed is the dependent. In addition to the head-dependent relationship, the Swahili possessive DPs are analyzed as simple possessive DPs and embedded possessive DPs. The simple possessive DPs are formed by single heads and dependents while the embedded possessive DPs are formed by more than one head and dependent.

Based on the evidence, the chapter has illustrated that the pronominal possessives and non-pronominal possessives are derived differently alongside the assumed *n*P (XP) movement. In this view, the possessive pronouns are introduced by AgrP (Agreement Phrase) different from the non-pronominal possessives which are introduced by PP (Possessive Preposition). In both cases, it has been assumed that the possessors are analyzed as adjuncts of some kind to adjacent categories – *n*P or DemP, as the result of predicate inversion when the head *n*P (XP) raises to specifier positions of subsequent elements like Spec DemP followed by the introduction of a RELATOR realized as the PP or Agr. The cyclic raising of the head *n*P is responsible for agreement features observed on the dependents. The chapter has illustrated that agreement in Swahili possessive DPs is best described in terms of the underlying

features of the head *n*P (Class and Gender) which are realized using consonants of the prefixes of the head *n*P rather than the prefixes themselves. Nevertheless, the assumed one-to-one correspondence between the consonants of the head *n*P and the agreement forms is lost in some cases.

The chapter has furher revealed that the possessive nouns can co-occur with the demonstratives in free order. The consequence of the free ordering suggests separate pathways for deriving possessive DPs – one in which the demonstratives precede the possessives and the other in which the possessives precede the demonstratives. In both cases, the head *n*P (predicate/possessum of the possessive relations) raises to Spec DP resulting into the order [n_i of/ Agr Poss t_i]. In the case of demonstratives preceding possessives, the raising of the possessors result into the order [n_i-Dem-Poss-t_i], while in the case of possessives preceding demonstratives the raising results in the order [n_i-Poss-Dem-t_i] as illustrated. The chapter has finally argued that the prenominal demonstrative serves as the definite article in possessive DPs. It has been illustrated that the appearance of the demonstrative prenominally stems from its raising from Dem^0 to D^0. The consequence of this raising is to suggest that the *n*P raises to Spec DemP when the demonstrative occupies D^0 blocking the raising of *n*P to Spec DP. The next chapter presents the DP involving the numeral category.

CHAPTER FOUR

NUMERALS

4.0 Introduction

This chapter presents the structure of DPs involving numerals, a syntactic category identified in literature as Num(eral) P(hrase) or simply NumP. The Num category is assumed to have a special relationship with the noun rather than any other syntactic category since it has criterion of identity which makes individuation, counting and measuring possible. Num in this chapter combines both numeral and non-numeral words as a distinct category from *n* which attaches to noun stems to encode number – Singular and Plurar. The chapter shows that the numeral appears postnominally like other elements in DP structure, except for the distributive quantifier which may appear prenominally. The chapter shows that Num follows the demonstrative in unmarked order, and that the various orders of elements observed in Swahili DP stem from the possessive which is assumed to be capable of appearing in any position in DP structure.

The chapter assumes that the underlying structure of the DP involving the numeral is [Num *n*] as found in English *three children.* However, the surface structure of Swahili DP reveals *n*-initial order which is assumed to result from the raising of *n*P to Spec DP. Thus, Swahili *watoto watatu* 'three children' is said to stem from the movemet of *n*P *watoto* to Spec DP. The same account holds when Num co-occurs with elements such as demonstratives and possessives. The raising of *n*P triggers agreement on the elements when *n*P checks its features against heads of the complements at each stop. As noted in the previous chapters, raising to Spec DP is only possible when D is null otherwise *n*P occupies a specifier position below D. The chapter shows that the prenominal demonstrative may appear in D where it serves as the definite article in a language like English. The chapter shows that the appearance of the demonstrative prenominally results from its raising to D.

The chapter is organized into the following sections. Section 1 presents the NumP in Swahili DP. Section 2 presents the structure of DP involving the co-occurrence of the

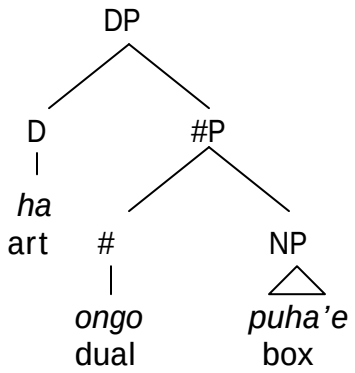
Num and the demonstrative. Section 3 presents the structure of DP involving the co-occurrence of the Num and the possessive. Section 4 presents the unified structure of the Num, the demonstrative, and the possessive. Section 5 presents the structure of the DP involving the determiner. Finally, Section 6 presents a chapter summary. In all sections the descriptions are accompanied by derivations of the structures.

4.1 The Numeral Phrase (NumP) in Swahili DP

This section attempts an analysis of the Numeral (Num) in relation to other elements – demonstratives and possessives, of Swahili DP. The Numeral has also been referred to in literature as Number Phrase (NumP) (Abels & Neeleman, 2012; Carstens, 1991, 1993, 2008; Cinque, 2005; Ritter, 1988, 1991, 1995). The term Num is used in two senses when it comes to DPs. The first sense expresses a grammatical number which is associated with such notions as singular, plural, and dual, while the second sense expresses amounts or quantities. Carstens (1993:168) points out that Number is a syntactic category which can be expressed using *number words* and *number morphology.* The number words relate to the expression of amounts and quantities, and number morphology relates to the expression of grammatical number with its related notions.

Carstens (1991, 1993) notes that Swahili NumPs express Num(ber) morphology using noun class prefixes which attach to NP. This view assumes that Num is the complement of the D(eterminer) and the functional head which selects NP as its complement. According to Carstens (1993) the projection of number as the complement of the determiner is consistent with the relative ordering of determiners and nouns bearing number morphology in familiar languages. The illustration (1) is drawn from Tongan and shows the presentation of Num in the Noun Phrase and its surrounding functional projections (# = Number^0).

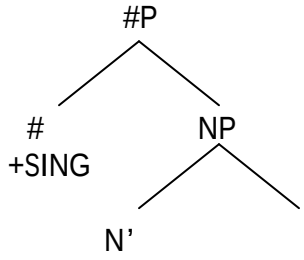
1.



(Carstens, 1993:170)

In (1), the Num (#) category is 'dual' and its projection is the complement of D. The Num also selects NP as its complement. Carstens (1991, 1993) employs this approach in analyzing DPs in Swahili where Number is analyzed as the functional head which selects NP as illustrated in (2).

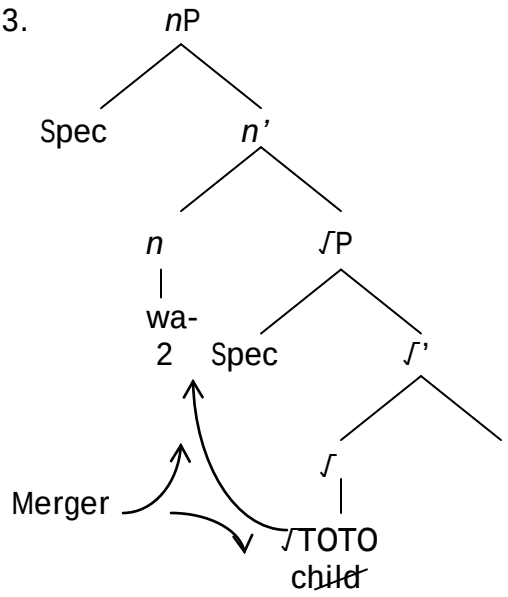
2.



(Carstens, 1991:77)

In (2), Num is considered a functional head which selects NP complements and that N raises and incorporates itself to Num. The derivation above differs slightly from the one adopted for Swahili DP presented in Chapter 1 and Chapter 2. The alternative derivation of Swahili DP analyzes noun class affixes which attach to stems as *n* functional element instead. This alternative approach is illustrated in (3).

3.



The above derivation assumes that *n* is equivalent to Num except that the *n* is an amalgamation of *n* + noun Root. Although the two approaches brings about same result in terms of class prefix + noun stem, the combination in Num and *n* differ in that in the latter the *n* is a functional element which combines with a Root. And in this configuration, *n* functions as a nominalizer for the uncategorized Root via Merger operation. As noted in Chapter 2, whether, NumP or *n*P, the only difference is in the movement of XP to Spec DP. In this view, either NumP or *n*P can be the category undergoing the movement instead of Num or *n.* Carstens (1993) proposes that the feature [±Singular] number is universal, but that further divisions, such as [-singular, +dual], are optional. This explains why Swahili has [+Singular] morphology meaning 'one' and [+Plural] morphology meaning 'not one' in the sense that it denotes entities or amounts more than single while other languages like Tonga and Yapese, according to Carstens (1991, 1993), have the additional [+Dual] morphology.

Ritter (1995) analyzes grammatical number in Hebrew in similar terms to the above – as inflectional morphemes (affixes) which bear the gender specifications of a Noun Phrase (NP). It is pointed out that these inflectional morphemes are said to appear on the N at all levels of presentation to encode singularity, plurality, and duality of N. According to Ritter (1995), the main inflectional morphemes appearing with N in Hebrew are illustrated in (4).

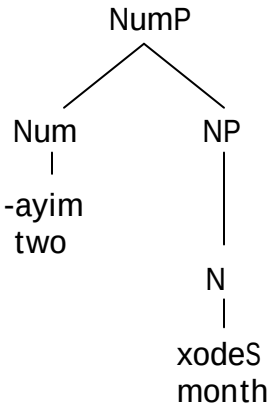
4. Inflection morphemes for selected NPs in Hebrew

	Singular	**Plural**	**'Two'**
hour	*sa'a*	*sa'ot*	*sa'at**ayim***
week	*savua*	*savuot*	*sv'**ayim***
month	*xodeS*	*xodaSim*	*xodS**ayim***
year	*sana*	*Sanim*	*snat**ayim***

(Ritter, 1995:409)

In (4), Ritter (1995) points out that the inflectional morpheme expressing grammatical number in Hebrew is realized using three forms. These three Num forms are *–a* (singular marker), *–ot* (plural marker), and *–ayim* (dual marker). These morphemes are attached to respective Ns belonging to semantic classes which refer to a period of time. Nevertheless, Ritter (1995) notes that the same inflectional morphemes can also be attached to Ns belonging to two other semantic classes; paired body parts and items of clothing, and *pluralia tantum* (these markers are necessarily plural nouns such as *scissors*). In the derivation, N raises to attach to the inflectional morphemes as illustrated in (5) for *xodeSayim* 'two months'.

5.



(Ritter, 1995:411)

In (5), N *xodeS* raises to attach to Num (the dual marker) *–ayim.* According to Ritter (1995), *-ayim* is interpreted as 'exactly two Ns'. Ritter (1992, 1995) explains that the dual marker *–ayim* is used alongside other morphemes – singular and plural morphemes, which also attach to the N as illustrated in (3).

Carstens (1993) points out that while most languages are like Kiswahili and English in exhibiting number morphology, in others, grammatical number is indicated by the presence of independent words. One of these languages, according to Carstens (1993), is Yapese – an Austronesian language, which makes singular, plural, and dual distinction using independent words. The data in (6) – (9) illustrates.

6. *Ea rea kaarroo neey.*
   Sing car this
   'This car.'
7. *Ea gal kaarroo neey.*
   Dual car this
   'These two cars.'
8. *L'agruw ea kaarroo* [two=dual]
   two car
   'Two cars.'
9. *Ea pi kaarroo neey.*
   Plural car this
   'These cars.' (Carstens, 1993:168)

In the above, singular, plural, and dual numbers are distinguishable using separate number words. The number words are *rea* 'Singular' (6), *gal* 'Dual' (7), *l'agruw* 'two' (8), *pi* 'Plural' (9). Unlike in many languages such as English and Swahili; these are realized as number morphology on NPs.

The second sense in which Num is analyzed in languages pertains to what Carstens (1993) terms number words which are realized as distinct syntactic categories from NPs. According to Baker (2003) these types of Num serve to express 'amounts' and 'counts', or simply quantities. The quantities expressed by these quantifiers have this special relationship with the nouns since the nouns bear a criterion of identity. The criterion of identity, according to Baker (2003), makes individuation, counting, and measuring possible. It is noted, however, that semantically the notion of a quantity

depends on the idea of counting or measuring. The following examples drawn from Baker (2003) are illustrative.

10. *No*/ *some*/ *many*/ *most*/ *every* [NP *dog(s)*] *barked*.
11. *No*/ *some*/ *much*/ *most* [NP *wine*] *is drunk during Lent*.
12. **No*/ *some*/ *much*/ *many*/ *most*/ *every* [AP *rude*] *is tolerated here*.
13. **No*/ *some*/ *much*/ *many*/ *most*/ *every* [VP *pay(ing) parking fees*] *is pleasant*. (Baker, 2003:110)

According to Baker (2003), the grammatical quantificational schematas in (10) – (13) are interpreted by evaluating *how many* or *how much* of that which meets the description of the NP also satisfies the description of the rest of the clause with the NP removed. Considering (10), for instance, it can be observed that the statement *most dogs barked* is only true if more than 50 percent of the things that are dogs are things that bark otherwise the statement is untrue, and therefore unacceptable. Conversely, the statement *no dog barked* would only be true if none of the things that are dogs are things that bark, and so on.

Given the account above, quantity can be expressed and understood in terms of assumed individual amounts and, in turn, the individual amounts can be expressed depending on how many can be expressed in terms of amounts. This view suggests that the criterion of identity of the NP complement, of the determiner, and that of the quantifier (as in English) provide for this analysis. Baker (2003) notes that because of the observable relationship of identity; (10) and (11) are acceptable forms. It can also be noted that (12) and (13) are not acceptable because they lack the criterion of identity. According to Baker (2003), the rejected forms – (12) and (13), do not in any way provide a basis for the counting or measuring that is required in evaluating a quantificational schema. This view presupposes that there is no way, for instance, of comparing the quantities of that which is *rude* and that which is *tolerated here* in (12), so (12) is semantically deviant; this applies directly to (13). To this end, it rightly follows that quantifiers form phrases with NPs rather than other categories like verbs

or adverbs and can thus be seen as a semantic necessity rather than a stipulated fact of syntactic selection.

The notion of a Number category explained above contradicts with another type under Ritter's (1995) analysis of Num in Hebrew NP. This Num category in Hebrew relates to a distinct syntactic category for expressing counts and measures. Examples of this category of words include *Sney* 'two' and *SIosa* 'three' which appear distinctively from the inflectional morphemes like singular (*-a*), plural (*-ot*), and dual (*-ayim*) are illustrated in (14) – (17).

14. *Sney garb-ayim.*
    Two sock-dual
    'Two socks.'
15. **Sney Svu'-ayim.*
    Two week-dual
16. *SIoSa garb-ayim*
    Three sock-dual
    'Three socks.'
17. **SIoSa Svu'-ayim.*
    Three week-dual
    'Three weeks.' (Ritter, 1995:413-414)

According to Ritter (1995) the numeral (Num) syntactic categories – *Sney* 'two' and *SIoSa* 'three', and the plural and dual (Num) category *–ayim* are distinct and have different distributions in DP structure. First, Num expressing numerals such as 'two' and 'three' appears as a separate word from N [N+dual], while the inflectional category Num expressing dual is adjoined to the N to the effect that DPs in (14) and (16) each has two Nums – the numeral proper and the inflection morpheme. Based on the examples above, it can be observed that Num denoting duality is base generated lower than the Num which denotes numerals like 'two' and 'three' in Hebrew. Ritter (1995) points out, however, that the grammaticality of (14) and (16) stems from the co-occurrence of the numerals and dual markers in DPs referring to paired items,

while the ungrammaticality of (15) and (17) stems from the co-occurrence of the same but with nouns which do not refer to paired items. Although *–ayim* in (16) is analyzed as an irregular plural marker glossed 'dual' in a morphological sense, it is not part of the interpretation of the DP 'three socks'. The interpretation is based on the Num *SloSa* 'three'.

The analysis of Num pursued in this chapter relates to the second sense, referring to an independent syntactic category which marks amounts, counts, and quantities. This category of Num is illustrated in (18) – (22).

18. *Watoto wa-tano.*
    2 child 2 five
    'Five children.'
19. *Miti mi-ngine.*
    4 tree 4 other
    'Other trees.'
20. *Magari m-engi.*
    6 car 6 many
    'Many cars.'
21. *Vikombe sita.*
    8 cup six
    'Six cups.'
22. **Vi-kombe vi-sita.*
    8 cup 8 six
    'Six cups.'

In (18) – (22), Num words in Swahili are *watano* 'five', *mingine* 'other', *mengi* 'many', and *sita* 'six'. Each of the Num words, except *sita,* carries agreement markers belonging to the head *n*P. In Swahili low numerals (1 – 5) carry overt agreement markers as in (18) while high numerals – above five, as in (21) do not. Attempt to add overt agreement for high numeral (six and above) renders the DP ungrammatical as illustrated in (22) where Class 8 *vi-* attaches to *–sita* 'six'. Agreement markers *wa-*,

mi-, and *m-* in (18) – (20) correspond to class and gender of respective head *n*Ps *watoto* (Class 2), *miti* (Class 4), and *magari* (Class 6). The underlying agreement in (21) is *vi-* which is recoverable from the head *n*P *vikombe* (Class 8). It can be observed that Swahili is like other languages such as English in having both numeral (count words) and non-numeral (amount words) in the Num category. Kihore et al. (2012) and Zerbian & Krifka (2008) remark that non-numeral words are relatively few in Swahili; they include *–ote* 'all', *–i/(e)ngi* 'many', *–chache* 'few', *–haba* 'scarce', *-ote* 'all', *–o–ote* 'any', *–i/(e)ngine* 'other', *baadhi* 'some', and *–kadhaa* 'several'. While the interpretation of the numerals is more 'exact', the interpretation of the non-numerals is on the opposite edge – more understood based on schemata than on specific counts as pointed out by Baker (2003). A non-numeral quantifier *chache* 'few' for instance does not express exact counts in any clear terms, but it suffices to assume that the quantity expressed is more than *mbili* 'two' and is assumed to be less than that expressed by *–ingi* 'many'. Likewise, *kadhaa* 'several' does not mean quantity between *–ingi* 'many' and *chache* 'few'. Despite the observations above, in a situation of, for instance, 40 members out of 50, it would be acceptable that the quantity is many in the same way that few would be acceptable in a situation of 10 out of 50. If this analysis is valid, then the use of non-numeral quantifiers is determined by schemas of knowledge on what constitues each stated value.

In Swahili, the numeral words and non-numeral words appear postnominally (as in (18) – (21)) just like the possessive modifiers in Chapter 3. Any appearance of this category of dependents prenominally leads to ungrammaticality as illustrated in (23) – (26).

23. **Wa-tano wa-toto.*
    2 five 2 child
    'Five children.'
24. **Mingine mi-ti.*
    4 other 4 tree
    'Other trees.'
25. **Mengi ma-gari.*
    6 five 6 car

'Many cars.'

26. *Sita wa-naume.
six 2 men
'Six men.'

The above examples are ungrammatical since the Num appear prenominally unlike (18) – (22) where the DPs are grammatical with Num appearing postnominally. The only quantifier category which can appear pronominally is the distributive *kila* 'each' as illustrated in (27) – (28).

27. *Kila m-fanyakazi.*
each 1 worker
'Each worker.'

28. *Kila mama.*
each 1a mother
'Each mother.'

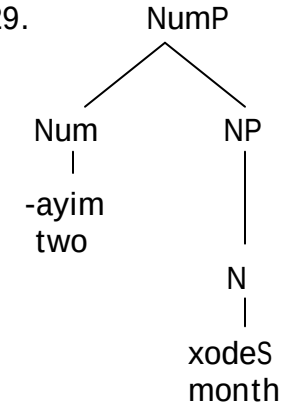
In Swahili, *kila* 'each' is analyzed as a unique distributive quantifier which appears prenominally only. Although agreement is at the core of Swahili syntax, whereby modifiers of a DP must basically agree in class and gender with their head noun, *kila* 'each' appears to have an independent existence be refusing to take any agreement marker. In the prenominal position *kila* is in complementary distribution with the prenominal demonstrative. The appearance of the postnominal demonstrative is acceptable when *kila* appears prenominally. This ban does not, however, relate to other modifiers of *n*P. The next section presents structural derivations of Swahili NumP in the structure of DP.

4.1.1 Structure and derivations of the NumP in Swahili DP

In Modern Hebrew, Ritter (1995) notes that the dual affix *–ayim,* as in *xodSayim* 'two months,' is base-generated as the head of a syntactic projection – Number Phrase

(NumP), and is added to N as a consequence of head movement. The structure for *xodSayim* is presented in (5) and repeated in (29).

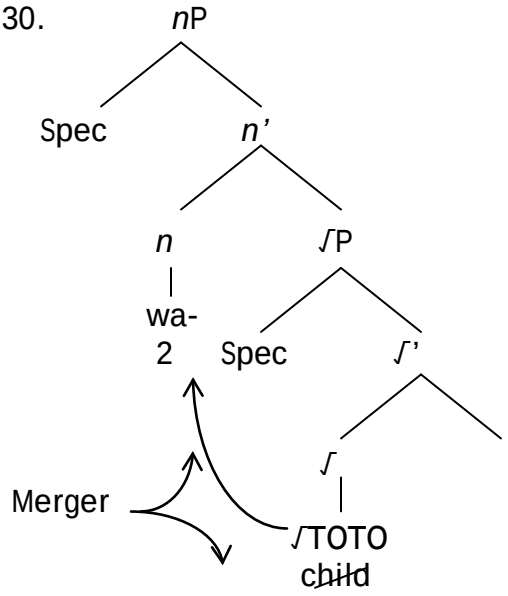
29.



(Ritter, 1995:411)

In (29), Ritter (1995) points out that the dual morpheme *-ayim* belongs to a separate syntactic functional category called Number (Num). This category is base generated as the head of the syntactic projection called NumP and N raises to attach to it. I have assumed the movement of *n*P when deriving Swahili DPs in chapter 1 and 2. Thus, NumP in (29) is analyzed as *n*P in all levels of structural derivation in the alternative approach. The analysis of *wa-toto* 'children', which is comparable to (29) in terms of the structure, is illustrated in (30) repeated from (3).

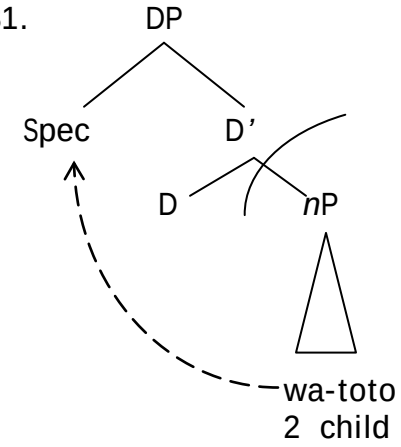
30.



In (30), the plural inflection *wa-* 'plural (not one)' in *wa-toto* 'children' is analyzed as an *n* functional element as assumed in Chapter 1 and 2. It was explained in Chaper 1

and Chapter 2 that the analysis of Swahili DP assumes XP movement to Spec DP as illustrated in (31).

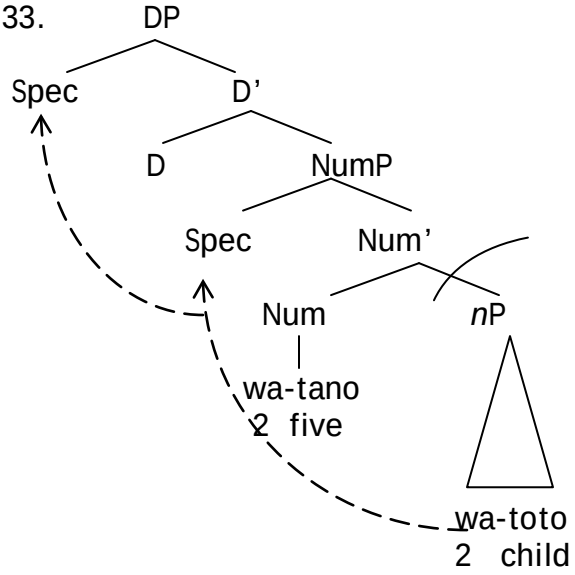
31.



The above shows that at the basic level, the derivation of Swahili DP involves the raising of *n*P to Spec DP. EPP has been assumed to be the major trigger of the raising of *n*P to the specifier position of DP. In the specifier position, *n*P is able to check its own class and gender features present in D in a Spec head relation. And when Num category is added into the DP as in (18), repeated in (32), the Num occupies a distinct position from *n.* The derivation is as illustrated in (33).

32. *Watoto* *wa-tano.*
2 child 2 five
'Five children.'

33.



In (33), the DP comprises the distinct category Num and the inflectional counterpart *n.* The underlying structure relations of the Swahili *watoto wawili* is comparable to the English *two children*. As assumed in Chapter 1 and Chapter 2, the *n*-initial order in Swahili DP is achieved via XP – *n*P movement of *watoto* to Spec DP. The movement is cyclic via Spec NumP, and is triggered by the need to meet EPP requirement for phrases to have Specifiers filled. It should also be noted that the raising to Spec DP is only possible when D is null, otherwise the movement is blocked at a specifier position below D.

It follows in (33) that Num is a distinct element which expresses counts or amounts of entities different from the *n* inflectional element which attaches to the Root as number morphology. This Num as in (33) is expressed by distinctive 'number words' like *mbili* 'two' or *–ingi* 'many' as also cited from Hebrew. When it comes to the inflectional *n,* some languages like Hebrew have dual inflection morpheme in addition to singular and plural, while Swahili and many other Bantu languages appear to have

singular and plural distinctions only. The next section presents the analysis of Num and demonstratives.

4.2 Num and Demonstratives

The preceding section has revealed that Num appears postnominally in DP structure. In this position the head *n*P is assumed to have moved to the initial position resulting in the opposite order of Greenberg's (1966) typology on the order of elements in a DP. Chapter 2 revealed that the demonstrative can appear either before or after the head *n*P (prenominally/postnominally). It has been explained that postnominally the demonstrative serves deictic function, while in the prenominal position the demonstrative serves as the definite article comparable to the English definite article. Chapter 3 revealed that, in relation to the possessive, the postnominal demonstrative appears with the possessive in free order. It was also mentioned that the prenominal appearance of the possessive is impermissible in Swahili DP since all modifiers must appear postnominally.

This section presents the DP structure involving Num and the demonstrative. Examples are provided in (34) – (35).

34. *Watoto wa-le watatu.*
    2 child 2 those 2 three
    'Those three children.'
35. *Viti vi-le vingi.*
    8 chair 8 those 7 many
    'Those many chairs.'

In (34) – (35), the order demonstrative-Num is strictly defined with the demonstrative appearing immediately after the head *n*P. It should be noted that the prenominal appearance of either the Num and the demonstrative, or the Num alone is prohibited, although the demonstrative can occur prenominally. Examples are in (36) – (37).

36. **Wa-tatu wa-le wa-toto.*
2 three 2 those 2 child
'Those three children.'
37. **Wa-tatu wa-toto wa-le.*
2 three 2 child 2 those
'Those three children.'
38. **Wa-toto wa-tatu wa-le.*
2 child 2 three 2 those
'Those three children.'

In (36) – (38), the DPs are ungrammatical because of the appearance of the *n*P dependents prenominally. In (36), Num and demonstrative appear prenominally and in (37), the Num appears prenominally. The DP is also ungrammatical when Num precedes demonstrative as in (38). Finally, it can be observed that, with regard to Num and demonstrative, the acceptable order is [n_i-Dem-Num-t_i] whereby the demonstrative precedes Num. The next sub-section attempts the derivation of Swahili DP structure involving the Num and the demonstrative.

4.2.1 Structure and derivations of the Num and the demonstrative

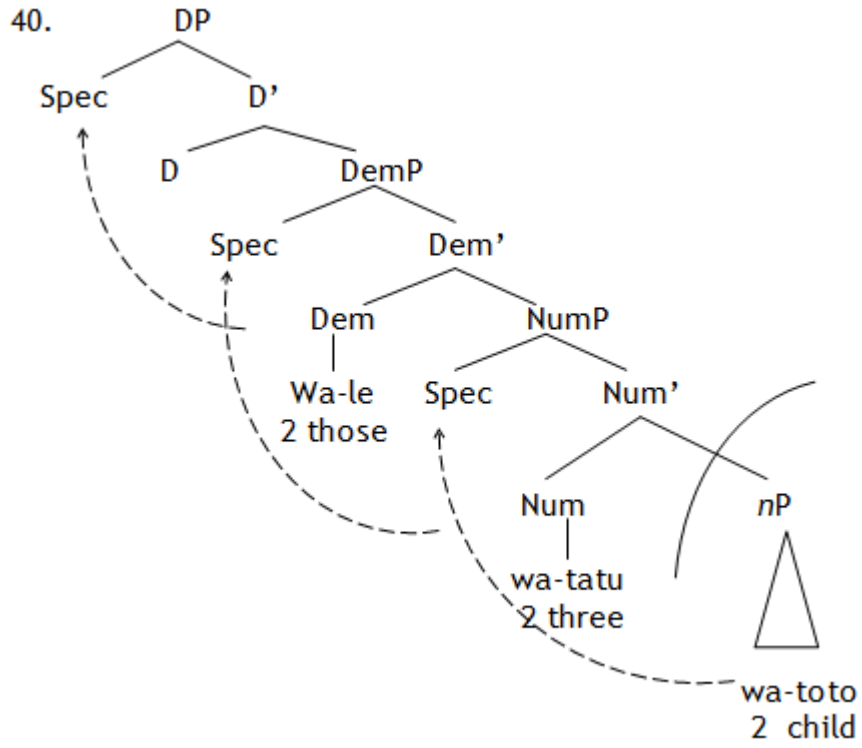
It was noted in Chapter 2 that the demonstrative canonically precedes all arguments of the DP in Swahili. This view presupposes that the demonstrative appears immediately below D and that any other dependent of the noun would appear between the demonstrative (Dem) and the base generated head *n*P. The consequence of this observation is to suggest that the demonstrative would precede the Num as in the English *those three children* in (39) which is illustrated in (40).

39. *Wa-toto wa-le wa-tatu.*

2 child 2 those 2 three

'Those three children.'

40.



In (40), the order of the elements of the Swahili DP has the same underlying structure relations as its English counterpart *those five children*. The only difference is that the Swahili DP suggests an *n*-initial DP structure contrary to English's *n*-final DP structure. The Swahili *n*-initial order is achieved by raising *n*P to Spec DP via successive stages at Spec NumP and Spec DemP. The resulting order in (40) is [n_i Dem Num t_i] which represents the exact opposite of Greenberg's (1966) [Dem Num *n*] order. According to Cinque (2005), *n*-initial order in (40) is achieved via the raising of the head *n* to the initial position. The next section presents the structure of Num and the possessive words.

4.3 The Number and the Possessives in Swahili DP

This study has established close intimacy between postnominal demonstratives and possessives in DP structure. Rugemalira (2006) points out that demonstratives and

possessives act as determiners which can co-occur in free order preceding all other elements of the DP. The free order observed between the demonstrative and possessive stems from the fact that the possessive is not subject to DP hierarchy leading to such variant orders as the ones illustrated in (41) – (42).

41. *Mi–keka y- ake hii.*
    4 mat 4 of hers/his 4 these
    'Her/his mats these' / 'These mats of hers/his'
42. *Mi–keka hii y- ake.*
    4 mat 4 these 4 of hers/his
    'These mats of hers/his.'

In (41) – (42), the demonstrative and the possessive pronoun exchange positions postnominally. It can be observed that there are two styles of interpreting the possessive pronoun in (41) in English – one with the possessive pronoun *her/his mats these* and the other with the possessive preposition *these mats of hers/his*. The two styles result from the position of the demonstrative and possessive in DP structure. The interpretation in (41) occurs when the possessive is adjacent to the head *n*P while the interpretation in (42) occurs when the demonstrative is adjacent to *n*P. However, the meaning in the two cases (41) and (42) remains relatively the same. In the proceeding sections, the interpretation 'of *x*' as in (41) 'these mats of hers/his' will be preferred for Swahili possessive pronouns (See Chapter 3).

In Chapter 2 the demonstrative was reported to appear in a position below D. In Chapter 3 the possessive was assumed not to be subject to DP hierarchy and consequently the possessive is said to appear in free order when co-occurring with the demonstrative as illustrated in (41) – (42). The consequence of this fact is to suggest that possessive words can appear with the demonstratives and the head *n*Ps as an adjunct. When the demonstrative precedes the possessive the possessive becomes the adjunct to *n*P but it becomes the adjunct to DemP when the demonstrative follows as illustrated in Chapter 3.

When the possessive appears with Num, it is expected that the possessive follows the Num as in (43) – (44).

43. *Vi-tabu vi-tano vy-a mw-alimu.*
8 book 8 five 8 of 1 teacher
'Five books of the teacher' / 'Five teacher's books.'
44. *Nyumba nane z-a Maria.*
10 house eight 10 of 1 Mary
'Eight houses of Mary' / 'Eight Mary's houses.'

In (43) – (44), Num category precedes the possessive. In the usual way, the Num and the possessive preposition take an agreement form which corresponds to the class of respective head *n*Ps. The agreement in (43) belongs to Class 8 nouns while the agreement in (44) belongs to Class 10 nouns. Any mismatch in the agreement pattern of head *n*Ps and their dependents leads to ungrammaticality. It was mentioned in Chapter 3 that the possessives appear with other elements of DP in free order. This free order is illustrated in (45) – (46) where possessives precede Num contrary to (43) – (44) where the possessives follow Num.

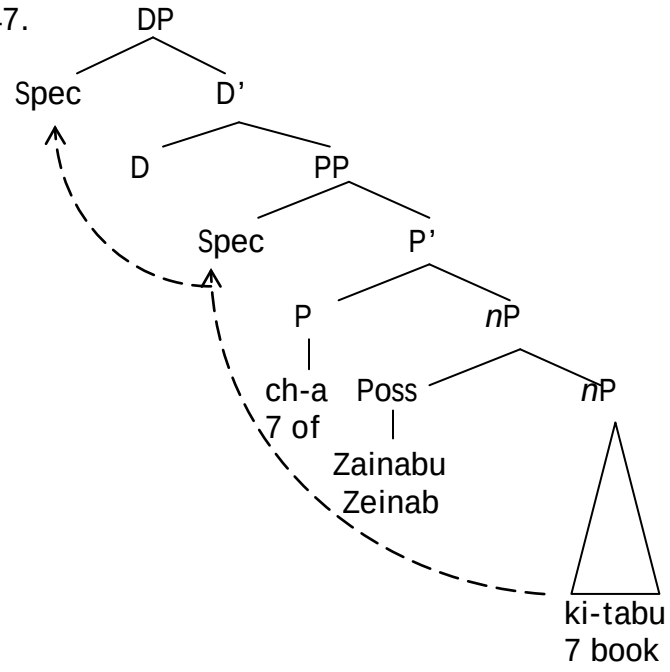
45. *Vi-tabu vy-a mw-alimu vi-tano.*
8 book 8 of 1 teacher 8 five
'Teacher's books five' / 'Five teacher's books.'
46. *Nyumba z-a Maria nane.*
10 house 10 of 1 Maria eight
'Mary's houses eight' / 'Eight Mary's houses.'

In the above, the possessive precedes the Num as explained. The change of position, nevertheless, does not alter the interpretive index of the respective DPs in (43) – (44). It can also be observed that the change of position does not alter the agreement pattern with respect to classes and gender of respective head *n*Ps. The free order of the possessive in relation to the other elements of the DP attests to the fact that this category is not subject to DP hierarchy as illustrated in the next sub-section.

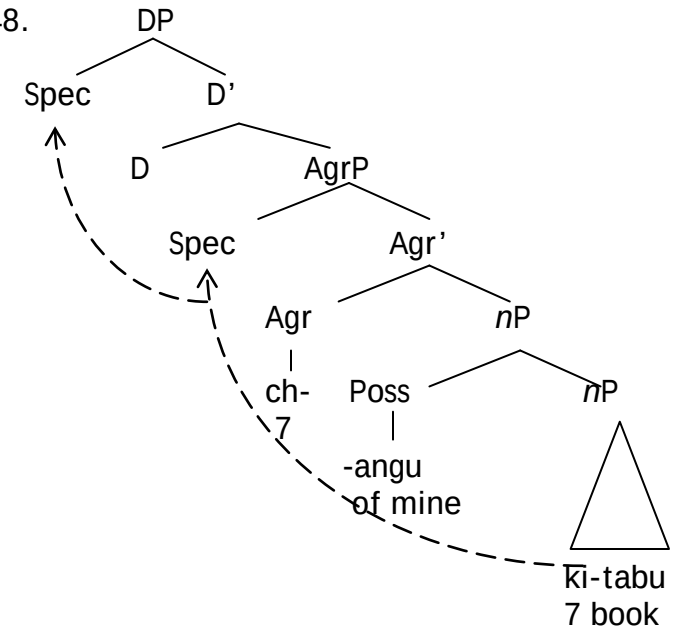
4.3.1 Structure and derivations of Num and Possessive

This sub-section describes the structure involving the Num and the possessive. It is assumed that all elements of DP in Swahili appear postnominally and that the possessive rather than the Num has freedom of appearance in DP structure. Since the structure and derivations in this section involve the possessives, it should be noted that the possessives – possessive prepositions and possessive pronouns, are derived differently. The possessive prepositions are derived as part of PP, while the possessive pronouns are derived as part of AgrP. The two approaches are illustrated in (47) – *kitabu cha Zainabu* 'Book of Zeinab'/ 'Zeinab's book' and (48) *kitabu changu* '(the) book of mine'/ 'my book'.

47.



48.

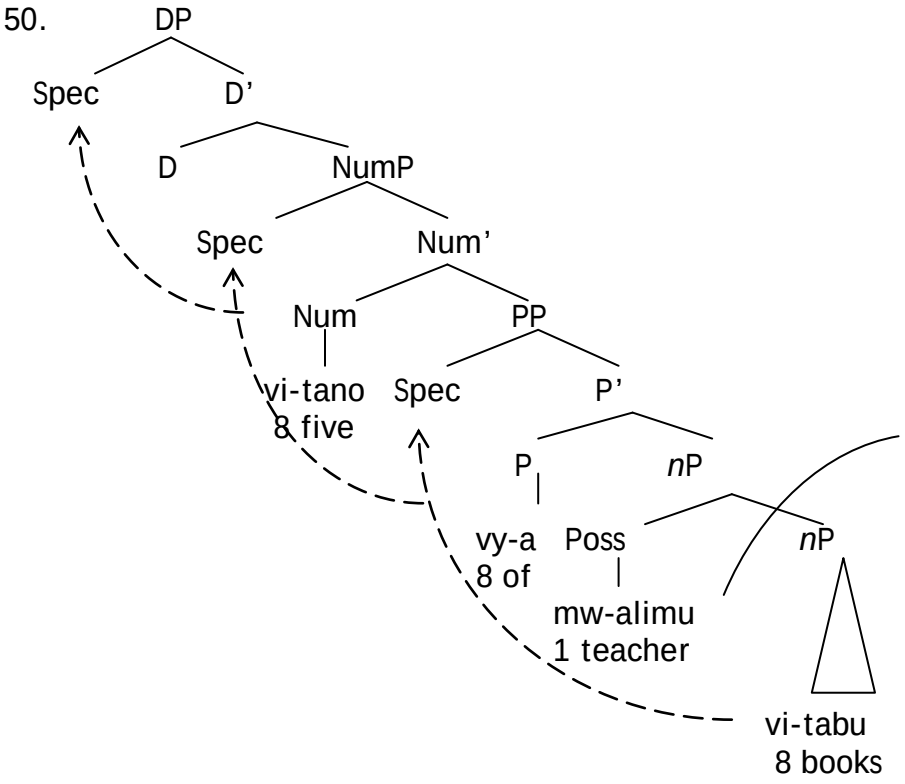


In (47), the possessor appears below D as the object of PP and the adjunct to *n*P. As assumed in Chapter 3 the appearance of the *n*P *kitabu* in Spec DP position stems from raising. The same applies in (48) where the *n*P *kitabu* is assumed to raise to Spec DP. The Possessors – *Zainabu* and *–angu*, appear as adjuncts to *n*P – *ki-tabu.* The preposition *ch-a* 'of' and agreement *ch-* conversely take the possessors as complements.

The unmarked order in which Num co-occurs with the possessive is illustrated in (50) using (49).

49. *Vi-tabu vi-tano vy-a mw-alimu.*
8 book 8 five 8 of 1 teacher
'Five books of the teacher' / 'Five teacher's books.'

50.



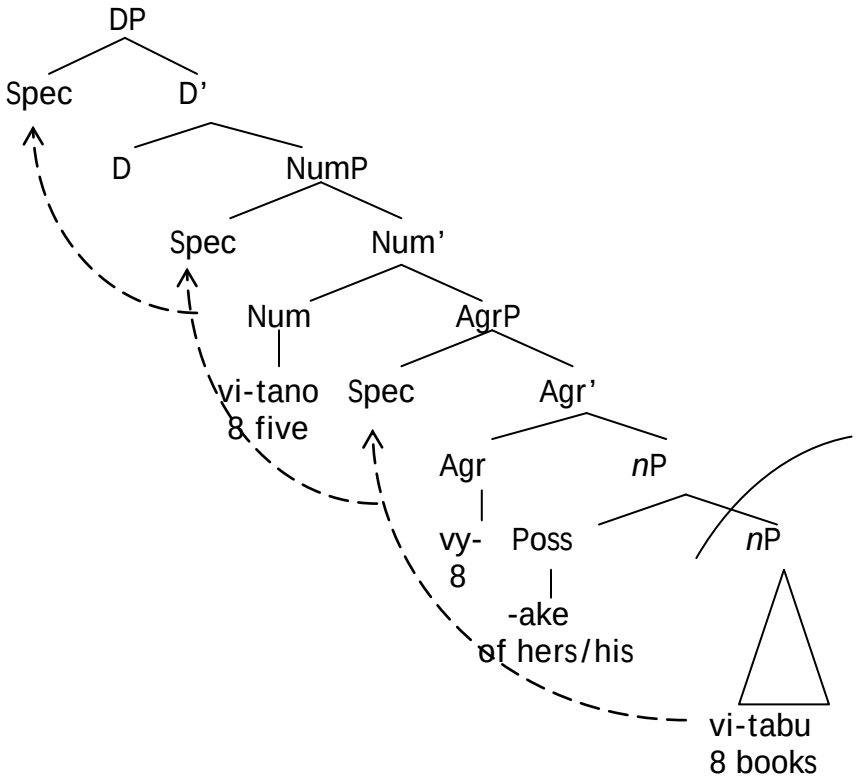
In (50), Num precedes the possessive as assumed earlier. The head *n*P (possesum) raises cyclically to Spec DP in the usual way. The raising is past Spec PP and Spec NumP in which case preposition-possessum agreement is maintained via Spec head relation as assumed in Chapter 1. The Possessor appears as the adjunct to *n*P and the complement of the possessive preposition *vya.* The DP with the possessive pronouns is derived in the same way in (52). The only difference is the AgrP which replaces the PP.

51. *Vi-tabu* *vi-tano* *vy-ake.*

8 book 8 five 8 of hers/his

'Five books of hers/his.'

52.



In (52), Num precedes the possessive just like in (50). The only difference is that the PP has been replaced with AgrP as explained earlier. In both cases, Poss (possessor) appears in adjunct position to the head *n*P. The derivation process is accomplished by cyclic rising of the head *n*P to Spec DP via Spec AgrP, and Spec NumP. Agr-Possessum agreement is maintained via the raising of *n*P all the way to Spec DP in Spec head relation.

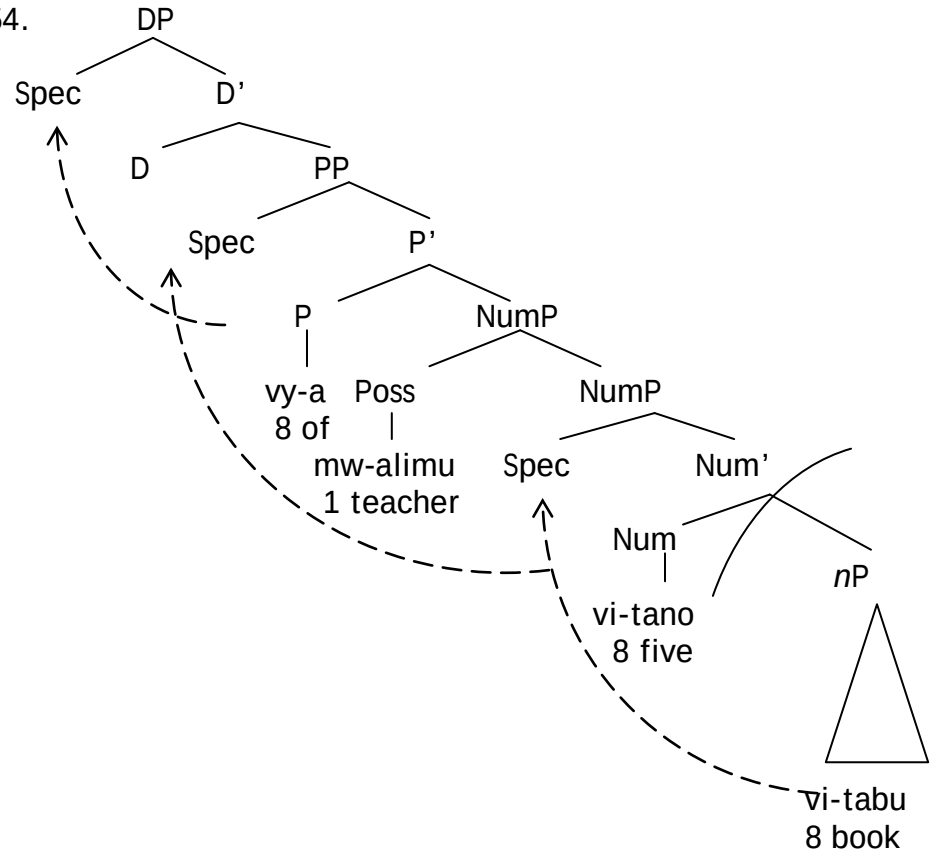
The DPs in which possessives (possessive preposition and possessive pronoun) precede Num are illustrated in (54) and (56). In (54) the derivation involves the possessive pronoun while in (56) the derivation involves the possessive pronoun which is analyzed under AgrP.

53. *Vi-tabu vy-a mw-alimu vi-tano.*

8 book 8 of 1 teacher 8 five

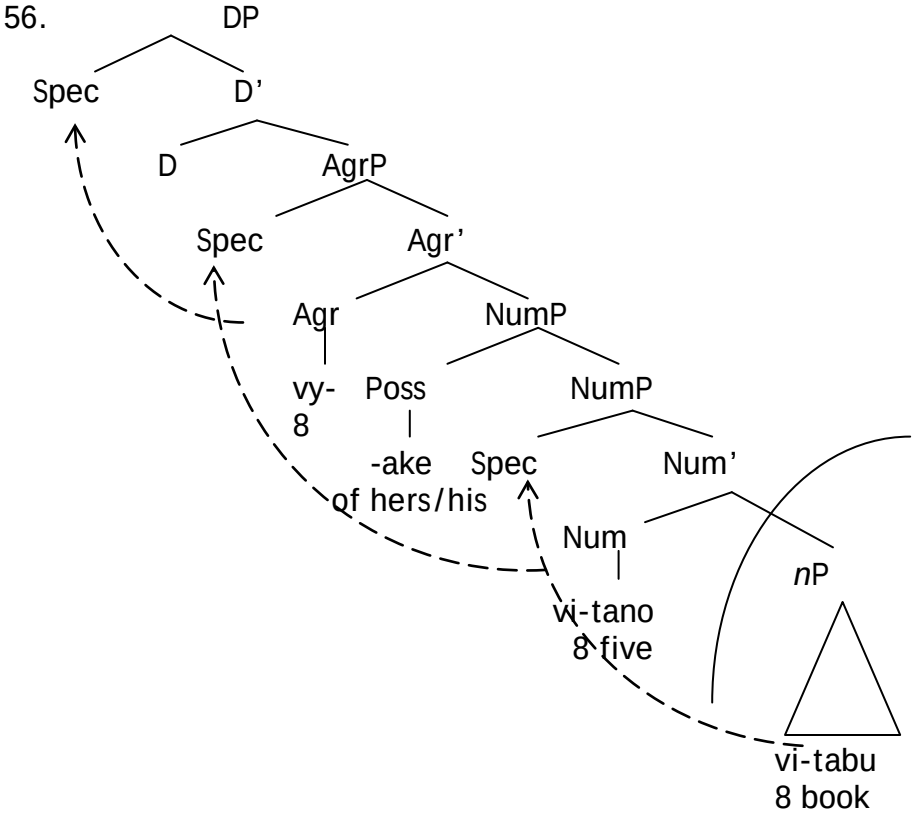
'Teacher's five books.'

54.



55. *Vi-tabu vy-ake vi-tano.*
8 book 8 her/his 8 five
'Five books of hers/his.'

56.



In (54), the possessive *vya mwalimu* 'teacher's' precedes the Num *vi-tano* 'five' which is different from (50) where the order is the opposite. Similarily, in (56) the possessive pronoun *vyake* 'of hers/his' precedes the Num. In both illustrations (54) and (56), the possessives change positions by preceding the Num, unlike in (50) and (52). The change in the order of the possessive owes to its freedom to appear in any position postnominally when the category co-occurs with the Num. In both illustrations, the possessors appear as adjuncts to *n*Ps; being complements of the possessive preposition (54) and the Agr (56). The *n*Ps raise to Spec DP via successive stops in Spec NumP and Spec PP (54) or Spec AgrP (56). Despite changing the orders of Num-possessive, the underlying meaning relations of the respective DPs do not change. The next section presents the unified analysis of the co-ourrence of Num, Demonstrative, and Possessive.

4.4 The Analysis of Num, Demonstrative, and Possessive DPs

The analysis of DP in Swahili has so far focused separately on the co-occurrences of Num-possessive and Num-demonstrative since this chapter explores the Num category as one of the elements of the DP structure. Greenberg (1966) points out that the demonstrative precedes the Num in the canonical order [Dem-Num-*n*]. It was noted in the previous chapters that Cinque (2005) pointed out that the opposite order [n_i-Dem-Num-t_i] is achieved via leftward movement of the head *n*P. The analysis adopted in this thesis has assumed that the *n*–initial order found in Swahili DP is achieved via the movement of *n*P. It has also been mentioned that the the possessive element appears not to be subject to DP hierarchy when it co-occurs with the other elements such as the demonstrative and numeral. Based on this assumption, the possessive is able to appear postnominally with the demonstrative and numeral in various positions in DP structure. This section attempts to generate a unified DP structure for the three elements – Num, possessive, and demonstrative, in the postnominal position.

It is understood so far that the position of the demonstrative is structurally adjacent to the head *n*P. It is also understood that Num follows the demonstrative in an unmarked order in Swahili DP. This understanding is illustrated in (57) – (60).

57. *Mikeka hii miwili.*
    4 mat 4 these 4 two
    'These two mats.'
58. **Mikeka miwili hii.*
    4 mat 4 two 4 these
    'These two mats.'
59. **Miwili mikeka hii.*
    4 mat 4 her/his 4 these
    'These two mats.'
60. **Hii miwili mikeka.*
    4 these 4 two 4 mat

'These two mats.'

In the above, the structures are explicable when the demonstrative and numeral follow the head *n*P as in (57). Exchanging positions between the demonstrative and the Num leads to ungrammaticality as in (58) since it has been assumed earlier that the demonstrative precedes other elements of the DP. In (59), the prenominal appearance of the Num is impermissible and the co-occurrence of the two – demonstrative and Num prenominally, is equally unacceptable (60). Since (57) is the only correct form above, it can be argued that the possessive can be added in any structural position in relation to the positions of the demonstrative and Num as illustrated in (61) – (63).

61. *Mi-keka y-a Zainabu hi-i mi-wili.*
4 mat 4 of 1 Zeinab 4 these 4 two
'Mats of Zainab these two' / 'These two Zeinab's mats.'

62. *Mi-keka hi-i y-a Zainabu mi-wili.*
4 mat 4 these 4 of 1 Zeinab 4 two
'These mats of Zainab two' / 'These two Zeinab's mats.'

63. *Mi-keka hi-i mi-wili y-a Zainabu.*
4 mat 4 these 4 two 4 of 1 Zainab
'These mats two of Zainab' / 'These two Zainab's mats.'

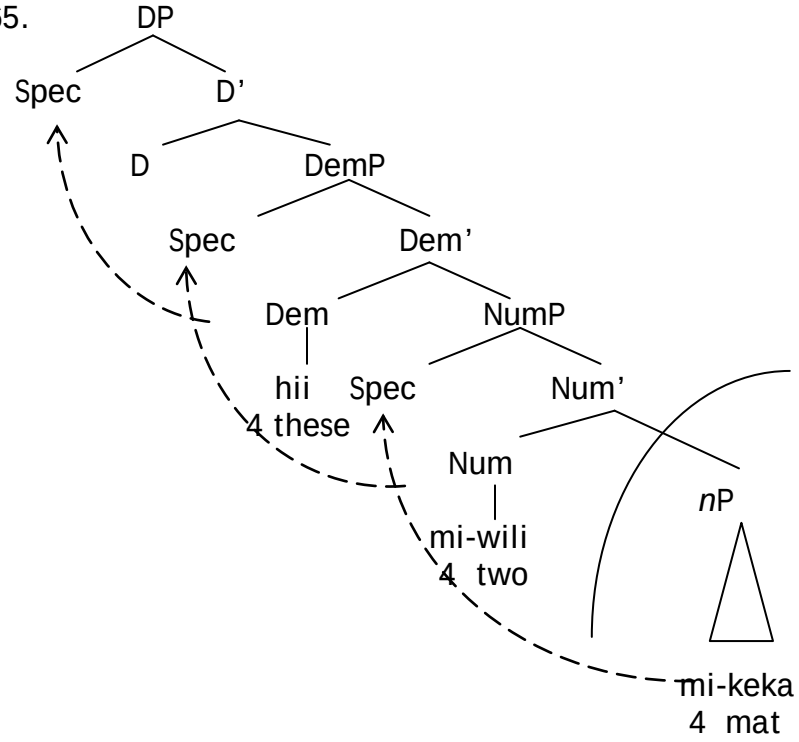
In (61) – (63), the expressions have the same meaning despite having different surface word orders. The basic or underlying structure is assumed to be [n_i Dem Num t_i] except that the different realizations stem from the possessive word *y-a Zainabu* which appears in variant positions in DP structure. In (61) the possessive precedes the demonstrative and the numeral, in (62) the possessive appears between the demonstrative and the numeral, and finally in (63) the possessive follows the demonstrative and the numeral. In all cases, the demonstrative precedes the numeral in unmarked order. In the next sub-section attempts are made to derive these elements in DP structure.

4.4.1 Structure and derivations of Num, Possessive, and Demonstrative

The above has shown that in unmarked order the demonstrative precedes the numeral – [n_i Dem Num t_i]. However, variant orders of these elements can be realized with the introduction of the possessive which is able to take variant positions in DP structure. Based on these facts, the derivation of Swahili DPs begins with illustrating the basic structure involving the demonstrative and the numeral in (64) – (65).

64. *Mi-keka hii mi-wili.*
4 mat 4 these 4 two
'These mats two' / 'These two mats.'

65.



In (65), the Swahili *mikeka hii miwili* maps well with its English counterpart *these two mats* in structure and meaning. Although the two versions of the possessive DP above have the same underlying order, it can be observed that they differ in the surface structure. The surface structure reveals, as assumed, that the Swahili version has the head *n*P raising to Spec DP resulting into the opposite order of its English counterpart. The *n*P movement is responsible for Spec-head agreement as explained in Chapter 1.

It was explained earlier that the distribution of the possessive in relation to the other categories of the noun phrase is not subject to DP hierarchy. The consequence of this observation is to suggest that the possessive can appear in any postion in relation to other elements in DP structure. This study has assumed that the possessive always appears as the adjunct to other syntactic categories in the DP. The different structural positions of the genitive were illustrated in (60) – (62) and are repeated in (66) – (68).

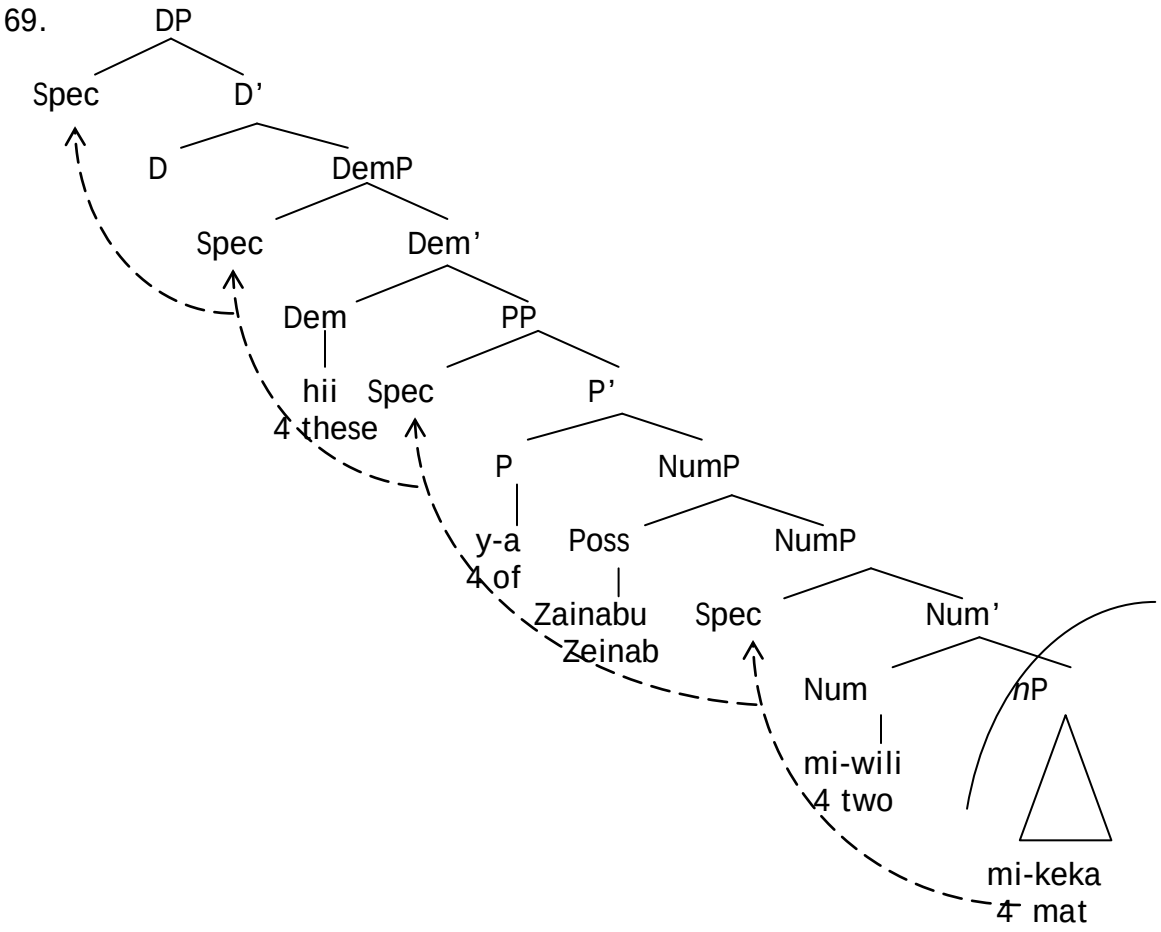
66. *Mi-keka hii y-a Zainabu mi-wili.*
4 mat 4 these 4 of 1 Zeinab 4 two
'These two Zeinab's mats.'

67. *Mi-keka hii mi-wili y-a Zainabu.*
4 mat 4 these 4 two 4 of 1 Zeinab
'These two Zeinab's mats.'

68. *Mi-keka y-a Zainabu hii mi-wili.*
4 mat 4 of 1 Zeinab 4 these 4 two
' These two Zeinab's mats.'

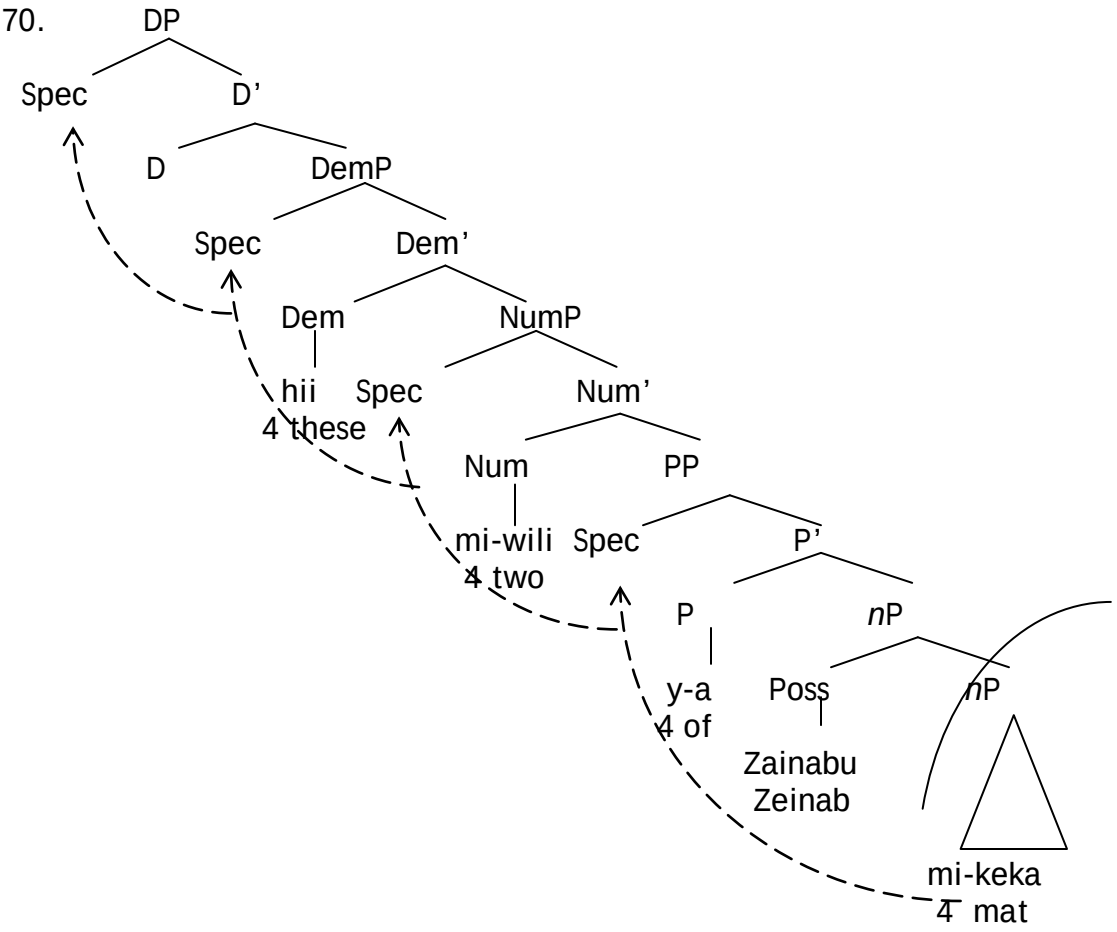
In (66) – (68), the possessive is assumed to appear as the adjunct to the demonstrative, the numeral, and the head *n*P without altering the interpretive index 'these two Zeinab's….' In (66) *mikeka hii ya Zainabu miwili*, the possessive appears as an adjunct to NumP; this order is illustrated in (69).

69.



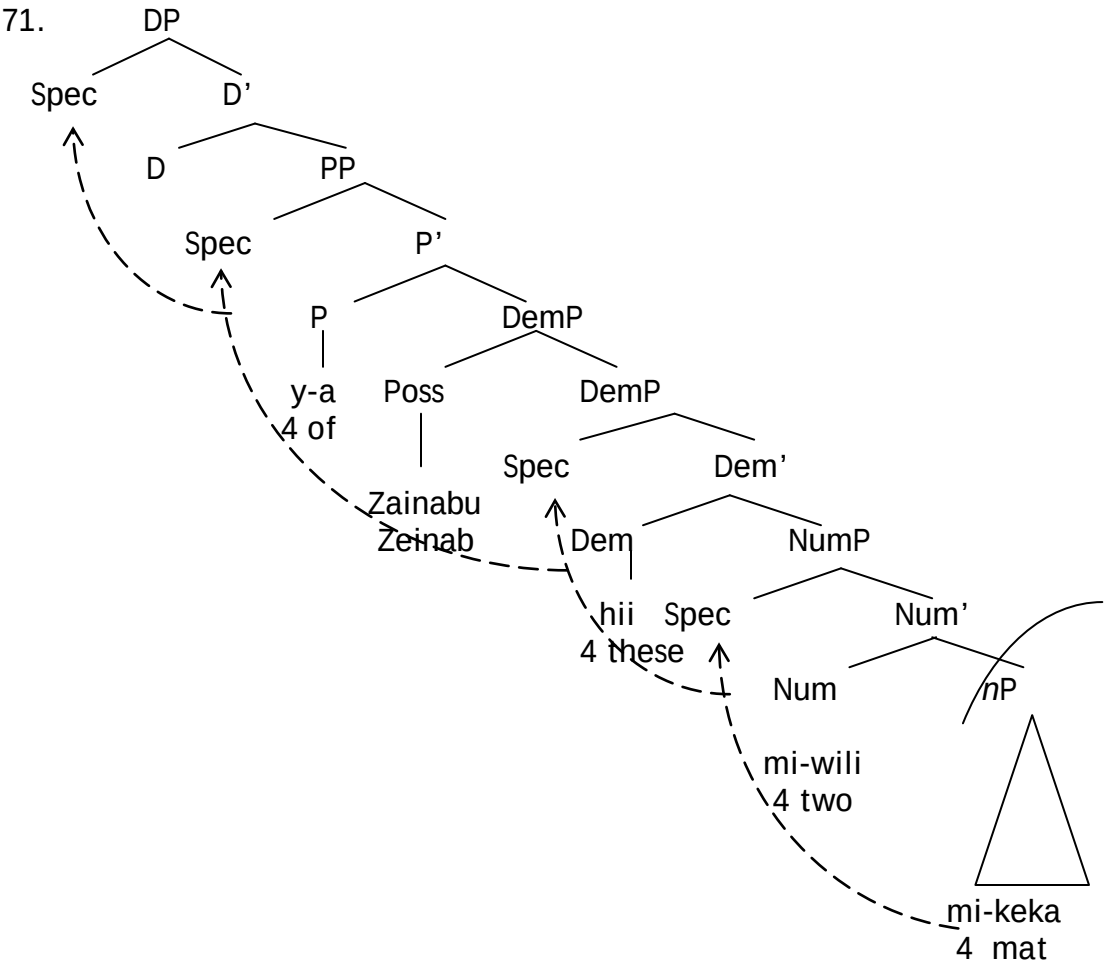
In (69), the possessive appears as the adjunct to NumP as *n*P raises cyclically to Spec DP via Spec NumP, Spec PP, and Spec DemP. Again, the rising of the head noun is responsible for Spec-head agreement across the structure as assumed. Unlike the above, where the possessive appears as the adjuct to NumP, in *mikeka hii miwili ya Zainabu* (67) the possessive appears as the adjunct to *n*P as illustrated in (70).

70.



In (70), the possessive appears as the adjunct to *n*P. The *n*P raises cyclically to Spec DP via Spec PP, Spec NumP, and Spec DemP. The Spec head relations are maintained at every stop of the raising. Different from (70), the possessive appears as the adjunct to DemP in (71) derived from (68) *mikeka ya Zainabu hii miwili*.

71.



In (71), the possessive is in the adjunction position to DemP. The head *n*P, base generated as the specifier of *n*P, raises cyclically to Spec DP via Spec NumP, Spec DemP, and Spec PP. In each stop, the head noun triggers Spec-head agreement as assumed in the study. Illustrations in (61) – (63) reflect one important property of the possessive category; that is, being able to appear at different positions in a DP structure while other syntactic categories like the Demonstrative and the Numeral hold on to their respective postions. The next section presents the determiner in Swahili DP involving Num, Dem, and the Possessive.

4.5 Determiner in Num, Demonstrative, and Possessive DP

This chapter has presented the structure of DP involving the Num category. The chapter has discussed the order in which the demonstrative, the possessive, and Num co-ccur. It was explained earlier that Swahili Num concerns a category whose sole

function is to express counting and measuring and that the category appears independent of the head *n*P unlike the singular-plural inflection affix, *n* functional element, which reflects number morphology. It was also explained that in the unmarked order Num follows the demonstrative in DP structure, while the possessive element appears to enjoy freedom of occurrence in the sense that it can occur in any position postnominally.

Chapter 2 argued for analyzing the prenominal demonstrative as the determiner which functions like the definite article in English. This appears to be the only category in Swahili that takes the function of the overt definite article. Thus, the following examples are illustrative of the difference between the prenominal demonstrative and its postnominal counterpart.

72. *Hi-i mi-keka y-a Zainabu mi-wili.*
4 these 4 mat 4 of Zeinab 4 two
'The two Zeinab's mats.'

73. *Mi-keka hi-i y-a Zainabu mi-wili.*
4 mat 4 these 4 of Zeinab 4 two
'These two Zeinab's mats.'

74. *Hi-i mi-keka mi-wili y-a Zainabu.*
4 these 4 these 4 two 4 of Zeinab
'The two Zeinab's mats.'

75. *Mi-keka hi-i mi-wili y-a Zaibabu.*
4 mat 4 these 4 two 4 of 1 Zeinab
'These two Zeinab's mats.'

76. **Hi-i mi-keka hi-i mi-wili y-a Zainabu.*
4 these 4 mat 4 these 4 two 4 of Zeinab
'The two Zeinab's mats.'

77. **Hi-i mi-keka hi-i y-a Zainabu mi-wili.*
4 these 4 mat 4 these 4 of Zeinab 4 two
'These two Zeinab's mats.'

78. *Hi-i mi-keka y –ake mi-wili.*
4 these 4 mat 4 of hers/his 4 two
'The two mats of hers/his.'
79. *Hi-i mi-keka mi-wili y – ake.*
4 these 4 mat 4 two 4 of hers/his
'The two mats of hers/his.'
80. *Mi-keka hi-i y – ake mi-wili.*
4 mat 4 these 4 of hers/his 4 two
'These two mats of hers/his.'
81. *Mi-keka y - ake hi-i mi-wili.*
4 mat 4 of hers/his 4 these 4 two
'These two mats of hers/his.'

In the above, prenominal demonstratives (as in (72) and (74)) are used as the definite article, while postnominal demonstratives (as in (73) and (75)) are deictic. The position of the possessive in relation to the postnominal demonstrative and the numeral is free in the sense that the possessive appears in any position without altering meaning of the respective DP. Thus, ((72) and (74)) and ((78) and (79)) have the same meaning despite the different order of the elements. Likewise, ((73) and (75)) and ((73) and (75)) and ((80) and (81)) have the same meaning despite the different orders of the elements. It can also be observed that the simultaneous co-occurrence of the prenominal and postnominal demonstrative leads to ungrammaticality; as in (76) and (77). In the analysis pursued in this thesis, Swahili DPs are considered to have a definite article when the demonstrative appears prenominally as observed above. Since determiners occupy D position in DP structure it is assumed that the demonstrative appearing in D functions as the definite article as demonstrated in the next section.

4.5.1 Structure and derivations of referential DPs involving the quantifier

Literature (Chen, 2004; Progovac, 1998; Trenkic, 2004; Veselovská, 2014) has shown that even languages without overt articles project DP above *n*P. Veselovská (2014)

notes that Czech DPs should be analyzed as though they contain the definite article, in spite of the fact that the D^0 does not host an overt free morpheme. It was mentioned in Chapter 2 that the prenominal demonstrative in Swahili DPs functions as the definite article. It was also explained that the use of the prenominal demonstrative to function as the definite article is, in many languages, considered as the source of the definite article as the result of the grammaticalization process.

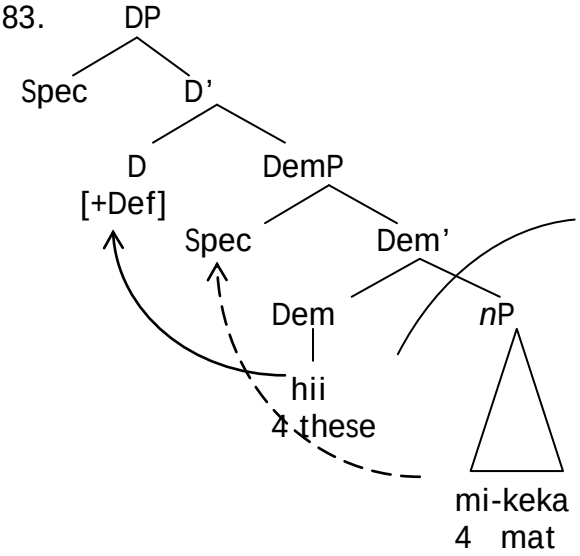
The preceding chapters have also revealed that in Swahili the prenominal demonstrative serves as the definite article. Since the definite article appears in D crosslinguistically, it is assumed that the prenominal demonstrative also appears in D. Since the demonstrative is base generated below D, it is assumed that its appearance in D stems from raising as illustrated below.

82. *Hii* *mi-keka.*

4 these 4 mat

'The mats.'

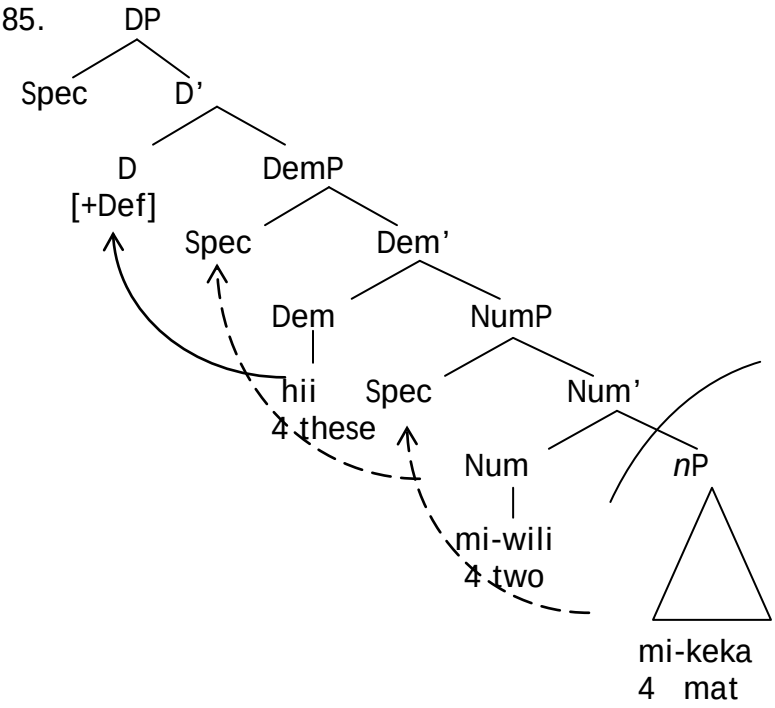
83.



The above shows that the prenominal demonstrative appears in D via head-to-head movement from Dem. In turn, *n*P raises to Spec DemP in the usual way assumed in the preceding chapters. The *n*P raises to Spec DemP because the demonstrative occupies D otherwise the *n*P would raise to Spec DP as discussed earlier. This simple DP structure expands with the addition of the Num category as in (84) illustrated in (85).

84. *Hii* *mi-keka* *mi-wili.*
4 these 4 mat 4 two
'The two mats.'

85.



In (85), the numeral occupies a position below Dem as assumed earlier. The *n*P raises to Spec DemP via Spec NumP. The usual raising of *n*P to Spec DP is not possible since D is reserved for Dem base generated below D and only appears in D following the raising. In this view, the demonstrative raises from Dem^0 to D^0 resulting in a Dem-initial word order DP. The demonstrative *hi-i* in D reads 'definite article' instead of reading 'deictic' as when it appears in Dem position.

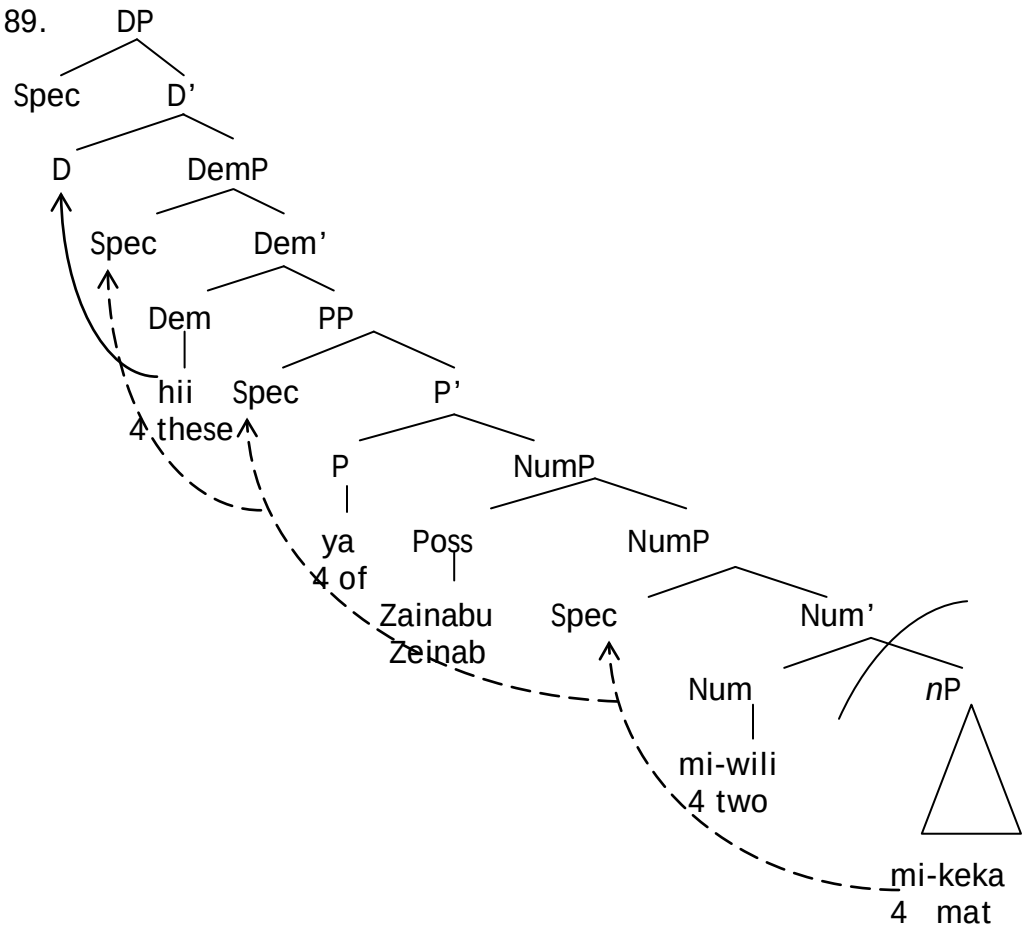
The preceding sections have shown that, postnominally, the possessive can co-occur with Num. In relation to the other elements, the possessive is reported to occupy variant positions as an adjunct to other elements in DP structure as illustrated in (86) – (88).

86. *Mi-keka* *hii* *y-a* *Zainabu* *mi-wili*.
4 mat 4 these 4 of 1 Zeinab 4 two
'These two Zeinab's mats.'

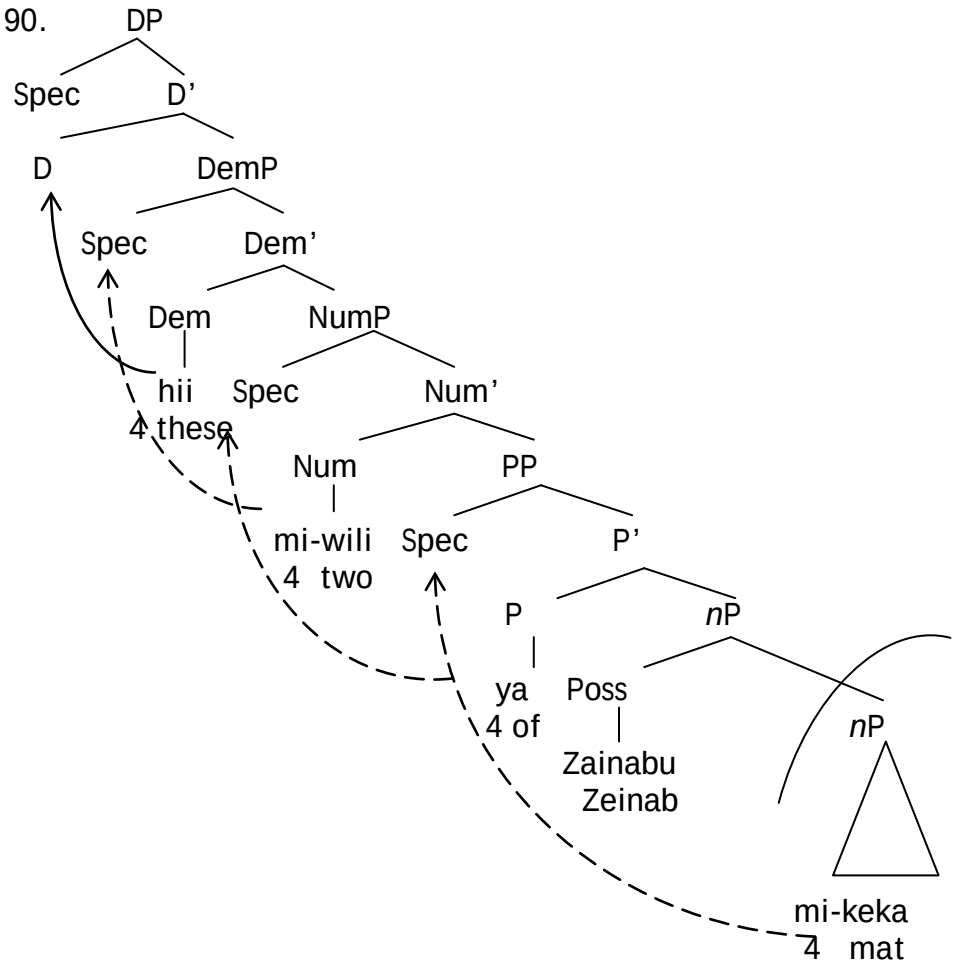
87. *Mi-keka hii mi-wili y-a Zainabu*
4 mat 4 these 4 two 4 of 1 Zeinab
'These two Zeinab's mats.'
88. *Mi-keka y-a Zainabu hii mi-wili.*
4 mat 4 of 1 Zeinab 4 these 4 two
'These two Zeinab's mats.'

In (86), the possessive appears as the adjunct to NumP. In (87), the possessive appears as the adjunct to the *n*P. In (88), the possessive appears as the adjunct to DemP. The derivation of (86) – (88) with the demonstrative in the initial position involves movement to D. This movement can be achieved in two ways in relation to the appearance of the possessive; the possessive appears either as an adjunct to NumP or an adjunct to *n*P. In (89), the derivation has the possessive appearing as an adjunct to NumP.

89.



In (89), the possessive appears as the adjunct to NumP. The *n*P raises to Spec DemP via Spec NumP, and Spec PP. The demonstrative appearing in D blocks the raising of *n*P to Spec DP as assumed. In turn, the postnominal demonstrative raises to D resulting in the demonstrative initial order of Swahili DP. Unlike in (89), in (90) the possessive appears as an adjunct to *n*P.



The above is like the previous illustrations in that the demonstrative appears in D following its raising from the base generated position below D. The *n*P raisies to Spec DemP as assumed in the previous derivations. The *n*P raises through Spec PP and Spec NumP. In all cases, the possessive appears in adjunct positions. This section has presented analytical facts on the occurrence of the prenominal demonstrative in D where it functions like the definite article in English.

4.6 Chapter Summary

The chapter has described and presented the analysis of Swahili DP involving the numeral (Num) category. The numeral category has been defined as the distinct word which expresses counts and amounts. The chapter has argued along the views that the interpretation of numeral words such as one, two, or three is far more accurate than the interpretation of non-numeral words since the latter depends on individual

schemata and value judgment on what counts or measures as, for instance many, few, some, and so forth. Similar to other elements of DP structure in Swahili discussed in Chapter 2 and Chapter 3, the numeral appears postnominally following the demonstrative in unmarked order.

The chapter has shown that the Num(eral) follows the demonstrative in unmarked order [n_i Dem Num t_i]. The order of elements in Swahili DP becomes variable when the possessive is introduced alongside other elements like Dem and Num. The chapter has illustrated that the various orders of elements in Swahili DP result from the possessive which can appear in any position postnominally. However, the analysis of the order of Num and Dem shows that Swahili DP observes Greenberg's typology, a fact that had escaped many Bantu linguists who attempted to study the order of elements in DP structure. The chapter has shown that with Num and Dem the possessive can appear as an adjunct to NumP, DemP or *n*P.

The chapter has illustrated that head-initial position in Swahili DP is achieved via cyclic raising of *n*P to Spec DP when D is null as assumed in Chapter 1 and Chapter 2. The raising of *n*P changes the order of elements [Num *n*] *three people* in English into [n_i Num t_i] *watu watatu* 'three people' in Swahili. The rising of *n*P occurs when D is null and triggers agreement on the other elements in DP structure. The chapter has illustrated that *n*P raises to Spec DemP when the demonstrative appears in D where it serves as the definite article. The appearance of the demonstrative in D^0 is assumed to stem from its raising to D^0. The descriptive details in this chapter have been supported by structure and derivations which illustrated structural relationships among the elements in Swahili DP structure. The next chapter presents Swahili DP involving the adjective.

CHAPTER FIVE

ADJECTIVES

5.0 Introduction

This chapter presents what has been analyzed as simple adjectives. These are syntactic categories other than the demonstrative and the numeral mentioned in the preceding chapters. The chapter discusses various views which are used to classify adjectives in language. The chapter reveals that adjectives in Swahili present a closed set with some members drawn from verbs and nouns having other adjectives borrowed from languages outside the Bantu language family. The chapter presents various approaches to classifying adjectives – property concepts, semantic, and morphological, noting inconsistencies in the morphological approach. The chapter shows that adjectives appear postnominally and agree in number and gender with the nouns. In terms of co-occurrence with other *n*P elements such as the demonstrative, the possessive, and the numeral, the chapter shows that the adjective follows all other elements.

The chapter shows that the DP involving an adjective observe the canonical order of elements [A *n*] as in the English *tall tree,* except that the surface word order in Swahili DPs involves *n*P raising to Spec DP resulting in the reverse order of the elements [n_i A t_i]. This movement of *n*P explains the observed agreement pattern between *n* and respective dependents in DP structure. The chapter shows that the demonstrative occupying D serves as the definite article and that its appearance in D is the result of raising. The consequence of this movement is to suggest that *n*P raises to Spec DemP when the demonstrative moves to D.

The chapter is organized as follows. Section 1 presents the categorization of the adjective category in Swahili. Section 2 presents the analysis of the adjective in Swahili DP. Section 3 presents the analysis involving the co-occurrence of the adjective and the demonstrative in Swahili DP. Section 4 presents the analysis involving the co-occurrence of the adjective and the possessive in Swahili DP. Section

5 presents the analysis involving the co-occurrence of the adjective and the numeral in Swahili DP. Section 6 presents the unified analysis of the co-occurrence of the adjective, the demonstrative, the possessive, and the numeral. Section 7 presents the determiner in DP involving the adjective. Section 8 presents summary of the chapter. In each section, descriptions are accompanied by structural derivations.

5.1 Categorizing Adjectives in Swahili

Words such as *red, heavy,* and *loyal* are referred to as adjectives. Dixon (2004) points out that these words are differentiated from other types of noun modifiers, demonstratives, and interrogatives in that their role in the grammar of a language is to show that a DP has certain properties. Specifically, it can be said that *n*Ps have distinctive properties which serve to distinguish this word class. Examples of adjectives in Swahili are illustrated in (1) – (2).

1. *Babu* *ni* *m-pole.*
   1 grandfather be 1 polite
   'Grandfather is polite.'
2. *Babu* *m-pole* *a - me - wasili.*
   1 grandfather 1 polite 1 PERF arrive
   'The polite grandfather has arrived.'

In (1) – (2), *m-pole* is the adjective (combining adjectival affix *m-* and adjectival stem *-pole*). The distribution of the adjectives in the above examples shows that the adjectives can occur in the predicate position as in (1) or the subject position as in (2). The function of each adjective is determined by the position it takes in the sentence structure. Thus, the adjective *mpole* in (1) is said to have a predicative function because it appears with a predicate, while *mpole* in (2) is said to have an attributive function because it specifies an attribute of the DP it modifies. This view is shared with Dixon's (2004) view that the adjective which appears as the VP complement is predicative, and the adjective which forms a constituent within a DP is

attributive. Since this thesis focuses on the DP structure, the proceeding discussions shall focus on analyzing the adjective with attributive functions within Swahili DP.

It should be noted that the adjective is one of the major lexical categories in language; others being nouns and verbs, according to Dixon (1982). As a lexical category, the adjective is differentiated from other lexical categories based on 'concepts' – properties, qualities, or characteristics, in a language. The concept approach is the main strategy that Dixon (1982) proposes to categorize linguistic items into the lexical categories identified. Dixon and Aikhenvald (2004) and Dixon (1982) point out that 'concepts' used to describe the adjectives differ significantly from those used to describe other lexical categories like verbs and nouns in that the adjectives are distinguishable in terms of semantic criteria like dimension, physical property, colour, human propensity, age, value, and speed. These criteria are illustrated in (3) using data from Swahili.

3. Adjectives by Semantic Types in Swahili

No.	Semantic Type	Examples and glosses
1	Dimension	*kubwa* 'big/large', *embamba* 'thin/narrow', *dogo* 'little/small'; (*r*)*efu* 'long', *fupi* 'short'; *pana* 'wide', *nene* 'thick/fat'.
2	Physical property	*gumu* 'hard', *laini* 'soft'; *zito* 'heavy', *epesi* 'light'; *enye m(i)kwaruzo* 'rough', *ororo* 'smooth'; (*-a) moto* 'hot (temperature)', *baridi*/(*-a) baridi* 'cold'; *tamu* 'sweet', *kali* 'hot (pepper)', *chungu* 'bitter', *chachu* 'sour'.
3	Colour	*eusi* 'black, *eupe* 'white', *ekundu* 'red', *njano* 'yellow', *kijani* 'green'.
4	Human Propensity	*(enye) wivu* 'jealous', (*enye) furaha* 'happy', *pole* 'kind', (*enye) akili* 'clever', *karimu* 'generous', *cheshi* 'gay', *katili* 'cruel', (*enye) kujivuna* 'proud', *ovu* 'wicked', *kiburi* 'disobedience', vivu/zembe 'lazy', *dhaifu* 'weak', *imara* 'strong/firm', *goigoi*/*legevu* 'weakly'.
5	Age	*pya* 'new/current', *changa* 'young', *zee*/*a zamani* 'old'
6	Value	*zuri* 'good/fine', *baya* 'bad', *njema* 'excelent', *fukara* 'poor', *halisi* 'pure', *tamu* 'delicious'.
7	Speed	*haraka* 'fast/quick', *taratibu* 'slow', *polepole* 'slow'.

It appears that Swahili has the adjectives spread across all the semantic criteria in (3). According to (Ashton, 1947; Carstens, 1991; Kihore et al., 2012; Myachina, 1981), Swahili has two major categories of adjectives – native adjectives and loan adjectives. The native adjectives basically emanate from Bantu languages, whereas loan adjectives come from outside the Bantu language phylum. Schadeberg (2009) points out that the loan adjectives are the product of historical development and contact between Swahili coastal speakers and foreigners: the foreigners spoke languages such as Arabic, English, Hindi, and Persian, among others. According to Ashton (1947), the Arabic origin adjectives include *hodari* 'clever', *tele* 'full', *safi* 'clean', and *kamili* 'complete'. Kihore et al. (2012) expands the list of Arabic origin adjectives to include *badhirifu* 'spendthrift' *and stahimilivu* 'tolerant'. According to Schadeberg (2009:91), borrowed adjectives and verbs are morphologically less integrated than nouns, and that 'native adjectives take a nominal prefix in agreement with the class of the head noun; most borrowed adjectives are invariable stems'. Schadeberg (2009) shows that the native adjective *–chafu* 'dirty' takes agreement as in *ki-tambaa ki-chafu/ vi-tambaa vi-chafu* 'dirty cloth/dirty cloths'. In these examples *ki-* and *vi-* on the adjectives agree with the Class 7/8 head *–tambaa* 'cloth'. Unlike the adjective *–chafu,* the Arabic loan adjective *-safi* 'clean' (Arabic loan from *saf*(*in*)) takes no agreement marker as illustrated in (4) – (5).

4. *Ki-tambaa ø safi.*
   7 cloth 7 clean
   'Clean cloth.'
5. *Vi-tambaa ø safi.*
   8 cloth 8 clean
   'Clean clothes.'

The claim that these adjectives take no agreement forms can be found inconclusive when looking at the morphological properties in the following examples (6) – (8).

6. *Wa-toto* *(*wa*-)-*safi.*
   2 child *(2-)-clean
   'Clean children.'
7. *Wa-fanyakazi* *(*wa*-)-*stahimilivu.*
   2 worker *(2-)-patient
   'Patient workers.'
8. *Wa-tu* *(*wa*-)-*kamilifu.*
   2 person *(2-)-perfect
   'Perfect people.'

Adjectives *-safi, -stahimilivu,* and *-kamilifu* which are assumed to take no agreement for being 'foreign' take agreement like the native adjectives. Attempt to delete the agreement forms results into ungrammaticality (*). Besides the examples above, it is possible to have agreement in other noun classes as in (9) – (11).

9. *Vi-su* *(*vi*-)-*safi.*
   8 knife *(8-)-clean
   'Clean knives.'
10. *Ma-ji* *(*ma*-)-*safi.*
   6 water *(6-)-patient
   'Patient workers.'
11. *Wa-tu* *(*wa*-)-*kamilifu.*
   2 person *(2-) perfect
   'Perfect people.'

Based on the above examples, it can be observed that categorizing loan adjectives on grounds of agreement is subject to discussion.

Heine and Nurse (2000)) avoids talking about non-Arabic (Bantu) versus Arabic adjectives in Swahili. However, they note that Swahili has three types of adjectives – those which take agreement forms, compound adjectives (*a baridi* 'cold', *a hatari* 'dangerous', and *a mwisho* 'last'), and very few simple adjectives (*hodari* 'clever',

tele 'full', and *jasiri* 'fearless'). The adjectives which take agreement forms are like the ones presented above including –safi, –stahimilivu, and –kamilifu. The simple adjectives, according to this view, are the adjectives which take no agreement. I illustrate some of these adjectives in (12) – (13).

12a. *Mpiganaji jasiri.*
1 fighter 1 brave
'Brave fighter.'

12b. **Mpiganaji m-jasiri.*
1 fighter 1 brave
'Brave fighter.'

13a. *Mwalimu hodari.*
1 teacher 1 clever
'Clever teacher.'

13b. **Mwalimu m-hodari.*
1 teacher 1 clever
'Clever teacher.'

Compound adjectives are derived by an *-a* associative and a noun, verb, or any other word as illustrated in (14) – (16).

14. *Mwanafunzi w-a*[5] *kwanza/mwisho.*
1 student 1 of first/last
'The first/last student.'

15. *Bunduki y-a hatari/kuchezea.*
9 gun 10 of dangerous/ APPLICATIVE play
'Dangerous gun/toy gun.'

16. *Mwanafunzi wa shule.*
1 student 1 of school
'School child.'

Myachina (1981) uses Dixon's (1982) 'Property Concepts' approach to categorize what are considered typical adjectives in Swahili. In this categorization, the adjectives are related to the qualities of an entity such as colour, dimensions, and quantity, but the analysis does not specify the motivation for excluding other property concepts such as

[5] Rugemalira (2007) analyzes –a Associative adjectives and –a Possessives differently explaining that meaning in –a Associative adjective is 'of the characteristics of X', while that of the –a Possessive adjective is 'belonging to X'. In Swahili *ya udongo* 'made of mud' is an –a Associative adjective as in *nyumba ya udongo* 'mud house', while *ya baba* 'beloging to dad' is an –a Possessive adjective as in *nyumba ya baba* 'dad's house'.

physical property, human propensity, age, value, and speed as illustrated in (3). Kihore, Massamba, and Msanjila (2012) point out that the adjectives in Swahili can be derived or underived. The data in (17) present the underived adjectives. It can be noted that morphologically these adjectives either begin with a vowel or a consonant.

17. Underived Swahili adjectives

V_#		**C_#**	
Adjective	**Gloss**	**Adjective**	**Gloss**
ema	charitable	pole	polite
ovu	evil	chafu	dirty
ororo	smooth	kubwa	large/big
eupe	white	nene	fat
epesi	light	refu	long/tall
embamba	thin	dogo	small/little

Despite their differences, in DP structure both the vowel initial (V_#) and consonant initial (C_#) adjectives must take agreement forms of corresponding nominal heads as illustrated in (18) – (19).

18. *Nyumba ny-eupe.*
9 house 9 white
'White house.'
19. *Ki-ti ki - chafu.*
7 chair 7 dirty
'Dirty chair.'

In (18) – (19), despite beginning with a vowel or a consonant, the adjectives *-eupe* 'white' takes Class 9 agreement while *-chafu* 'dirty' takes Class 7, the agreement of the respective *n*Ps *nyumba* 'house' and *kiti* 'chair'. The derived adjectives, according to Kihore et al. (2012), come from verbs and morphologically they have suffixes *–fu* or *–vu*. This view is illustrated in (20).

20. Derived Swahili adjectives

-fu Suffix	Gloss	-vu Suffix	Gloss
pungufu	'Insufficient'	tovu	'Micheavous'
badhirifu	'Spendthrift'	pevu	'Matured'
changamfu	'Charming'	sikivu	'Attentive'

(Kihore et al., 2012:137)

The adjectives above are said to be derived – *pungufu 'short of'* derived from *punguza* 'to decrease' (verb), *changamfu* 'charming' derived from *changamka* 'to cheer up' (verb), *pevu* 'ripe' from *pevuka* 'to mature' (verb), and *sikivu* 'attentive' from *sikia* 'to listen' (verb). However, inconsistency is observed when considering more data concerned with adjectives that are claimed to be derived and hence having *-fu* and *-vu* suffixes. Illustrations are provided in (21) – (23).

21. *Katiba pendekez-wa*
9 constitution 9 proposed PASSIVE
'Proposed constitution.'
22. *Raia mza-wa.*
1 citizen 1 birth PASSIVE
'Citizen by birth.'
23. *Matawi chipuki-zi.*
6 branch 6 sprouting NOMINALIZER
'Young branches.'

The derived adjectives above do not have the suffixes *–fu* and *–vu* as in (20). The adjectives *pendekezwa* 'proposed' and *mzawa* 'native' in (21) and (22) are derived from the verbs *pendekeza* 'propose' and *zaa* 'give birth'. The other adjective *chipukizi* 'a shoot/bud' in (23) is derived from the verb *chipua* 'to sprout'. These adjectives are derived despite the fact that they do not have suffixes *–fu* and *–vu.* It can be observed that defining the class of adjectives based on certain suffixes might

not be a straightforward case. Based on these observations, a different approach is needed to define the class of adjectives in a language like Swahili. One could consider adjectives to be defined 'per excellence' as the word class which can modify nouns from any noun class regardless of the agreement. Dixon (1982) makes the following observations about the class of adjectives.

First, languages may have a category of adjectives which can be identified on language-internal morpho-syntactic grounds. No matter how small or restricted this category is, it is likely to include at least these four types of property concepts which include dimension, colour, age, and value. Second, whether or not there is a category of adjectives, the words expressing property concepts tend to fall into categories which either share many properties with the class of nouns, or many properties with the class of verbs. This view is illustrated in (24) using Swahili data.

24. Noun-verb properties of Swahili adjectives

Head Noun	Noun properties (A)			Verb properties (A)		
	m-geni 'guest'					
		m-katili 'cruel'				
ø-kijana			m-siri 'secret'			
'youngman'				m-kulima 'farmer'		
					m-jenzi 'builder'	
						m-semaji 'spokesperson'

It can be observed that the adjectives such as *mgeni* 'stranger person', *mkatili* 'cruel' and *msiri* 'secretive' are noun-like. They are derived from noun stems – *–geni* 'guest/stranger', *-katili* 'harsh/cruel', and *–siri* 'secret' and only become adjectives when used as noun modifiers as in *kijana mgeni* 'a young visitor/guest', *kijana mkatili* 'harsh/cruel youngman', and *kijana msiri* 'secretive youngman'. On the contrary, the adjectives such as *mkulima, mjenzi, and msemaji* are verb-like. They are derived from

verb stems *-ku-lima* 'to cultivate', *-ku-jenga* 'to build', *-ku-sema* 'to say/speak' and only become adjectives when used as noun modifiers as in *kijana mkulima* 'a young farmer'*, kijana mjenzi 'young mason',* and *kijana msemaji* 'young spokesperson (talkative)'*.* These examples concur with the view that the adjectives share many properties with the class of nouns or the class of verbs. This comment in part reflects the fact that some adjectives come from nouns and others come from verbs as mentioned earlier.

Welmers' (1973:250) statement on the nature of the class of adjectives in Bantu languages is explicit, 'it is important to note, however, that in almost all Niger-Congo languages which have a class of adjectives, the class is rather small'. In a similar view, Schadeberg (2003) points out that the number of underived reconstructible adjectives in the Bantu language area is small, with some adjectives derived from verbs. This observation is also shared by Dixon (1982) who asserts that some adjective-deficient languages express all adjectival concepts through verbs, through nouns, while others invoke further means.

It is difficult to precisely state the number of adjectives in a single Bantu language, nevertheless, there are findings that Bantu languages are reported to have a closed set of adjectives, a limit of 30 adjectives; a view which is also supported by Welmers (1973). The reports further show that the limit of 30 adjectives may be regarded as arbitrary and may mostly be due to practical research reasons. When a language has less than 30 adjectives, it is likely that the author of the description has not listed all of them, or so it is assumed. Bantu languages with an open set of adjectives are reported to have more than 30 adjectives. These languages include Sukuma (Nyanda, 2010), Sisumbwa (Kahigi, 2005), and Nyamwezi (Maganga & Schadeberg, 1992). In these languages, new adjectives are always derived from noun and verb categories.

Although the adjective is analyzed differently based on semantic criteria, there is a shared view that adjectives express property concepts of different magnitudes. As Hetzron (1978) points out, the lack of clear agreement in the literature as to the fundamental questions of how many semantic categories of adjectives there actually are

makes Dixon's (1982) and Thompson's (1989) approaches more suitable for identifying and classifying adjectives in a language. This seems to be a crucial step from Rugemalira's (2008) point of view if we want to avoid having a handful of words that would qualify as adjectives – both the underived and the derived adjectives. This chapter uses semantic properties and focuses only on 'real' adjectives. Real adjectives in this sense means to exclude possessives, numerals, and demonstratives which in some literature are analyzed as adjectives. The approach to analyzing adjectives in this chapter observes Greenberg's (1966) Universal 20 which sets the category of adjective separate from demonstratives and numerals.

5.2. Adjectives in Swahili DP

Carstens (1991) has the following illustrations of adjectives in Swahili DPs.

25a. *Ma-gari ma-pya.*
6 car 6 new
'New cars.'

25b. **Ma-pya ma-gari.*
6 new 6 car
'New cars.'

26a. *Ma-gari ma-zuri.*
6 car 6 nice
'Nice cars.'

26b. **Ma-zuri ma-gari.*
6 nice 6 car
'Nice cars.' (Carstens, 1991:98)

In (25a) and (26a), adjectives are *mapya* 'new' and *mazuri* 'nice'. The adjectives appear postnominally. In Swahili DP, adjectives appear postnominally just like other modifiers. Thus, the appearance of the adjectives prenominally as in (25b) and (26b) leads to ungrammaticality. It can also be observed that the adjectives agree with their respective *n*Ps in class – in this case Class 6. In cases like above, the class prefix of *n*P becomes the agreement marker on the adjective stem different from the possessive (see Chapter 3) where only the consonant forms agreement. The agreement dichotomy is illustrated in (27) – (32).

27. *Wa - toto w - etu wa - zuri.*
2 child 2 of our 2 nice

'Nice children of ours.'

28. **Wa - toto w-etu w - zuri.*
    2 child 2 of our 2 nice
    'Nice children of ours.'

29. **Wa - toto wa - etu wa - zuri.*
    2 child 2 of our 2 nice
    'Nice children of ours.'

30. *Mi - ti y - etu mi - zuri.*
    4 tree 4 of 4 nice
    'Nice trees of ours.'

31. **Mi - ti y-etu m - zuri.*
    4 trees 4 of 4 nice
    'Nice trees of ours.'

32. **Mi - ti ya - etu mi - zuri.*
    4 tree 2 of 4 nice
    'Nice trees of ours.'

In the above, the DPs are grammatical when the full-fledged noun class prefixes (Consonant and Vowel) of the head *n*P *wa-* are the agreement markers on the adjective stem *–zuri* and only the consonant marking class of head *n*P is the agreement marker on the pronominal possessive stem *–etu* in (27) and (30). Contrarily, the DP is ungrammatical when only the consonant *w-* of the class of the head *n*P is the agreement marker on the adjective in (28) and (31). The DP is also ungrammatical when the noun class prefix *wa-* of the head *n*P is the agreement marker on the pronominal possessive stem *–etu* in (29) and (32) (details in Chapter 3). While most adjectives agree with the respective *n*Ps, some adjectives are not. Studies in Bantu linguistics show that adjectives which are non-agreeing are mainly loan adjectives (Carstens, 1991; Schadeberg, 2009). Instances of these adjectives which do not agree with respective head *n*Ps are illustrated in (33) – (34).

33. *Magari ø - rahisi.*
    6 car 6 cheap

'Cheap cars.' (Carstens, 1991:98)

34. *Magari ø - ghali.*
6 car 6 expensive
'Expensive cars.' (Carstens, 1991:99)

In (33) and (34),the adjectives *rahisi* 'cheap' and *ghali* 'expensive', which are reported to be Arabic loans, do not take any agreement marker. Carstens (1991) and Kihore et al. (2012) show that most of the adjectives which are considered loan (non-native) in Swahili come from Arabic. These adjectives are like the native adjectives for not being able to appear pre-nominally as illustrated in (35) – (36).

35. **ø - r*a*hisi ma - gari.*
6 cheap 6 car
'Cheap cars.'

36. **ø - ghali ma - gari.*
6 expensive 6 car
'Expensive cars.' (Carstens, 1991:99)

Alexiadou (2001) points out that, considering the relative order of the noun and the adjective modifying it, languages can be grouped into two – languages in which head nouns (N) follow the adjective (A) →[A-N] (the canonical order); and languages in which the head noun (N) precedes the adjective (A) → [N-A] (the derived order). Carstens (1991, 1993), Rugemalira (2007), and Kihore et al. (2012) reveal that Swahili is a language with the order [N-A] since the adjectives consistently follow head *n*Ps as shown above. The next section, attempts the structure and derivations of adjectives and *n*Ps in Swahli DP.

5.2.1. Structure and derivations of DP with the Adjective

According to Alexiadou (2001:220-221), the order of the adjective and head *n*P in French is [*n*-Adjective] which is different from the English order [Adjective-*n*] as illustrated in (37) – (35).

37. *A white car* [English]
38. *Une voiture blanche* [French]
39. **A car white* [English]
40. **I buy often chocolate* [English]
41. *I often buy chocolate* [English]
42. *Jean achète souvent chocolat* [French]
    'Jean buys often chocolate'
43. **Jean souvent achète du chocolat* [French] (Alexiadou, 2001:221)
    'Jean buys often chocolate'

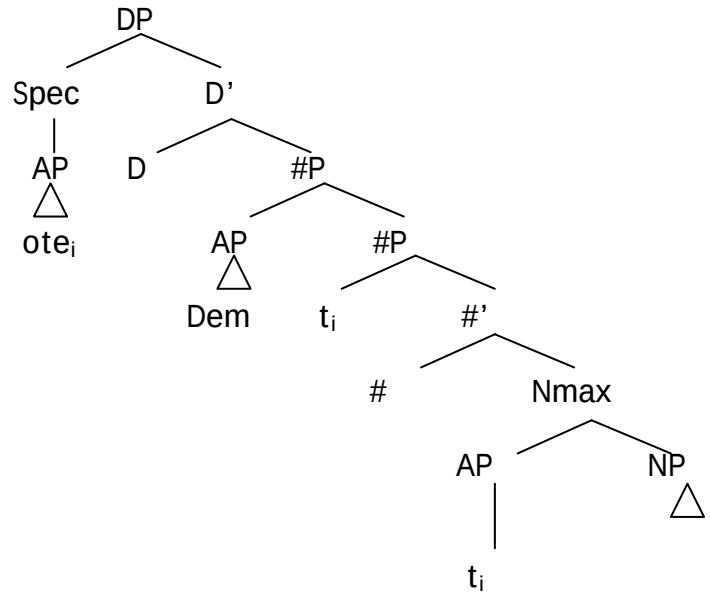
Alexiadou (2001:220) notes that the head *n*P following a qualifying adjective in French would move as in (30) but not in English phrases in (37). Moving the head noun past the adjective as in (39) in English leads to ungrammaticality. Alexiadou (2001) points out that the ban against the movement of the noun in English is similar to the one in which the verb following an adverb would move (40) except in French as illustrated in (42). In the above, the attempt to keep the adverb *often* following the noun in English yields ungrammatical structures in the same way that the attempt to move the adverb *souvent* 'often' in French would result in an ungrammatical structure as in (43). Alexiadou (2001) explains that the motivation for noun movement to the respective functional projection is as traditionally perceived; to check its number or gender features. Alexiadou gives example of French – a noun raising language, and Waloon – a non-noun raising language, explaining that, from the minimalist approach; French nouns move since they inflect for plural contrary to Waloon – a variety of French, whose nouns remain in situ for lack of plural marking as illustrated in (44) – (45).

44. *dès r'tchâ crompîre.* [Waloon, (Alexiadou, 2001:222)]
    'Some reheated potatoes'
45. *des fleurs violettes.* [French, (Alexiadou, 2001:223)]

In above, the Waloon *n*P does not undergo raising as the French *n*P which does in order to inflect for plural. When it comes to deriving adjectives, Alexiadou (2001) argues that

adjectives should be derived as adjuncts of *n*P. In this position, adjectives precede head *n*Ps as in (45). Carstens (1991) provides an alternative view in deriving adjectives in Swahili. This view suggests that Swahili adjectives be analyzed as specifiers of *n*P derived either in Spec DP or Spec NumP. Under Spec DP analysis, Carstens (1991) derives *ote* 'all' prenominally (the prenominal appearance of *ote,* however, is disputed in this thesis) while under Spec NumP other adjectives are derived postnominally. The derivation of the adjectives postnominally is in line with Alexiadou derivations where the adjectives precede base generated *n*Ps in a language like English. Unlike adjectives in English, postnominal appearance of adjective in Swahili results from N raising to D according to Carstens (1991). Carstens (1991) states that the adjective appears between Spec #P and the position of the lexical possessor or agent in N^{Max} as illustrated in (46).

46.



(Carstens, 1991:109)

In (46), Carstens (1991) points out that the Adjective Phrase (AP) id base generated as the specifier to N^{max}. As the specifier, the adjective allows the functional head position – D^0, to be used as the landing site of N. It is also pointed out that another adjective – *ote* 'all' is a unique category of adjective which is base generated in Spec M^{max} and; in this position it can raise to Spec DP via Spec #P. According to Carstens (1991), in Spec DP -*ote* competes with the prenominal demonstrative with which it appears in complementary distribution. Since it has been assumed that modifiers appear postnominally in Swahili, I depart from the analysis which considers the

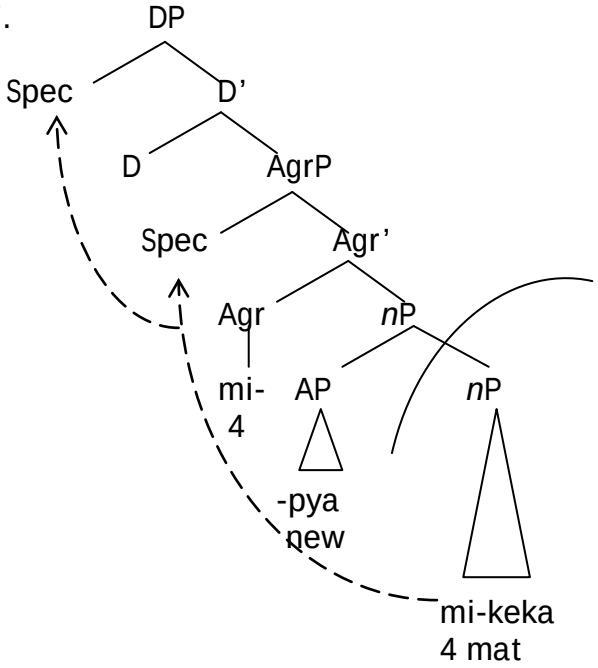
prenominal appearance of *-ote*. To the best of my knowledge, *ote* does not appear prenominally in the unmarked word order in Swahili DP. In addition, based on the derivations in Chapter 1 and Chapter 2 I depart from analyzing the demonstrative in Spec DP. The derivation pursued in this thesis assumes that the demonstrative appears in Dem below D and that it can raise to D allowing the Spec DP to be the landing site of *n*P.

In deriving Swahili DP, Alexiadou's (2001) adjunction of the adjective to the *n*P is adopted. But since Swahili adjectives have special markers which agree with respective *n*Ps, AgrP is introduced above AP to cater for agreement. The agreement markers are projected independently because the adjectives in Swahili are bare stems which appear as complements of some functional category – hence Agr functional head. Adjectives like *–pole* 'polite'*, -janja* 'tricky'*, -zuri* 'nice'*, -dhaifu* 'weak'*, -dogo* 'small/little'*, -kubwa* 'big/ large'*, -refu* 'tall/ long'*,* and *–fupi* 'short' are adjective stems. The introduction of Agr like Class 1/2 prefixes *m-/wa-* in these adjective stems bring the following forms *m–pole/ wa-pole, m-janja/ wa-janja, m-zuri/ wa-zuri, m-dhaifu/ wa-dhaifu, m-dogo/ wa-dogo, m-kubwa/ wa-kubwa, m-refu/ wa-refu,* and *m-fupi/ wa-fupi.* The Agr functions like Linkers in Den Dikken's (2006) predicate inversion hypothesis introduced in the previous chapters in relation to the possessives. Predicate inversion hypothesis assumes that adjective phrases in certain languages are formed via a syntactic transformational process in which the predicate (*n*P) raises above its subject (adjective stem) via leftward movement and the introduction of a linking (functional) word leading to the order [n_i Adjective t_i].

It is suggested along similar lines that Agr in Swahili adjectives is the product of the predicate inversion whereby the predicate *n*P in predicate position raises across the subject (adjective) in subject syntactic position below D. In other words the adjective is the subject which takes *n*P as its predicate as in English *tall man* where *tall* is analyzed as the Subject and *man* as the Predicate. In Swahili in order for the adjective phrase to be used in the syntax, the predicate (*n*P) raises across its subject (Adjective) to a specifier position of AgrP followed by the introduction of a mediating (linking) category – the RELATOR, which serves as the agreement between the inverted

predicate (*n*P) and its subject (Adjective). The consequence of this relation is to suggest that the adjective comes to agree with respective *n*P (predicate) via Agr. The derivation is as illustrated in (47) using *mi-keka mi-pya* 'new mats'.

47.



In (47), the order of the adjective and the *n*P in Swahili appears to be the same as the order in English. It can be observed that the Swahili *mikeka mipya* has the same underlying structure relations as the English *new mats.* The *n*P is base generated below the adjective. However, the surface structure of Swahili DP is achieved through cyclic raising of *n*P to Spec DP via Spec AgrP. The movement is accompanied by the introduction of a RELATOR to link the inverted *n*P (predicate) and the adjective (subject). The raising of *n*P triggers agreement between *n*P and the adjective through Spec head relation as explained in Chapter 1. The raising to Spec DP is attributed to the conditions of EPP which requires phrases to have specifiers occupied, the details of which were equally presented in Chapter 1. It was furthermore explained in Chapter 1 that *n*P raises to Spec DP when D is null, otherwise the *n*P lands on a specifier position below D. The *n*P lands below D when the prenominal demonstrative occupies D as shall be explained later in this chapter. The next section presents the structure of DP involving the adjective and the demonstrative.

5.3. The Adjective and the Demonstrative

Carstens (1991) and Rugemalira (2007, 2008) point out that demonstratives precede other dependents of the DP with an assumption that adjectives would follow demonstratives in DP structure. This observation is illustrated in (48) – (50).

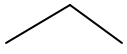
48. *Mi-keka ile mi-pya.*
4 mat 4 those 4 new
'Those new mats.'
49. **Mi-keka mi-pya ile.*
4 mat 4 new 4 those
'Those new mats.'
50. **Mi-pya mi-keka ile.*
4 new 4 mat 4 those
'Those new mats.'

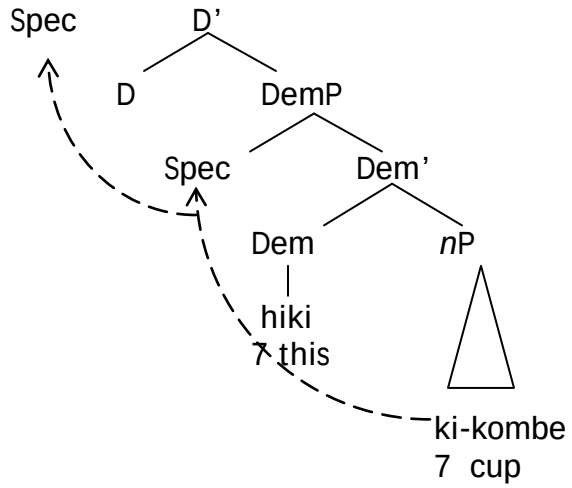
In the above, (48) is grammatical for having the demonstrative *ile* 'those' preceding the adjective *mipya* 'new'. It can also be observed that (48) is an instance of the 'exact opposite' of Greenberg's (1966) order [n_i Dem A t_i], otherwise the canonical order [Dem A *n*] or the mirror image [n_i A Dem t_i] would be expected. The fact that the adjective precedes the demonstrative leads to the ungrammaticality of (49). The prenominal appearance of the adjective is equally disallowed as in (50). Based on these observations, the next section attempts the structure and derivations of Swahili DPs involving the two categories discussed above.

5.3.1 Structure and derivations of the Adjective and Demonstrative

The view that the postnominal demonstrative precedes all elements of the noun in DP structure presupposes that this category is located in a position below D, but higher than the *n*P (see Chapter 2). This view on the assumed order [n_i Dem t_i] is illustrated in (51) using *ki-kombe hiki* 'this cup.'

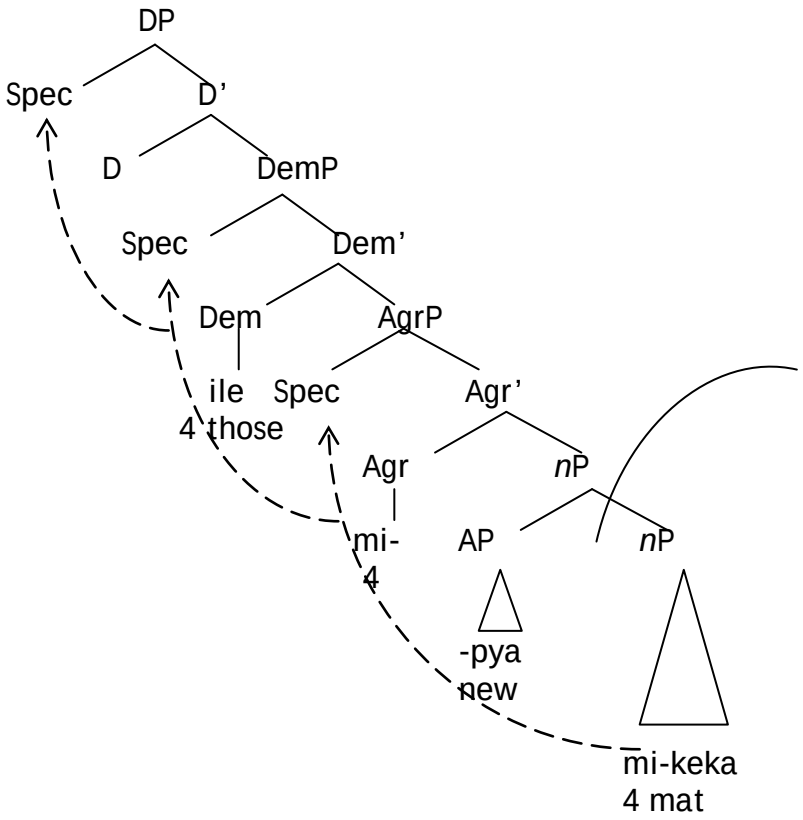
51. DP





In (51), the demonstrative is base generated below D in a position above *n*P as explained earlier. The DP tructure and meaning for the Swahili *kikombe hiki* is a replica of the English equivalent *this cup.* In the postnominal position, the demonstrative is a 'proper demonstrative' serving a deictic function, according to de Velde (2005) as explained in Chapter 2. The difference between Swahili order and its English counterpart is in the surface structure; in Swahili *n*P raises to Spec DP via Spec DemP. The raising of *n*P to Spec DP results into an *n*-initial surface structure of the elements of Swahili DP. The DP structure involving the adjective is illustrated using (48) in (52).

52.



In (52), the demonstrative is base generated in Dem in the usual way. The adjective appears as the adjunct to *n*P. The structure maintains the same underlying structure relations as the English *those new mats.* In Swahili, however, the surface structure stems from the raising of *n*P to Spec DP via Spec DemP resulting in the order [n_i Dem Agr A t_i] – assuming Agr is introduced on the adjective to cater for agreement. The raising of *n*P triggers agreement on the demonstrative and the adjective via Spec head relation. As has been assumed, the raising of *n*P to Spec DP is only possible when D is null. The next section presents the DP involving the adjective and the possessive.

5.4. The Adjective and the Possessive

This thesis has assumed that modifiers appear postnominally, and that the prenominal appearance leads to ungrammaticality. Chapter 3 revealed that possessives are not subject to DP hierarchy while this chapter has shown that the adjective appears in the final position as the adjunct to *n*P. The adjective maintains the similar final position even when the possessive is introduced in Swahili DP as illustrated in (53).

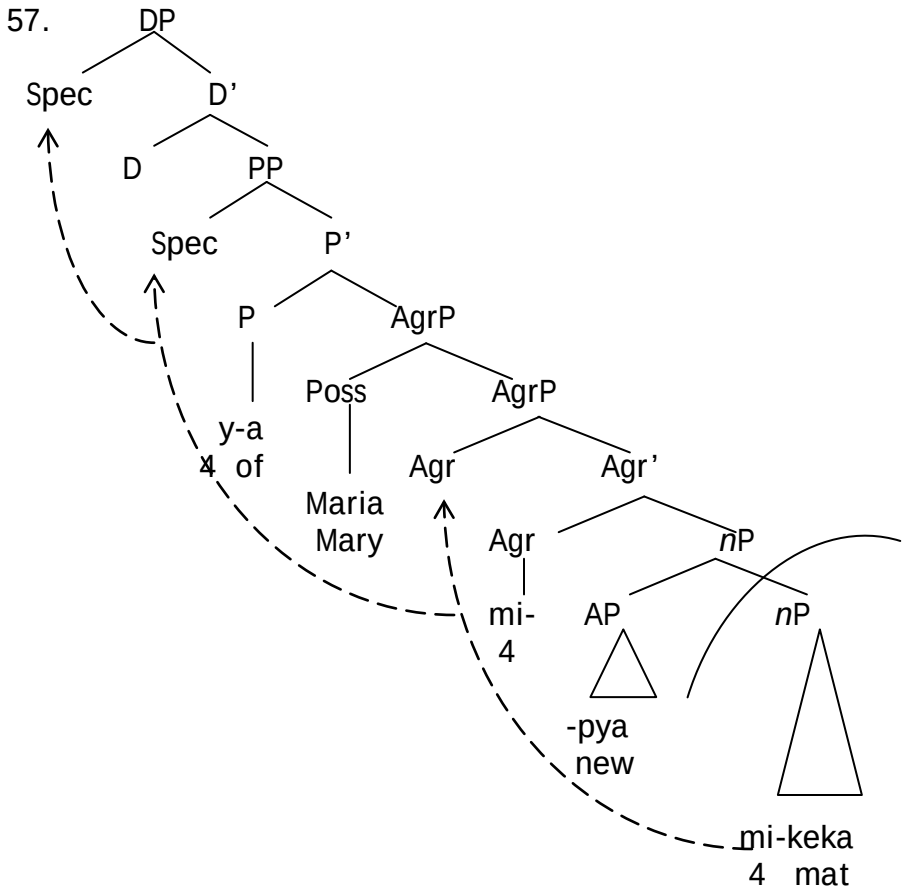
53. *Mi-keka y-a Maria mi-pya.*
4 mat 4 of Mary 4 new
'Mary's new mats.'
54. ?*Mi-keka mi-pya y-a Maria.*
4 mat 4 new 4 of Mary
'Mary's new mats.'
55. *Mi-keka y-ake mi-pya.*
4 mat 4 of 4 new
'New mats of hers/his.'
56. ?*Mi-keka mi-pya y-ake.*
4 mat 4 new 4 of hers/his
'New mats of hers/his.'

In the above, (53) and (55) are both grammatical for the reason that the possessive precedes the adjective which appears in the final position. In relation to the adjective there appears to be no possibility of the possessive to follow the adjective except in instances of spoken (informal) discourses as illustrated in (54) and (56). The appearance of the adjective in DP structure final position is assumed to stem from the fact that this category is analyzed as the adjunct to *n*P unlike the possessive which has no fixed place in DP hierarchy as illustrated in the next section.

5.4.1. Structure and derivations of the DP involving the Adjective and the Possessive

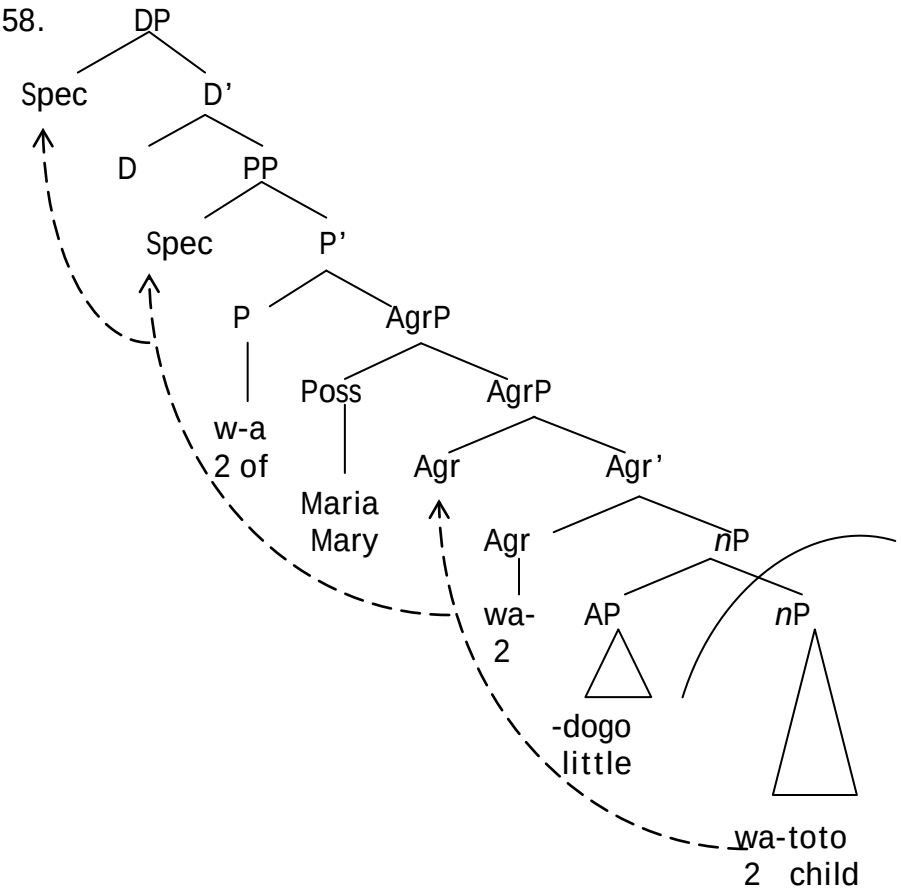
The analysis of Swahili DP modified by the adjective and the possessive is approached assuming that the adjective is derived to the left of the base generated *n*P and that the *n*P-initial order found in Swahili DP is derived via movement. The derivation of, for instance (53), is presented in (57).

57.



In (57), the possessive precedes the adjective as explained earlier. The possessive relation between the possessor (Poss) *Maria* 'Mary' and the possessum (*n*P) *mi-keka* 'mats' is introduced by the possessive preposition *–a* (*-a* phrase). The *–a* Phrase agrees with the possessum (*n*P) in terms of its (possessum) class features. Hence, Class 4 *y-* in (53) and in its derived counterpart (57) agrees with the features of the possessum *mi-keka* 'mats' as illusrated. It was explained earlier that in some cases the agreement between the possessive preposition and possessum is alliterative in the sense that agreement form on the possessive preposition is a perfect match of the consonant of the possessum (*n*P) as in *wa-toto w-a Maria wa-dogo* 'Mary's little children'. However, the difference in the form of the possessive preposition agreement does not in any way alter the derivation of the possessive DP as in 57). The derivation involving alliterative agreement is illustrated in (58).

58.



In (58), the agreement is alliterative involving the consontant of the class prefix *w-* on the possessive preposition and the possessum (*n*P). It can be said then that the crucial linguistic aspect in agreement relation involving the possessives is the agreement of class features rather than consonants of the class prefixes themselves. In both cases the possessive precedes the adjective which is introduced by Agr. Agr in turn takes adjective stem (AP) as its complement. As explained earlier, the adjective is analyzed as the adjunct to *n*P and that the adjective-final position is achieved when *n*P raises to Spec DP via Spec AgrP and Spec PP resulting into the order [n_i Poss A t_i]. The next section presents the DP structure involving the adjective and the Num.

5.5 The Adjective and the Num(eral)

This chapter has shown that the adjective follows all other elements in DP structure; that is, the Dem(onstrative) and the Poss(essive). This obersvation contrasts with the the statement in Chapter 4 where it was explained that the Num(eral) followed all

other elements of DP structure. Nevertheless, the adjective-final appearance is still maintained even when it co-occurs with the numeral as illustrated in (59) – (61).

59. *Mi-keka mi-tatu mi-pya.*
4 mat 4 three 4 new
'Three new mats.'
60. **Mi-keka mi-pya mi-tatu.*
4 mat 4 new 4 three
'New three books.'
61. ?*Mi-keka mi-pya, mi-tatu.*
4 mat 4 new 4 three
'New mats, four!'

In (59), the adjective *mi-pya* 'new' appears in the final position preceded by the numeral *mi-tatu* 'three' in what appears to be an unmarked order (compare it with (61). Since the adjective in Swahili DPs has to follow the Num, (60) is ungrammatical. In any case, should (60) be acceptble, the adjective following the head noun must be separated by a pause from the Num appearing in the final position. This strategy, however, would lead to a different analysis from what is pursued in this thesis. It can also be observed that there is a strict ban against the prenominal appearance of the adjective and/ or the numeral as illustrated in (62) – (65).

62. **Mi-tatu mi-keka mi-pya.*
4 three 4 mat 4 new
'Three new mats.'
63. **Mi-pya mi-keka mi-tatu.*
4 new 4 mat 4 three
'Three new mats.'
64. **Mi-pya mi-tatu mi-keka.*
4 new 4 three 4 mat
.Three new mats.'
65. **Mi-tatu mikeka mipya.*

4 three 4 mat new

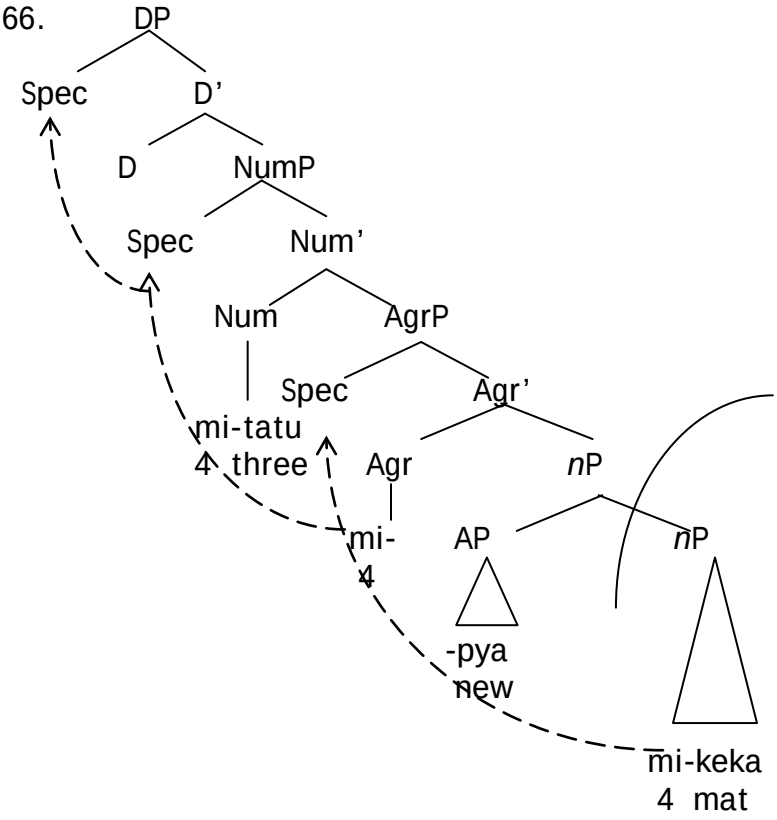
'Three new mats.'

The scenario above has been observed in the preceding chapters showing that adjectives appear postnominally in unmarked order and that the prenominal appearance of either of them (as in (62), (63), (65)) or the prenominal appearance of all of them as in (64) leads to ungrammaticality. The next sub-section attempts the structural derivations of the adjective and the Num(eral).

5.5.1 Structure and derivations of the adjective and the Num(eral)

The preceding section has shown that the adjective follows the Num(eral) in an unmarked word order. The analysis of the adjective following the numeral is illustrated in (66) using *mi-keka mi-tatu mi-pya* 'three new mats'.

66.



In (66), *mitatu* 'three' appears below D in a position preceding the adjective *mi-pya* 'new'. The adjective is base generated as the adjunct to *n*P in the usual way. The *n*P

raises to Spec DP via Spec AgrP and Spec NumP as assumed in the preceding sections and chapters on XP movement. The raising of *n*P is responsible for Spec head agreement on the numeral and the adjective via Spec head relation. As noted earlier, the raising to Spec DP in (66) assumes the D is null, otherwise the *n*P raises to a specifier below D as has been explained in he preceding chapters. Having analyzed the co-occurrences of the adjective with the demonstrative, the adjective and the possessive, and the adjective and the numeral, the next section attempts a unified analysis of the order of all these elements in Swahili DP structure.

5.6. The Adjective, the Demonstrative, the Numeral, and the Possessive

The preceding sections have shown that the structure of DP in Swahili stems from XP movement unlike languages such as English in which no such movement is assumed. In a language like English the elements appear pronominally with the head noun appearing in the final position as in *those two nice children.* Unlike English order, this thesis has assumed that Swahili DP takes the opposite order of English having the head noun in the initial position. I explained in the preceding chapters that Swahili's order of elements is the opposite of English resulting from the movement of Swahili *n*P to the initial (Spec DP) position. Since the adjective is derived as the adjunct to Spec *n*P in DP structure, the raising of the *n*P to Spec DP position presupposes that the adjective would always appear in the final position of DP following all other elements including the possessive which is assumed to have no fixed position postnominally.

Using Greenberg's (1966) typology on the order of elements in DP [Dem Num A *n*], it can thus be said that the basic order of DP in Swahili DP is the opposite of Greenberg's – [n_i-Dem-Num-A-t_i] as illustrated in (67).

67. *Mi-keka h-iyo mi-tano mi-pya.*
    4 mat 4 those 4 five 4 new
    'Those (near the spoken to) five new mats.'

The order in (67) is assumed to be the basic [n_i Dem Num A t_i]. However, this order can take various forms when the possessive is introduced as illustrated in (68) – (70).

68. *Mi-keka y-a bibi h-iyo mi-tano mi-pya.*
4 mat 4 of 1 grandmother 4 those 4 five 4 new
'Those (near the spoken to) grandmother's five new mats.'

69. *Mi-keka h-iyo y-a bibi mi-tano mi-pya.*
4 mat 4 those 4 of 1 grandmother 4 five 4 new
'Those (near the spoken to) grandmother's five new mats.'

70. *Mi-keka h-iyo mi-tano y-a bibi mi-pya.*
4 mat 4 those 4 five 4 of 1 grandmother 4 new
'Those (near the spoken to) grandmother's five new mats.'

In (68) – (70), the variant orders of the elements in Swahili DP are obvious. The facts above show that the various orders of the modifiers are subject to the position of the the possessive which, in the examples, appearns not to have a fixed place in DP structure. In (68), the possessive precedes all other elements of the DP. In (69), the possessive follows the demonstrative and precedes the numeral and adjective. In (70), the possessive follows the demonstrative and numeral and precedes the adjective. Based on such facts, Rugemalira (2006) noted in his descriptive study of the structure of the Bantu noun phrases that Swahili noun phrases have a great mobility of elements. The associatives are mentioned as being one of the most mobile elements as illustrated in (71) (morphological parsing is the author's).

71. *W-ale wa-tu w-angu w-a kwanza w-a Tanzania wa- zuri*
2 those 2 persons 1 of mine 2 of firs 2 of Tanzania 2 nice/good
w-ote wa-wili.
2-all 2 two
'All those first two good people of mine from Tanzania who live in Europe'
(Rugemalira, 2006:144).

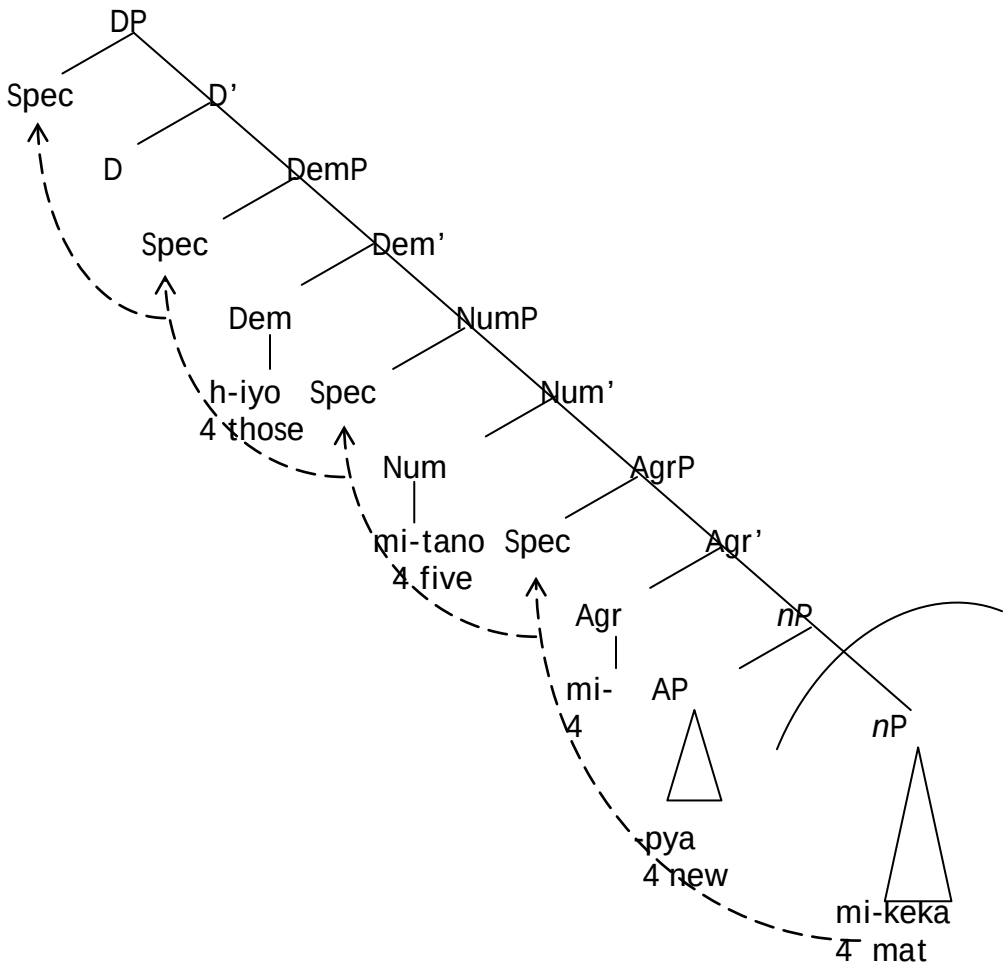
In (71), possessives (asscociatives) *wa kwanza* 'of number one (first)' and *wa Tanzania* 'of Tanzania' are stacked. Similarly, numerals *wote* 'all' and *wawili* 'two' are stacked. According to Rugemalira (2006) it is hard to determine the order of the elements in such mobility situation. The difficulty is noted in a footnote that there are up to 120 possible arrangements of elements in Swahili noun phrases, and that there are up to 720 possibilities if the relative constructions were involved (Rugemalira, 2006). Consequently, the findings could hardly come up with a compelling model of Swahili DP. I have, in this thesis, attempted to map the different contours of the elements in DP structure to show that the elements observe typologies and principles of structural configurations similar to other languages studied. The derivations in the next subsection are illustrative of the fact that unified derivations are possible in Swahili DP structure despite observed complexities.

5.6.1 Structure and derivations of DP involving Demonstrative, Possessive, Number, and Adjective

It was mentioned in this section that Swahili DP elements appear postnominally in unmarked word order. The order that has been established so far is [n_i Dem Num A t_i]. I derive this order in (73) using the example in (67) which is repeated in (72).

72. *Mi-keka h-iyo mi-tano mi-pya.*
4 mat 4 those 4 five 4 new
'Those (near the spoken to) five new mats.'

73.

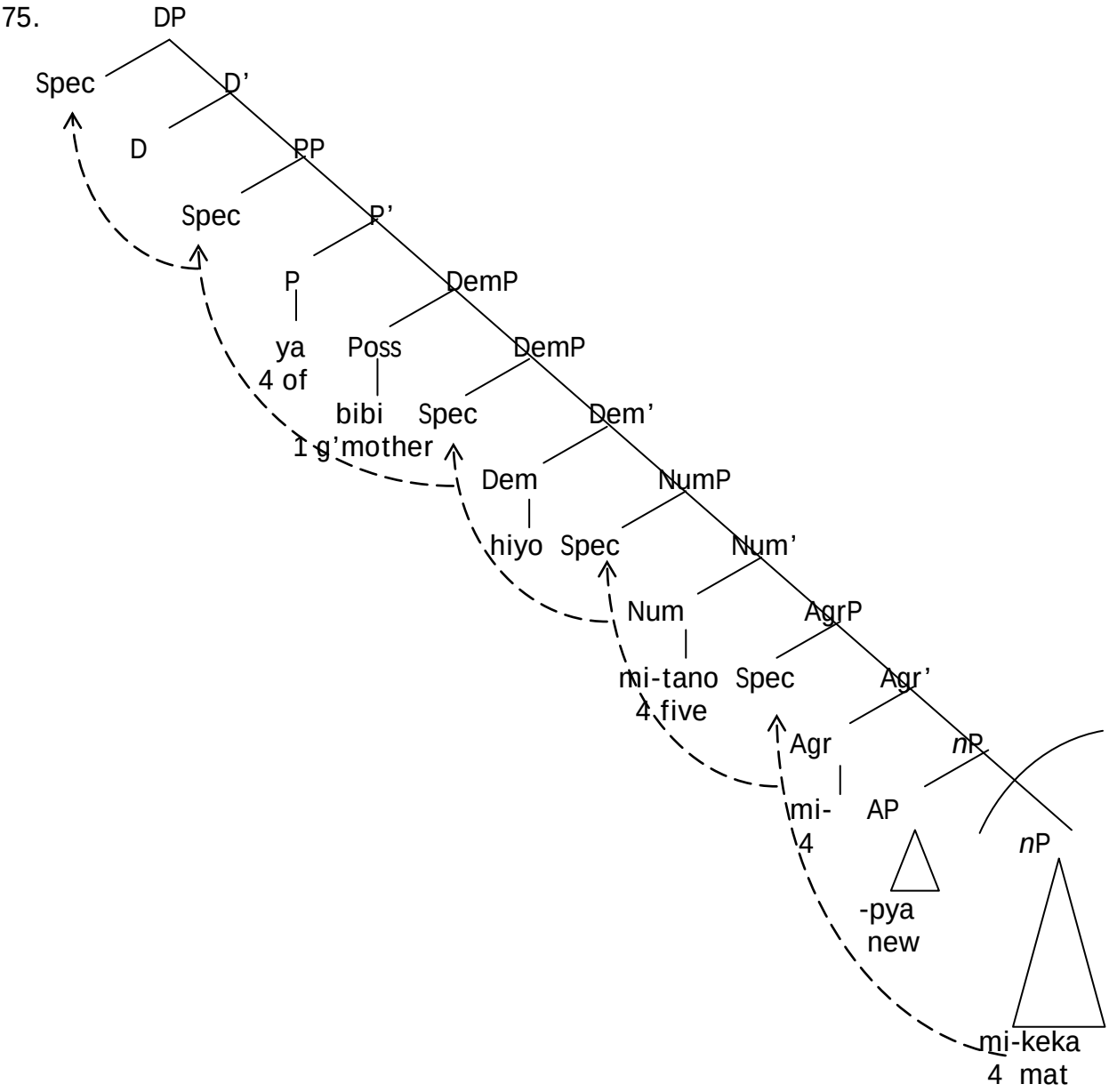


In (73), the order or elements in Swahili DP is like the order found in English *those five new mats.* The similarity suggests sameness in the underlying structure relations as has been observed throughout the chapter. It can be observed that the surface structure of Swahili DP is unlike English for being *n*P-initial. It has been assumed that the *n*P-initial order of Swahili DP structure stems from the raising of the base generated *n*P to Spec DP. In (73), the *n*P raises successively to Spec DP via Spec AgrP, Spec NumP, and Spec DemP; the movement which is assumed to trigger agreement on the modifiers at every stage of raising.

It has been mentioned in the preceding section that the variant forms of Swahili DP stem from the fact that the possessive have no fixed place in DP hierarchy. It was illustrated in (68) – (70) that order of elements in Swahili DP is variant with the possessive taking a different position in each case without altering meaning. The derivations of the variant orders begin by illustrating Swahili DP in which the possessive precedes all other elements of DP structure under the study. This is illustrated in (75) using (74) repeated from (68).

74. *Mi-keka y-a bibi h-iyo mi-tano m-pya.*
4 mat 4 of 1 grandmother 4 those 4 five 4 new
'Those (near the spoken to) grandmother's five new mats.'

75.

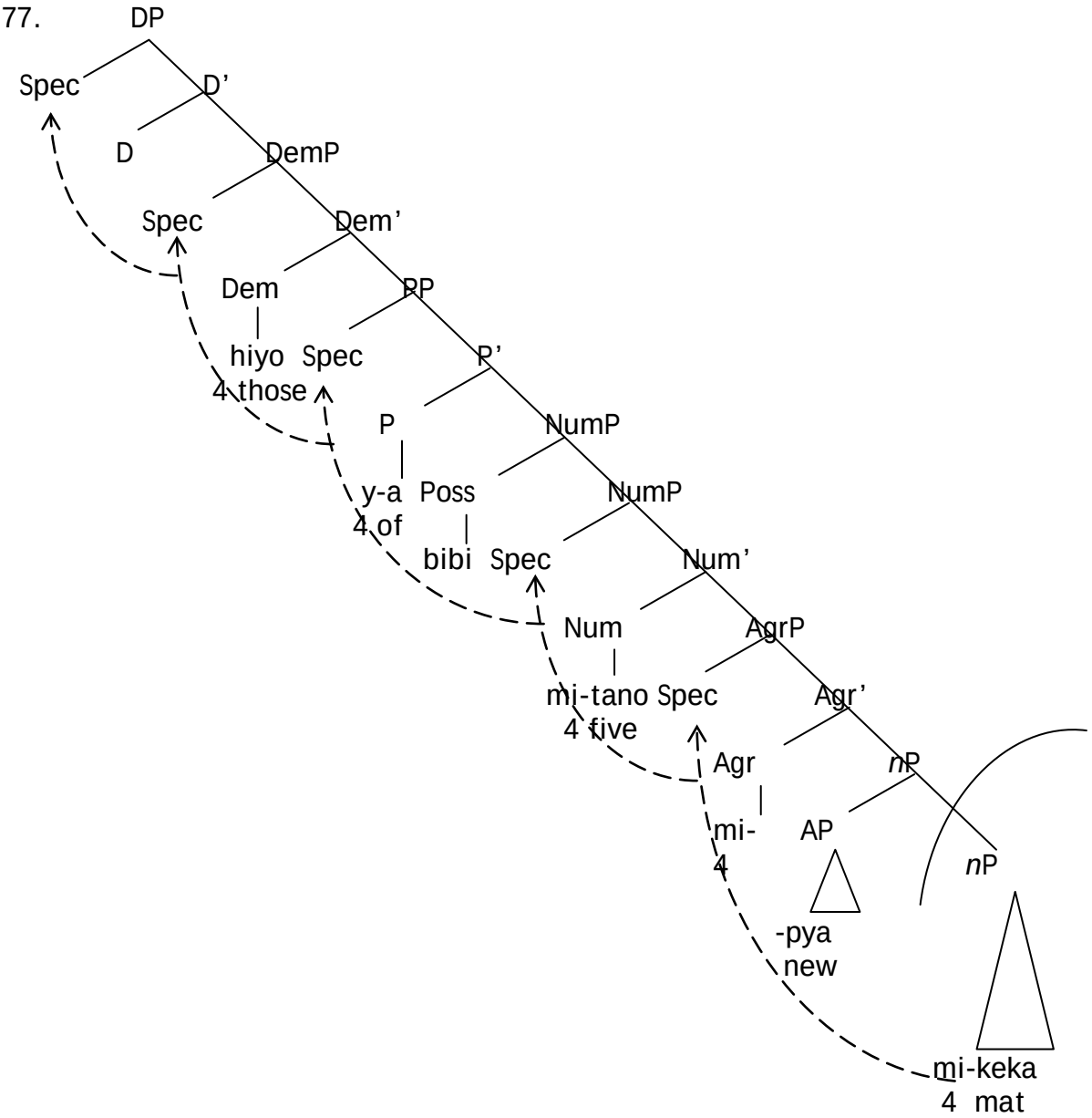


In (75), the DP structure is the same as (73) except that in the above the possessive has been introduced adjacent to *n*P preceding all other elements – Dem, Num and Adjective. The Poss is the adjunct to DemP which precedes other elements – Num and A. The *n*P initial order is achieved by the usual cyclic raising to Spec DP. Alternatively,

the possessive may follow the demonstrative as illustrated in (69), also repeated in (76). This DP is derived in (77).

76. *Mi-keka h-iyo y-a bibi mi-tano mi-pya.*
4 mat 4 those 4 of 1 grandmother 4 five 4 new
'Those (near the spoken to) grandmother's five new mats.'

77.

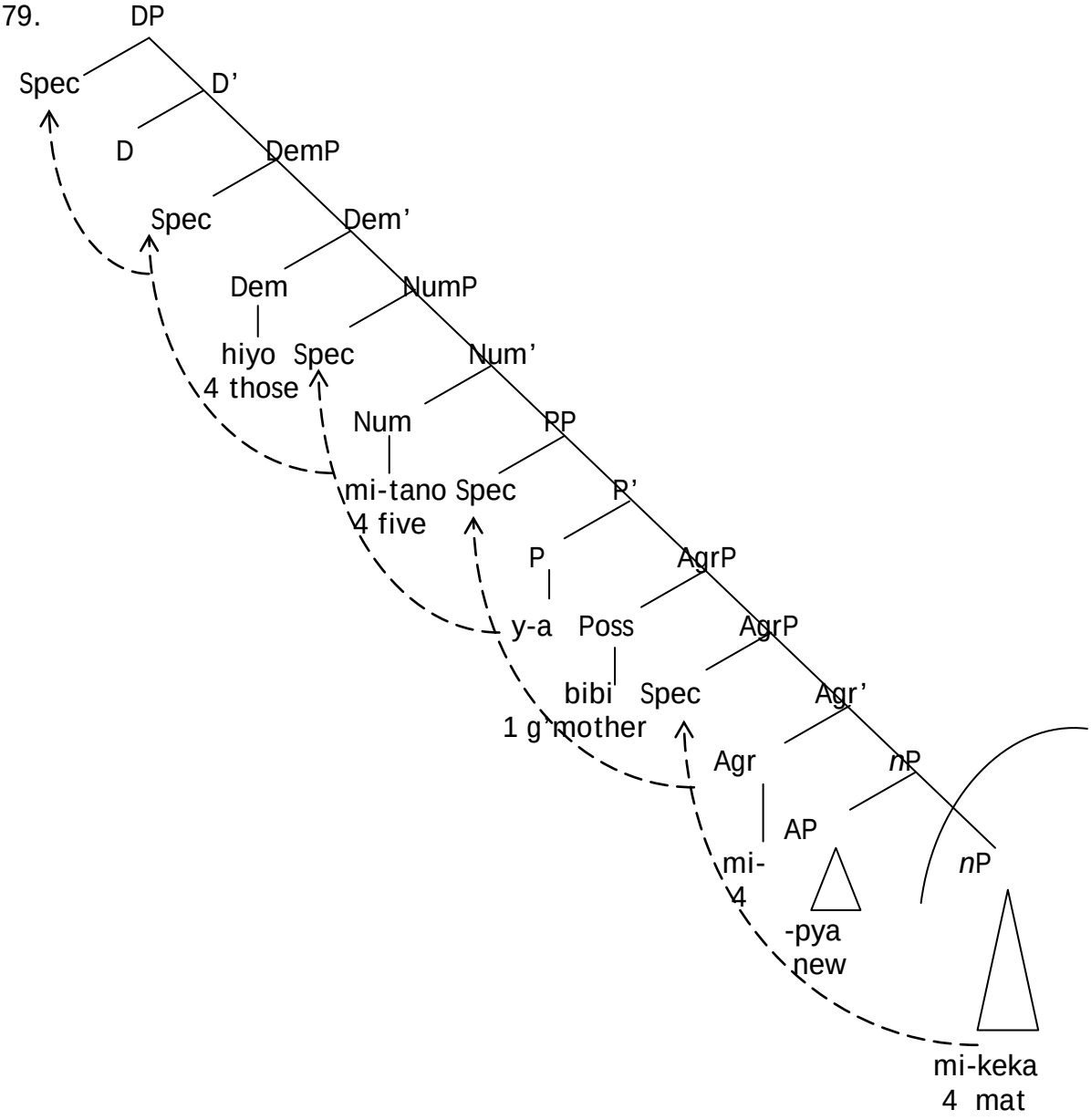


In (77), the DP structure is the same as (75) except that in the above derivation the possessive follows the demonstrative and precedes the other elements – Num and A.

The *n*-initial order is the result of the usual cyclic raising of *n*P to Spec DP as explained in (75). Alternatively, the possessive may precede the adjective in a position following the demonstrative and Num as illustrated in (70), repeated in (78). The derivation of (78) is illustrated in (79).

78. *Mi-keka hiyo mi-tano y-a bibi mi-pya.*
4 mat 4 those 4 five 4 of 1 grandmother 4 new
'Those (near the spoken to) grandmother's five new mats.'

79.

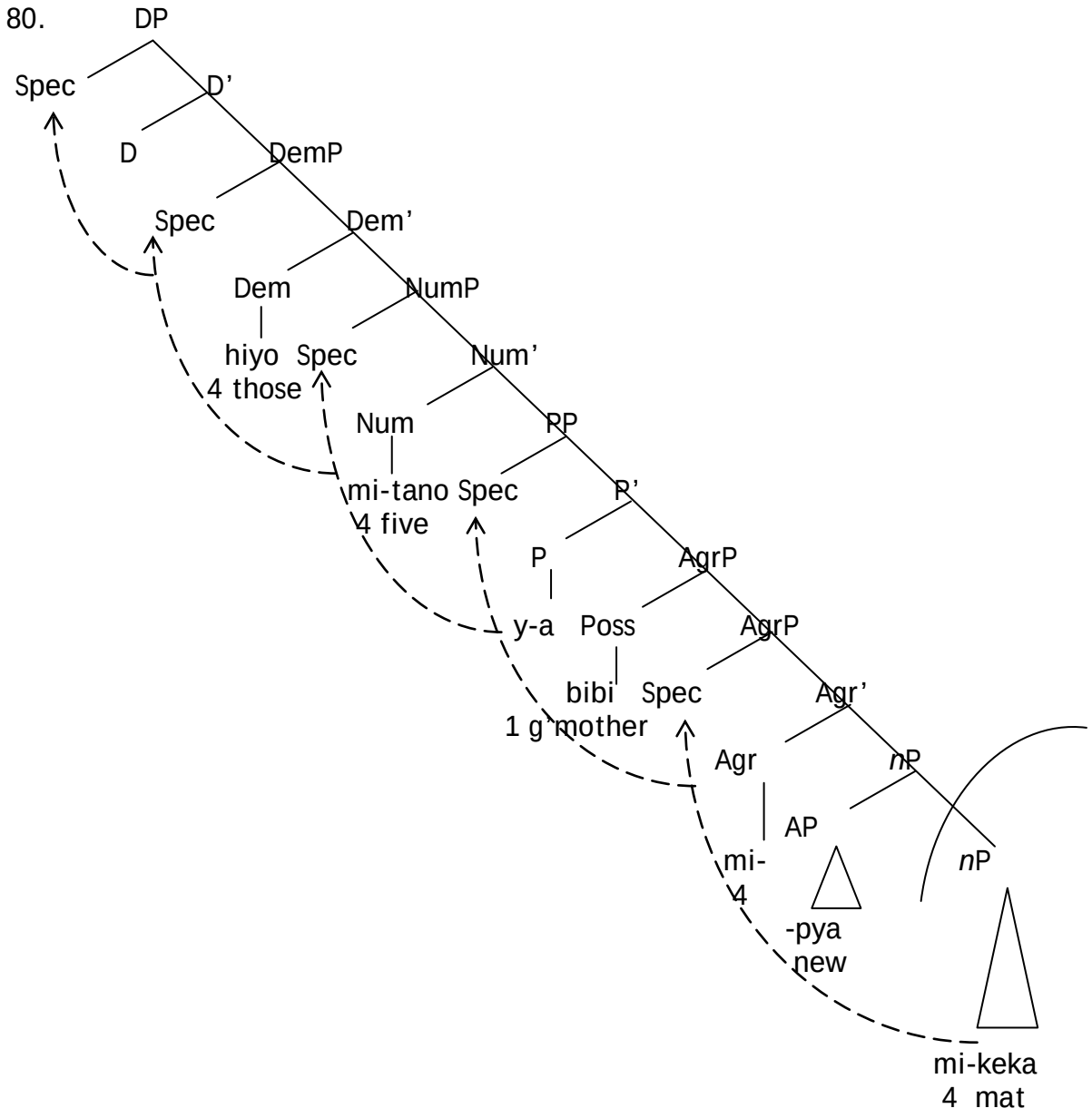


In (79), the DP structure is the same as (65), and (67) except that in the above the possessive follows the demonstrative and Num and precedes the adjective. The Poss(essive) in (79) is the adjunct to AgrP which precedes the adjective. The *n*P-initial order is achieved by the cyclic raising of *n*P to Spec DP in the usual way.

It can thus be argued that the variant orders of elements in Swahili DP result from the unstable nature of the possessive element. Based on these facts, the order of the elements in Swahili DP can be unified by studying the structure of the major categories – Dem, Num, A, and eventually looking at the distribution of the possessive case-by-case as it has been illustrated above. The next section presents the discussion on the determiner in Swahili DP involving the adjective.

5.7. Determiner and Adjective in Swahili DP

It has been mentioned in this thesis that modifiers in Swahili DPs appear postnominally following the head *n*P in unmarked word order. It has also been mentioned that the postnominal order of the modifiers results from the cyclic raising of XP element – *n*P, from its base generated position to Spec DP as in (80) repeated from (79).

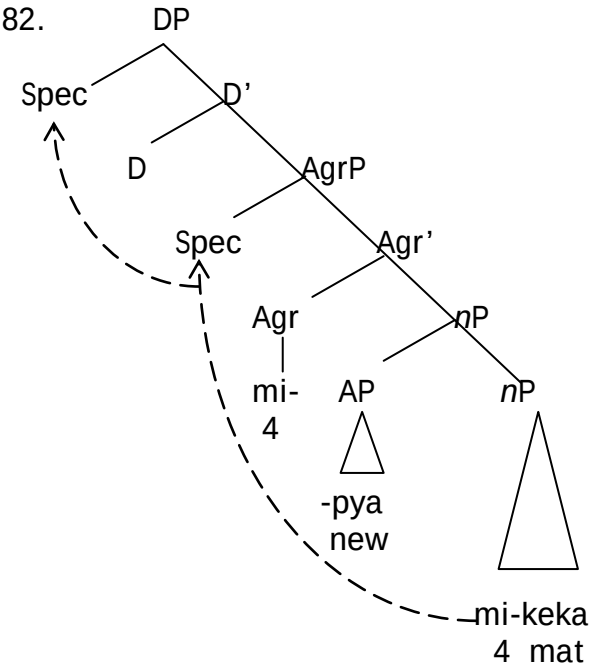


In (71), the head noun (XP/*n*P) raises from its base generated position to Spec DP (indicated by dotted arrows). It has also been noted that the raising of *n*P to Spec DP is not possible when D is occupied. In Swahili, this happens when the demonstrative appears in the prenominal position. The prenominal appearance of the demonstrative in Swahili DP is on a par with Beirut Arabic assuming that in Beirut Arabic the demonstrative raises to Spec DemP resulting into the order Dem>*n* (Shlonsky, 2004) (details in Chapter 2). It has been argued in this thesis that in Swahili, the prenominal demonstrative functions as the definite article *the* in English.

This chapter has established that postnominally the adjective follows all other DP elements – Dem Num A, in unmarked order. The chapter has also discovered that the variant orders of the elements in DP structure stem from the possessive which appears to have free distribution in relation to the other elements which observe a relatively fixed order [n_i Dem Num A t_i].

This section presents a discussion on how Swahili DP realizes the definite article function when the adjective element is involved. Since it has been assumed that the demonstrative appearing in D functions as the definite article, the analysis and derivations in this section attempt to illustrate this structural relationship. The analysis begins by illustrating the derivation of a simple Swahili DP *mi-keka mi- pya* 'new mats' presented in (47) and repeated in (82).

82.

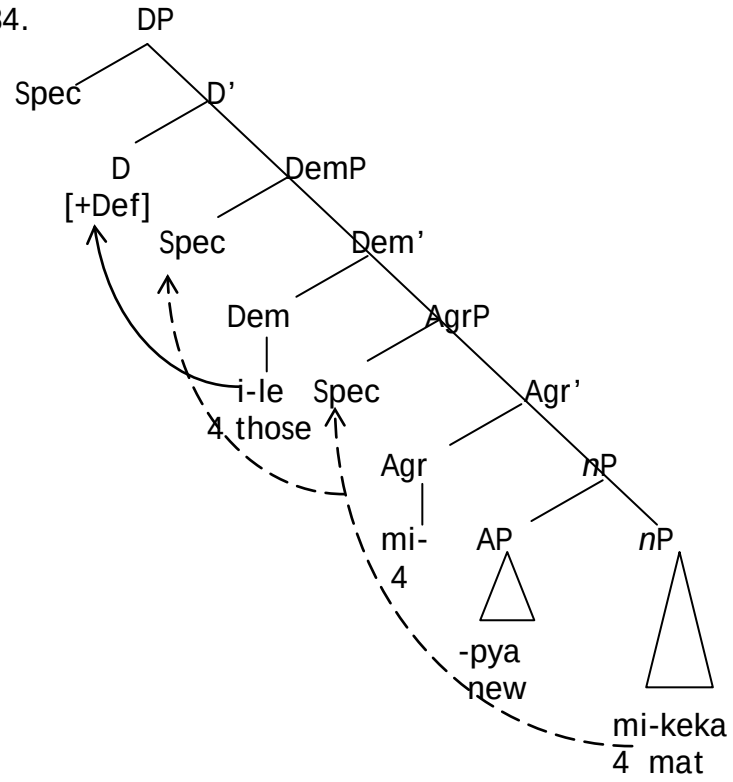


In (82), the order of the adjective (AP) and the head noun (*n*P) follows the canonical order – *n*-final order, as found in English *new mats.* The adjective appears as the adjunct to the base generated *n*P. However, in the Swahili derivation, the *n*-initial order is the result of the raising of *n*P to Spec DP via Spec AgrP. It has been assumed that for a DP like (82) to project an overt determiner (the definite article); the

demonstrative must appear in D. Hence, the demonstrative appearing in the initial position of DPs is assumed to function as the definite article. Considering the adjective final appearance, the derivation of a simple DP (82) with the prenominal demonstrative as in (83) is illustrated in (84).

83. *Ile*$_i$ *mi-keka* t_i *mi- pya.*
4 mat 4 those 4 new
'The four new mats.'

84.

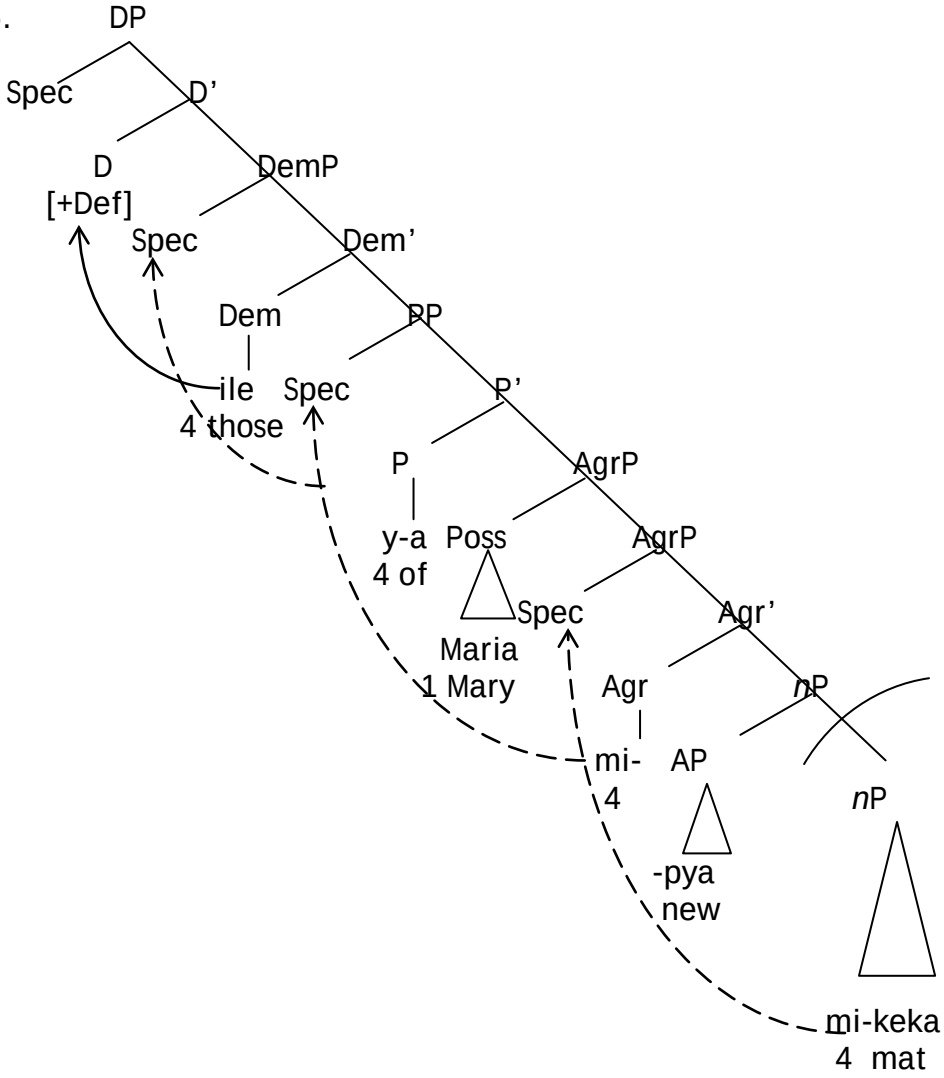


In (84), the demonstrative appears in D – prenominally. The prenominal appearance of the demonstrative is assumed to result from its raising to D^0 – the position associated with the definite article in languages such as English. The consequence of this movement is to block the raising of *n*P to Spec DP suggesting that Spec DemP is the only possible landing site for the raising *n*P when D is occupied. Null DPs in Swahili are basically DPs without the prenominal demonstrative or the distributive numeral (quantifier) *kila.* The prenominal demonstrative as in (84) functions as the definite article as explained in Chapter 2.

In addition to the illustration of a simple Swahili DP involving the adjective, there is another order in which the adjective co-occurs with the possessive as in (85) – (86).

85. *I-le*$_i$ *mi-keka* t_i *y-a* *Maria* *mi- pya.*
4 mat 4 those 4 of 1 Mary 4 new
'The Mary's new mats.'

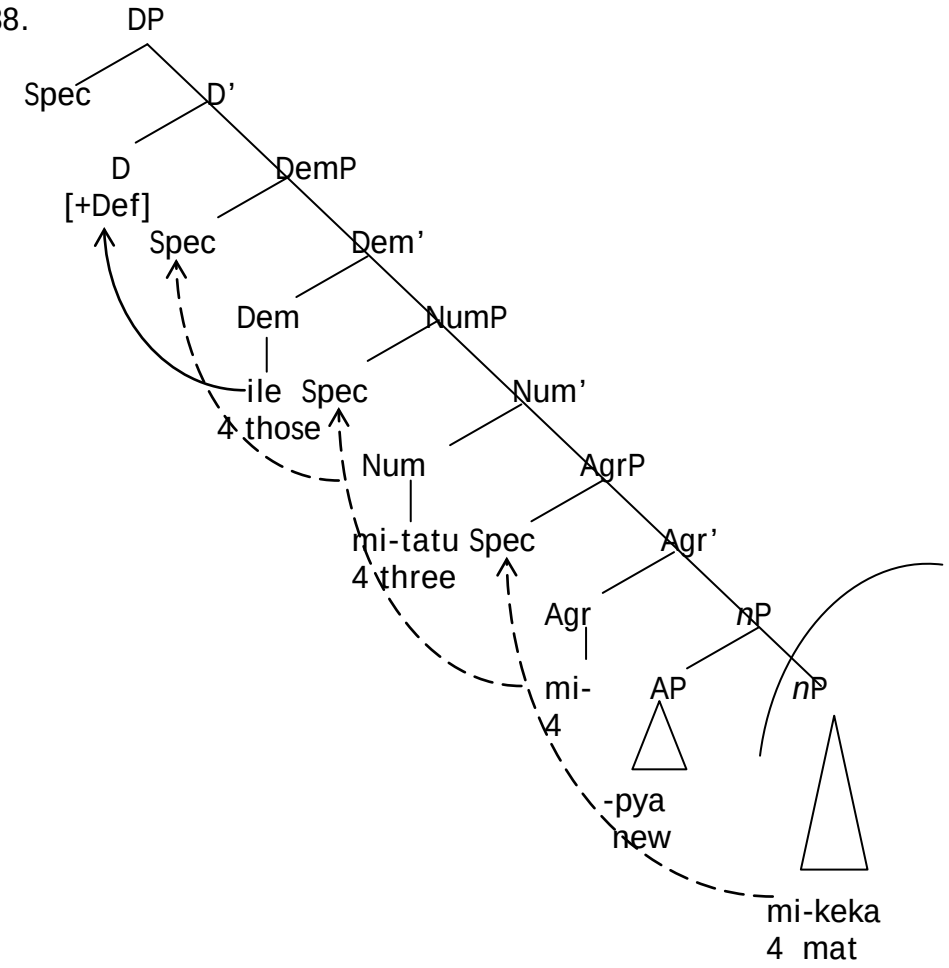
86.



In (86), the possessive precedes the adjective which appears as the adunct to *n*P. In this structural configuration, the postnominal demonstrative raises to D where it functions as the definite article. Consequently, since the demonstrative occupies D *n*P cannot raise to Spec DP but raises to Spec DemP instead. The chapter has also revealed another order involving the adjective and the Num(eral) as in (87) – (88).

87. *I-le*$_i$ *mi-keka* t$_i$ *mi-tatu* *mi-* *pya.*
4 mat 4 those 4 three 4 new
'The three new mats.'

88.



In (88), the numeral, just like the other modifiers, precedes the adjective in unmarked order. The Dem raises to D where it acts like the definite article, as in (86), and at the same time blocks the raising of *n*P to Spec DP.

In the preceding examples, I have illustrated the structure and derivation of the prenominal demonstrative in relation to the adjective, possessive, and the numeral. In (85) – (86), the structure and derivation focused on the adjective and the possessive and in (87) – (88) the focus was on the adjective and the numeral. In both cases, the

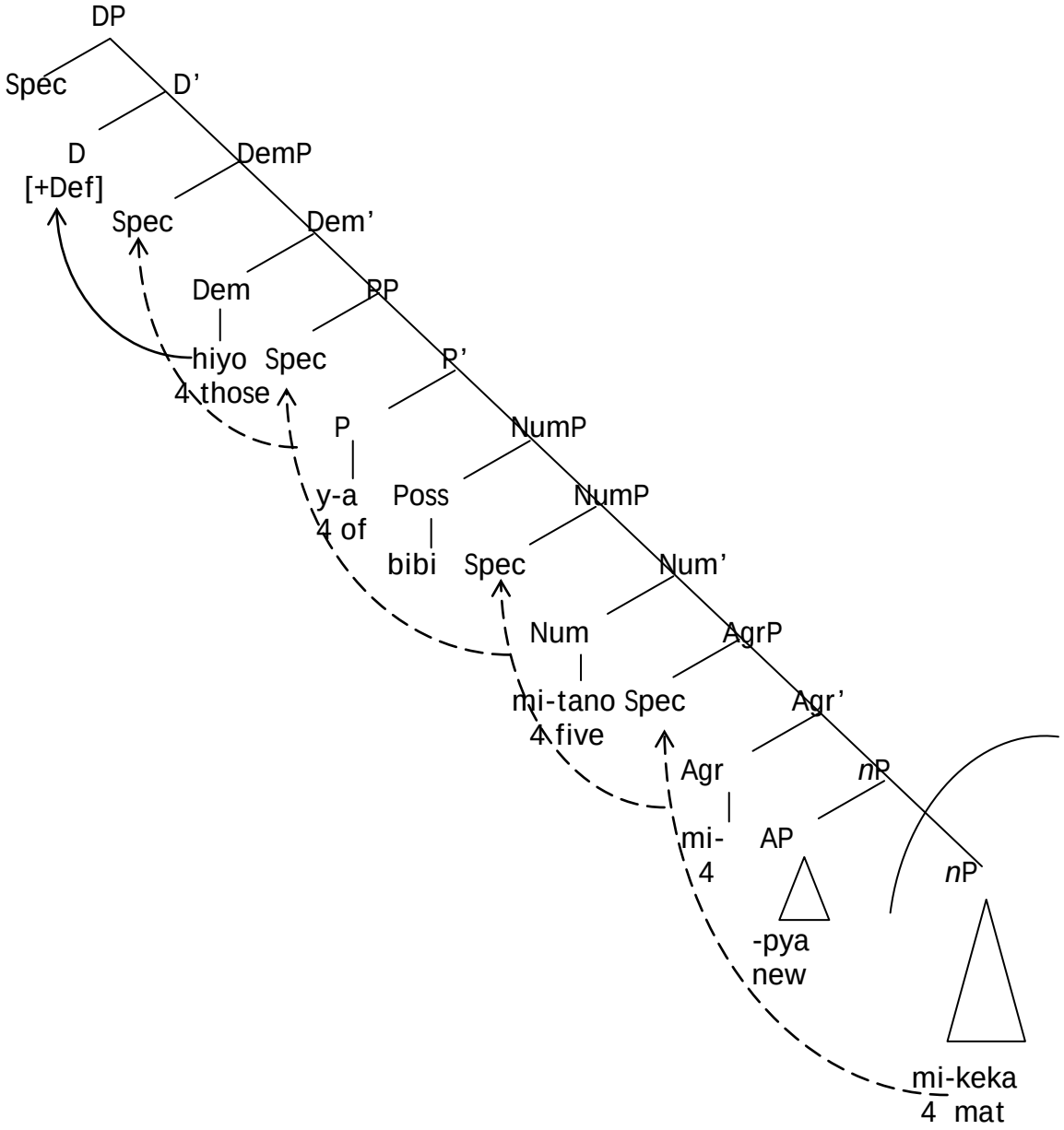
prenominal demonstrative is assumed to appear in D via movement. It is also assumed that the demonstrative in D serves as the definite article.

The remaining task is to derive the prenominal demonstrative in relation to the other elements of DP structure – adjective, numeral and possessive. Considering the mobility nature of the possessive and the fact that the demonstrative moves to D; only two orders involving the other elements of DP structure are possible in Swahili DP. These orders are [Dem_j n_i t_j Poss Num A t_i] and [Dem_j n_i t_j Num Poss A t_i]. These two orders are the only possible considering the fact that the adjective appears as the adjunct to *n*P. Consequently, the raising of *n*P results into the order in which the adjective appears in the final position.

The structure and derivation of the first order [Dem_j n_i t_j Poss Num A t_i] is provided in (89) – (90).

89. *H-iyo*$_j$ *mi-keka*$_i$ t$_j$ *y-a* *bibi* *mi-tano* *mi- pya* t$_i$.
4 those 4 mat 4 of 1 grandmother 4 five 4 new
'The grandmother's five new mats.'

90.



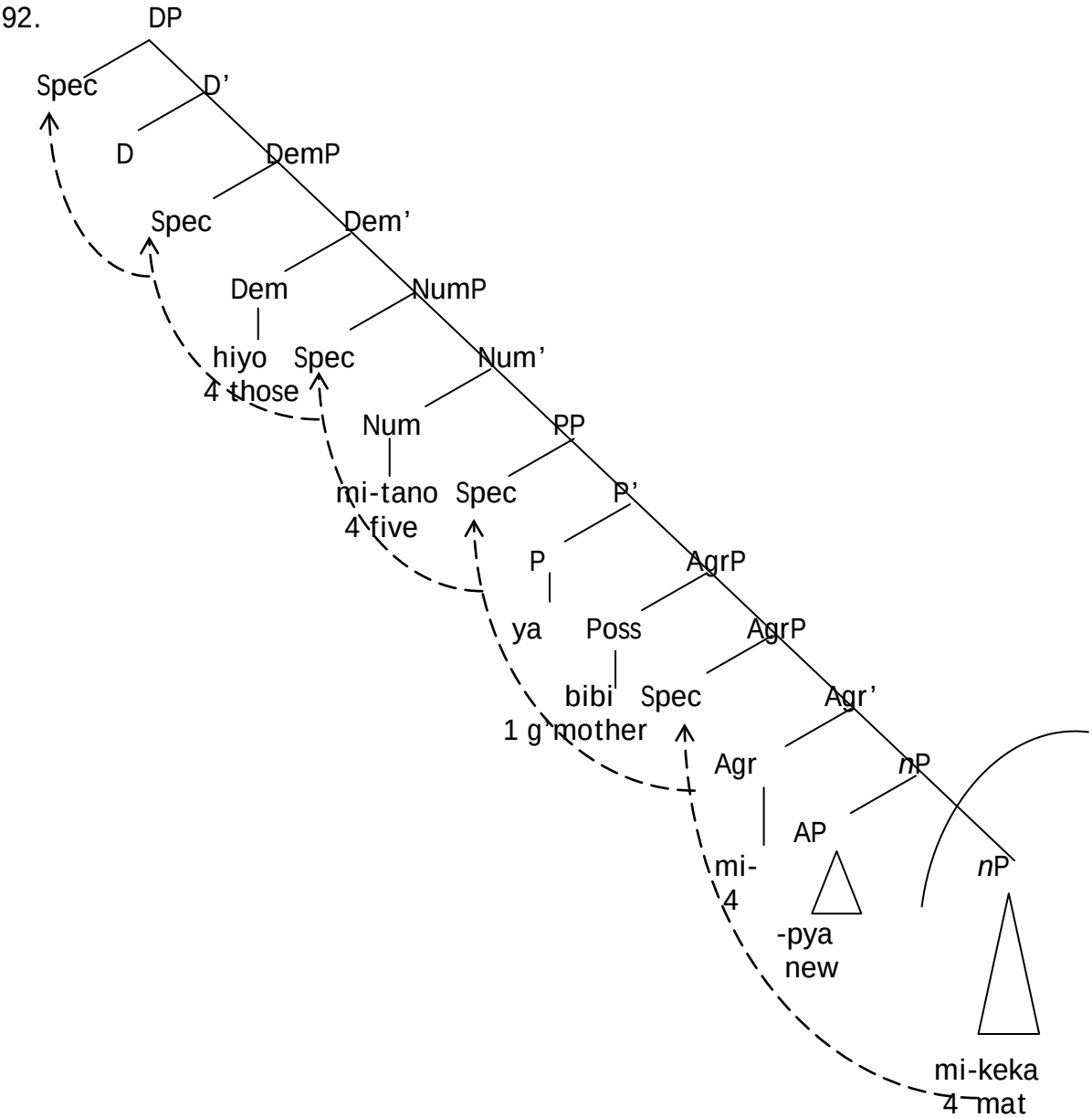
In (90), the adjective appears to the left of *n*P in the usual way as the adjunct to *n*P and following all other elements of DP structure. The possessive is adjacent to Dem and is preceding the other elements of DP structure – Num and Adjective. The *n*P raises to Spec DemP via Spec AgrP, Spec NumP and Spec PP while the postnominal demonstrative raises to D where it functions as the definite article. The resulting

order is [Dem$_j$ n_i t$_j$ Poss Num A t$_i$]. The raising *n*P triggers agreement step-by-step on each stage of raising – Spec AgrP, Spec NumP, Spec PP, and Spec DemP.

The second order [Dem$_j$ n_i t$_j$ Num Poss A t$_i$] is illustrated in (91) – (92).

91. *H-iyo*$_j$ *mi-keka*$_i$ t$_j$ *mi-tano* *y-a* *bibi* *mi-* *pya* t$_i$.
4 those 4 mat 4 five 4 of 1 grandmother 4 new
'The grandmother's five new mats.'

92.



In (92), the adjective appears to the left of *n*P in the usual way following all other elements of DP structure. Unlike (90) where the possessive follows the demonstrative; in (92) the possessive follows Num and precedes the adjective. The *n*P raises to Spec DemP via Spec AgrP, Spec PP, and Spec NumP while the demonstrative raises to D for the reasons explained earlier. The resulting order is [Dem$_i$ *n* t$_i$ Num Poss A]. The raising *n*P triggers agreement on the modifiers step-by-step on each stage of raising – Spec AgrP, Spec PP, Spec NumP, and Spec DemP.

There are four observations which can be made from the illustrations above. First, Swahili DPs project a determiner when the postnominal demonstrative raises to D^0. Second, unlike the other elements of DP structure, the possessive does not have a fixed place in DP hierarchy. Three, the variant orders of the elements in DP structure are attributable to the possessive. Fourth, in the two distinct positions the possessive can take in a single DP, the meaning does not change. Finally, it is worth noting that the demonstrative in Swahili is not yet evolved (grammaticalized) as the English definite article '*the'.* The process of grammaticalization of the demonstrative into the definite article is not yet complete, thus, at present, it cannot be said that the demonstrative is the definite article.

5.8 Chapter Summary

This chapter has presented the structure and derivation of Swahili DP involving the adjective. The chapter has considered the adjective category as an element which is expressed in terms of property concepts defined as a productive strategy linguists use to classify lexical items in languages. In Swahili the adjectives are classified as the native adjectives and loan adjectives. The native adjectives originate from Bantu languages, whereas loan adjectives originate from foreign languages which include Arabic, Persia, and Portuguese, among others.

It has been explained that the few adjectives available in Swahili can be categorized into derived adjectives and underived adjectives. The underived adjectives are morphologically simple, while the derived adjectives are said to undergo

morphological processes whereby some end with special suffixes. However, defining adjectives based on special suffixes has been found inconclusive. The chapter has revealed that typical adjectives in Swahili are few as is the case in many Bantu languages, despite the fact that the number of adjectives in one Bantu language cannot be stated with any precision. In the main, I have categorized adjectives along the lines of property concepts such as colour, size, age, and value; and provided evidence to show that adjectives share properties with classes of nouns and verbs.

The chapter has revealed that the adjective appears postnominally just like other modifiers except the distributive numeral (quantifier) category – *kila* 'each' in Swahili. In the postnonimal position, the adjective appears as the adjunct to base generated *n*P following the other elements – Dem, Num, and Poss. It has been attested that the adjective final position is achieved via the raising of the base generated *n*P to Spec DP. Thus, the order in English *tall man* for instance becomes *boy good* in Swahili after *n*P *boy* raises to Spec DP.

The chapter has shown that the adjective maintains the adunct to *n*P position even when other elements – Dem Num, Poss, are involved in the DP structure. This view presupposes that the adjective is consistently in the final position leading to the order [n_i Dem Num A t_i] in Swahili DP. This order is achieved via the movement of *n*P to Spec DP via successive steps – Spec AgrP, Spec NumP, and Spec DemP. The chapter has shown that the movement to Spec DP triggers observed agreement between *n*P and respective modifiers. The chapter has also shown that the various orders of DP modifiers in Swahili DP stem from the possessive appearing freely in adjunct positions.

The chapter has revealed that the Dem raises to D in order to project a determiner. It has been argued that the movement to D is triggered by the strong feature in D which attracts the postnominal demonstrative from its base generated position below D. With the demonstrative in D, I have shown that the raising of *n*P to Spec DP is not possible. In this view, I have shown that when D is occupied the *n*P landing site is the specifier position below D. Thus, *n*P raises to Spec DemP when the Dem has moved to D.

CHAPTER SIX

SYNTHESIS

6.0 Introduction

This thesis has attempted to analyze and derive the structure of Swahili DP. The structural analysis attempted has been accompanied with derivations of both the head *n*P and its structural elements – Demonstrative, Possessive, Numeral, and Adjective. The analysis has taken advantage of the cartography of functional structure approach which has proved useful in mapping fine contours of functional structure in several languages. Central to the cartographic approach is the growing evidence that the varied forms of clause and phrase structure studied stem from movement of a functional category – XP within the phrasal and clausal domains.

The various forms of Swahili DP are explained in terms of the movement of XP – *n*P, across its elements. This chapter is intended to shed lights on key findings of the thesis. It sets to summarize the conceptualizations of Classes and Gender, mapping of Swahili *n*P into DP structure, structural organization of its elements, nature of agreement patterns observed on the modifiers, and finally it explains the possibility of DP projecting a determiner functional category which serves as the definite article in languages like English or French.

6.1 Class(es) and Gender

The thesis has shown that there are two approaches in analyzing Class(es) and gender. The first approach assumes that Class(es) are number realizations of the noun prefixes while Gender is the lexical property of respective noun stems. This view assumes that noun stems bear lexical information (Gender) while Classes are added to the stems as number morphology only. As number morphology some classes assign singularity (one) whereas other classes assign plurality (not one) as illustrated in (1) – (2).

1. *M - kongojo.*

3 walking stick

'Walking staff (one).'

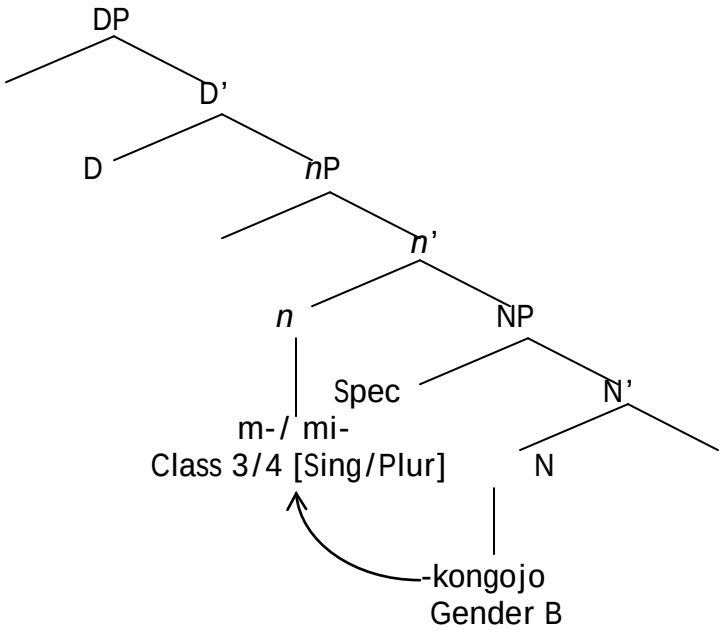
2. *Mi-kongojo.*

4 tree

'Walking staffs (not one).'

In (1) – (2), Classes 3/4 distinguish singular *n*P from plural *n*P. It is assumed that noun Stems like *–kongojo* and not its Classes *m-/mi-* are categorized for lexical information – Gender/meaning. This conceptualization derives the Classes as number morphology and the noun Stems as instatiations of Gender – A, B, C, D, etc. (details in Chapter 2). Based on (1) – (2) Class and Gender are derived distinctively in (3).

3.

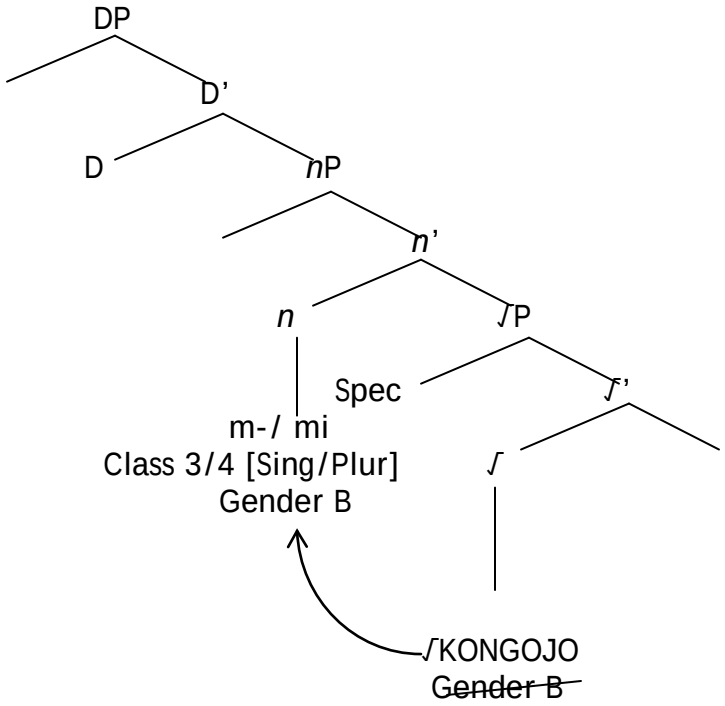


In (3) it is assumed that Gender is assigned on the noun stem while Class on the noun prefixes. The noun stem – *kongojo,* is Gender B whereas the noun classes belong to Class 3/4 - *m-* or *mi-*. Eventually, the noun stem raises to attach to the class prefixes.

The second approach assumes that the noun stems are analyzed as Roots which are not categorized for lexical information – Gender. In this view, noun classes are categorized for number information – Singular/Plural; and lexical information or

Gender (meaning/denotation). The illustration in which Class and Gender information are combined on noun Classes is provided in (4).

4.

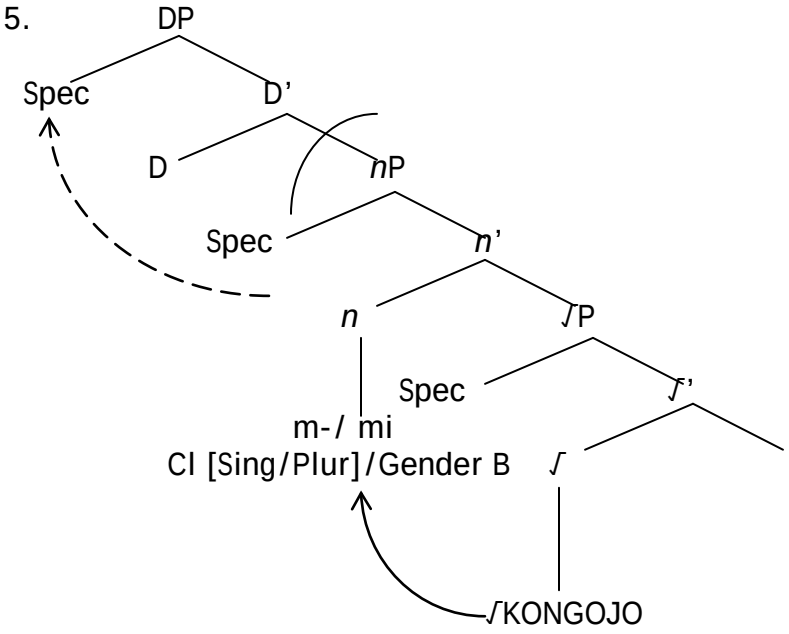


In (4), noun Class 3/4 (*m-* and *mi-*) are analyzed under *n* as singular and plural affixes for the noun stem or Root. The Root raises and attaches to the prefixes since it is considered uncategorized for meaning. The *n* acts as a nominalizer to uncategorized Root and is used to give roots meaning. The intimacy between noun classes and Gender has led to divergent views with some Bantu linguists analyzing noun classes as instantiations of number only while others analyzing them as instantiations of both number and Gender. There is no winning side on this debate despite the fact that Meinof classification of nouns based on classes appears to lead to a solution. In this tradition, nouns are categorized as classes and each singular-plural pair forms one Gender. Indeed, the crux of all the argument points to the realization that paired noun classes form one semantic group of nouns that would be called Gender. The reference to noun classes alone rather than class and Gender could suffice the analysis of Bantu nouns.

6.2 Swahili DP Structure

Swahili DP structure has been analyzed in this thesis as consisting *n*P which can co-occur with at least one element or modifier. The simple DP comprises *n*P – XP functional category, base generated below D. The *n*P, then, raises to Spec DP as illustrated in (5).

5.



The derivation in (5) shows that *n*P – *m-kongojo* or *mi-kongojo* raises to Spec DP to form a simple Swahili DP. This derivation differs significantly from the previous approach based on head-to-head movement of X. The previous account claims that Swahili DP is formed by the raising of *n* (Num) to D. The raising of *n* to D is explicated assuming that Swahili DP lacks overt determiner. However, the head-to-head derivation becomes inconclusive with the finding in this thesis that Swahili DP can project D which serves as a definite article found in article languages like English or French. Contrary to *n*-to-D movement, the assumed derivation which specifies the movement of *n*P explains the fact that D can be reserved for a category which acts as the definite article.

The thesis has also analyzed diminutive and augmentative DPs in an attempt to link regular nominal classes with the formation of DPs with evaluative meanings. Regular

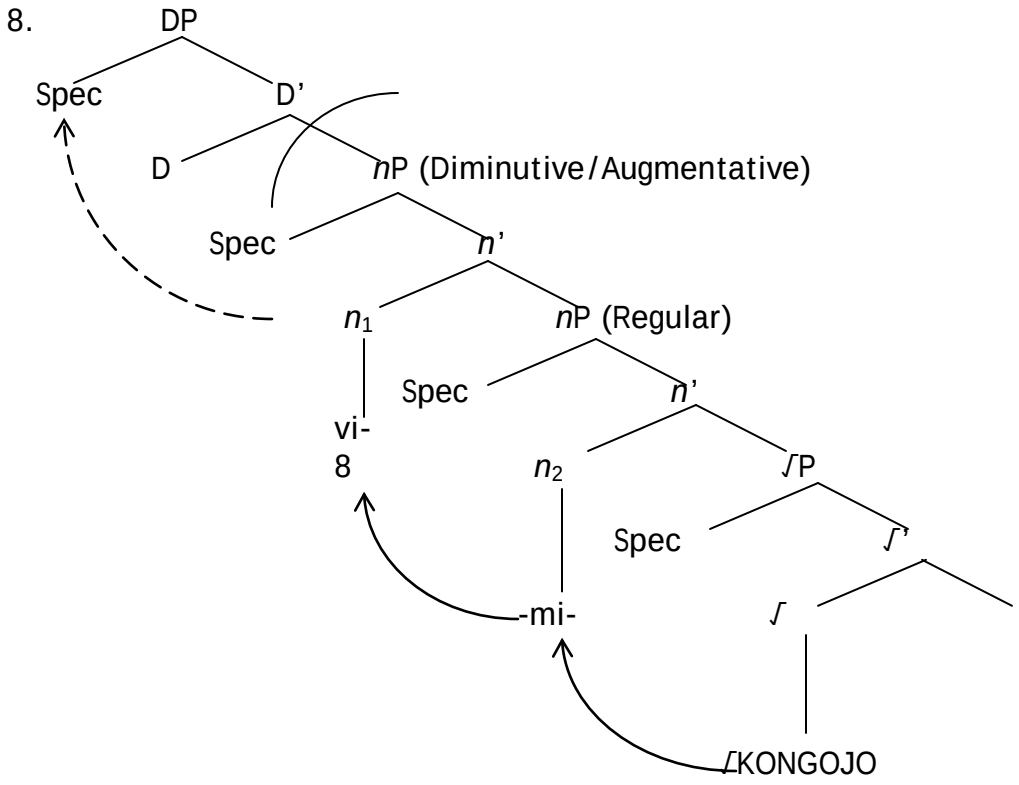
DPs are referred to as having descriptive content different from derived *n*Ps which are said to have expressive or evaluative content. Examples of descriptive and evaluative DPs are provided in (6) – (7).

6a. *M-toto.*	6b. *Wa-toto.*
1 child	2 child
'Child.'	'Children.'
7a. *Ki-toto.*	7b. *Vi-toto.*
7 tiny pretty child	8 tiny pretty child
'Tiny pretty children.'	'Tiny pretty children.'

DPs in (6) are said to have descriptive content whereas DPs in (7) are said to have evaluative or expressive content. The expressive content DPs have meaning beyond the one communicated by the regular noun class prefixes. On the contrary, DPs with descriptive content have meaning communicated by the regular class prefixes only. For instance, Class 1/2 nouns in (6) refer to 'ordinary' child and children while Class 7/8 attached to former Class 1/2 noun stems *–toto* derives additional meaning 'tiny pretty' child and children. Hence, Class 7/8 prefixes are said to have evaluative content.

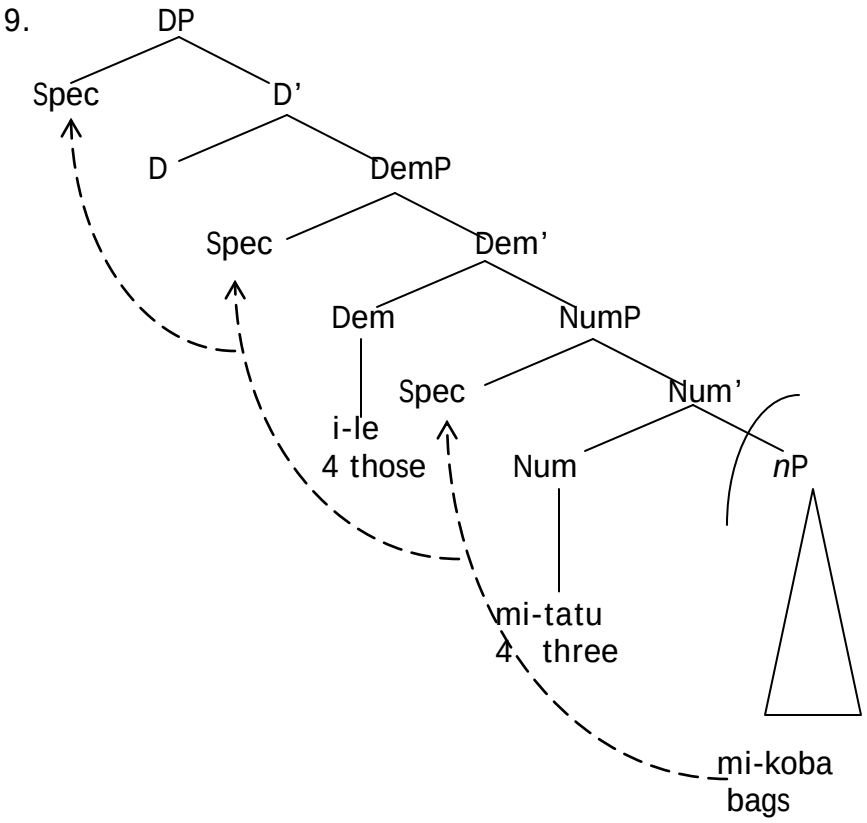
The process of deriving evaluative DPs from regular noun classes has been referred to as secondary classification of nouns in Bantu languages. The main evaluative DPs in Bantu languages are diminutives and augmentatives. It has been argued consistently that Swahili DPs results from the raising of *n*P to Spec DP. Hence, the process of deriving diminutive and augmentative DPs involves the movement of *n*P. The thesis has shown that in DP structure the diminutive and augmentative *n*Ps are derived higher than the position the non-diminutive/ non-augmentative (regular descriptive *n*Ps) *n*P are derived. In other words, the diminutive and augmentative prefixes are positioned higher than the regular noun class prefixes as illustrated in (8).

8.



In (8), the *n*P is regular or descriptive when it raises to n_2 to form *mi-kongojo* 'walking staffs' whereas it is expressive or evaluative when *n*P raises to n_1 to form *vi-mikongojo* 'tiny pretty walking staffs'. The derivation assumes that dimunitive/augmentative *n*Ps are derived in a position higher than the position where the regular *n*Ps are derived. If √KONGOJO raises to n_2 the *n*P is regular and if it raises again to n_1 the *n*P is expressive (evaluative). The final realization of Swahili DP like the above is accomplished by the raising of *n*P to Spec DP (indicated by dotted arrow). This fact is also true when there are several elements of *n*P in a single DP as illustrated in (9).

9.



In (9) elements of *n*P the Dem(onstrative) and Num(eral) precede *n*P in an order that reflects English *those three bags* where head *n*P is base generated in the final position. However, the surface structure of Swahili DP shows that the DP is *n*P-initial due to the raising of *n*P to Spec DP. This process results into the opposite order *bags those three* (*mi-koba i-le mi-tatu*). It can be observed that *n*P-initial order results from its cyclic raising to Spec DP via Spec NumP and Spec DemP. The thesis has noted that all modifiers or elements of Swahili DP appear postnominally following the raise of the head *n*P to the initial position – Spec DP different from English in which the order of elements is consistently prenominally.

6.3 Order of Elements

The thesis has revealed that the basic order of Swahili DP is [n_i Dem Num A t_i] as illustrated in (10).

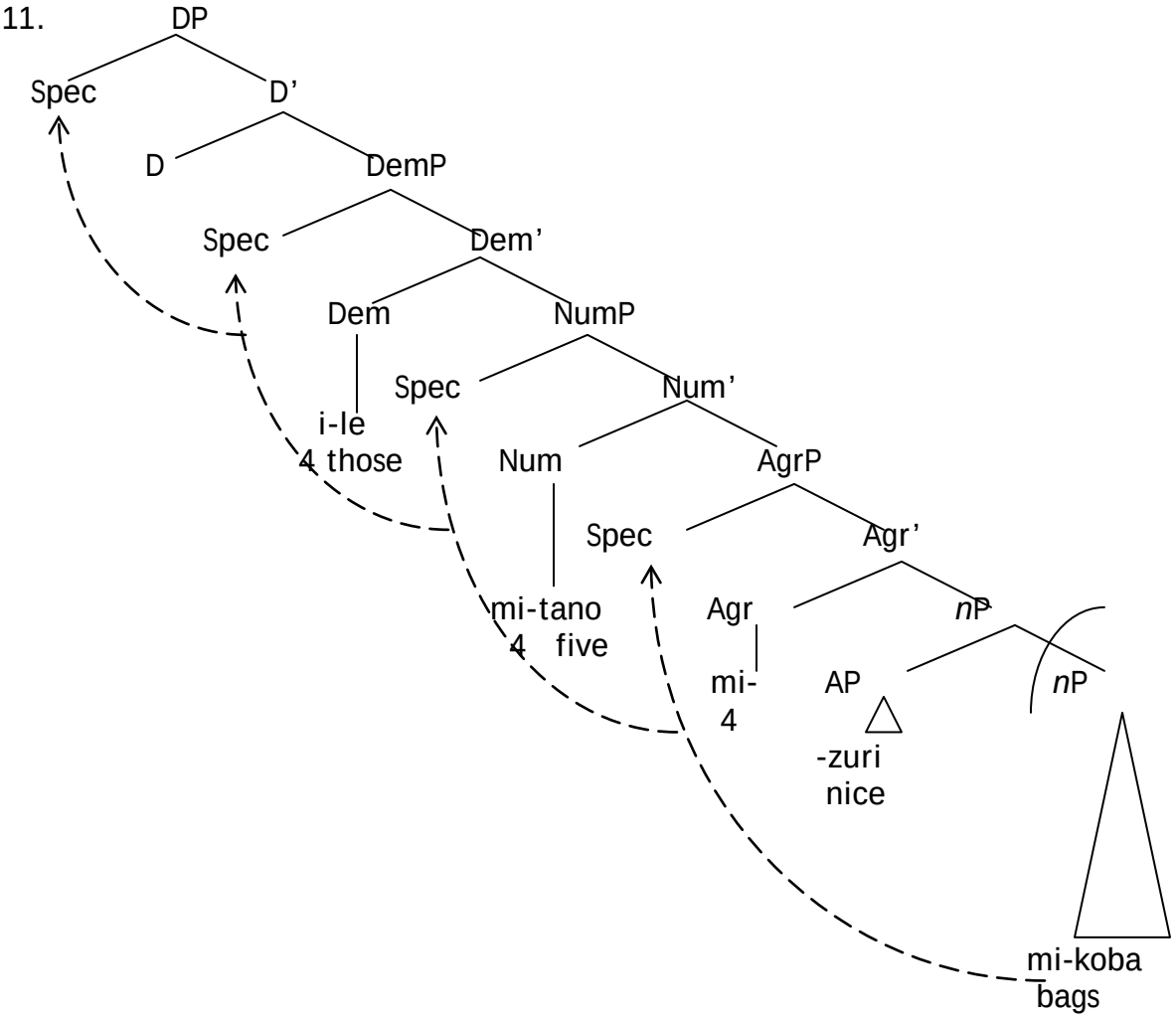
10. *Mi-koba* *i-le* *mi-tano* *mi-zuri.*

4 bags 4 those 4 five 4 nice

'Those five nice bags.'

The order in (10) reflects the opposite of the established typology on the order of the meaningful elements in a DP [Dem Num A *n*] (see Chapter 1). The appearance of *n*P in the initial position is said to result from its movement to Spec DP as illustrated in (11).

11.



In (11) *n*P raises cyclically to Spec DP via successive stops at Spec AgrP, Spec NumP, and Spec DemP. The raising of *n*P to specifier positions has a consequence of leaving the adjective in the final position where it precedes all other elements of *n*P.

The thesis has revealed that complexities in the order of elements in Swahili DPs emanate from the possessive which appears to have no fixed position in DP hierarchy. The possessive can precede the demonstrative, the numeral, and the adjective resulting into more complex DPs as illustrated in (12) – (14) adopted from (10).

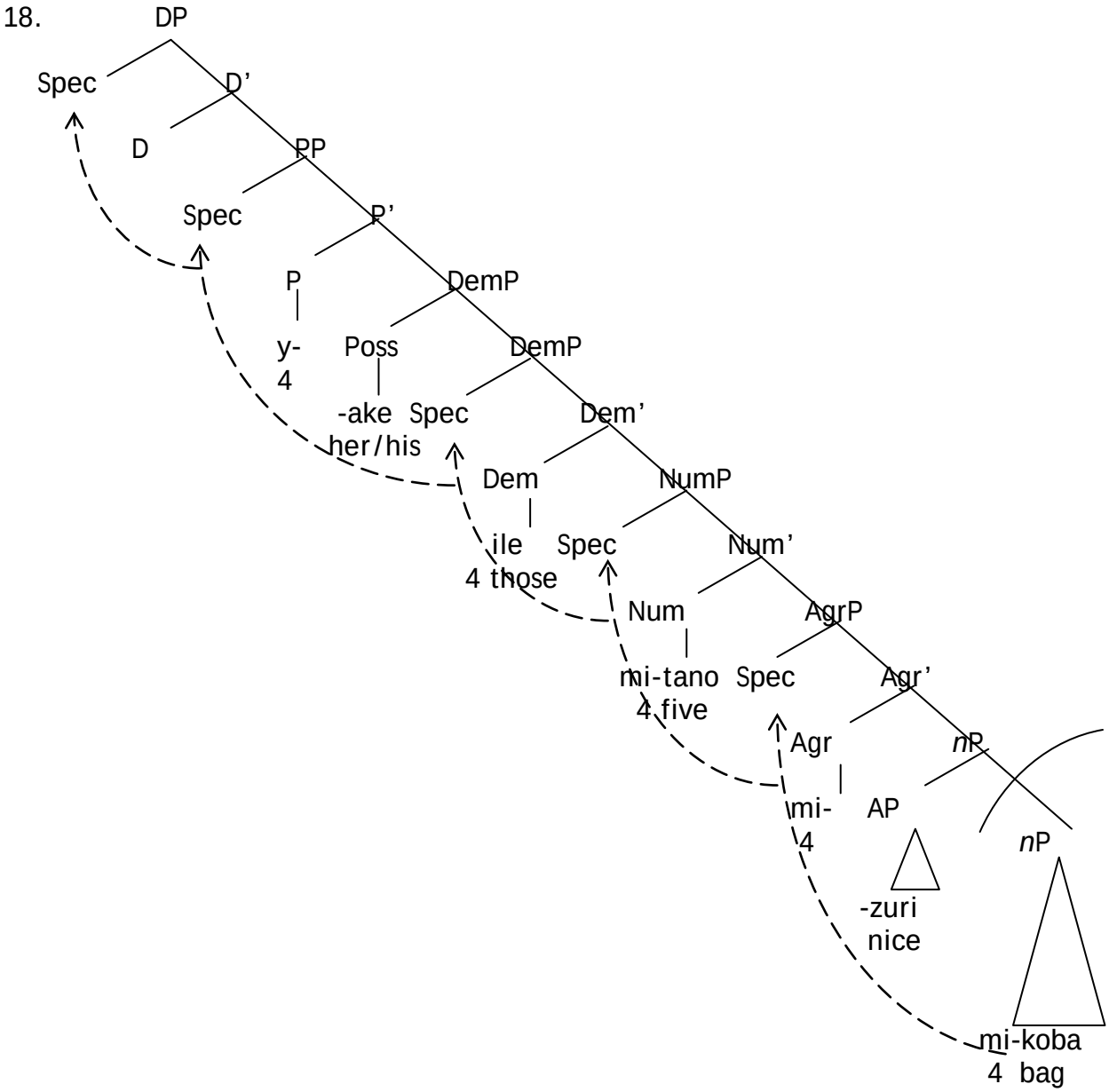
12. *Mi-koba y-a Maria i-le mi-tano mi-zuri.*
    4 bag 4 of 1 Mary 4 those 4 five 4 nice
    'Those Mary's five nice bags'
13. *Mi-koba i-le y-a Maria mi-tano mi-zuri.*
    4 bag 4 those 4 of 1 Mary 4 five 4 nice
    'Those Mary's five nice bags.'
14. *Mi-koba i-le mi-tano y-a Maria mi-zuri.*
    4 bag 4 those 4 five 4 of 1 Mary 4 nice
    'Those Mary's five nice bags.'

In (12) – (14), Swahili DP structure is more variant with the introduction of a possessive category – lexical possessive. Nevertheless, as illustrated the introduction of the possessive in given positions does not alter meaning. The variant order does not change even when pronominal possessives replace the lexical possessives as in (15) – (17).

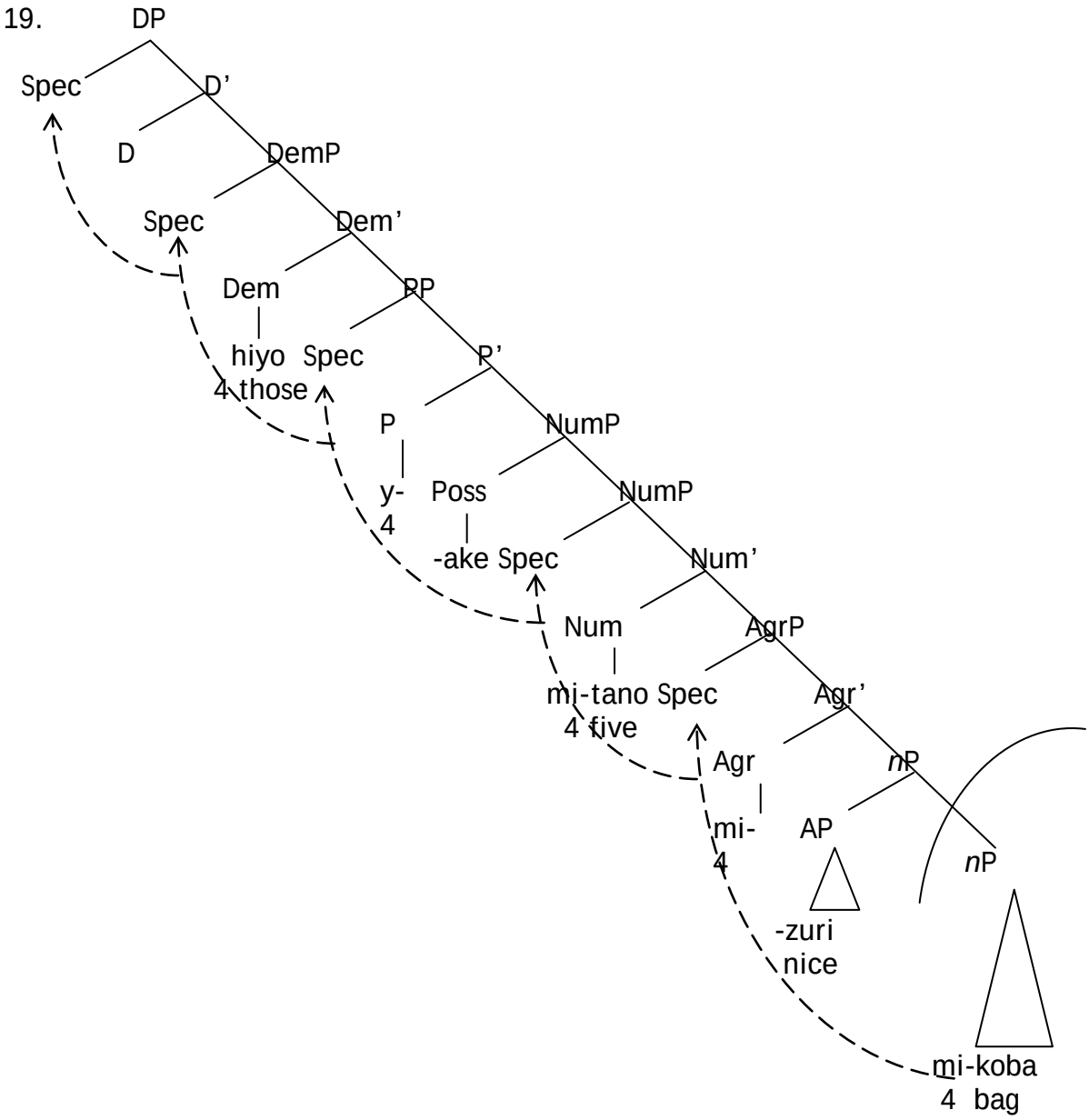
15. *Mi-koba y - ake i-le mi-tano mi-zuri.*
    4 bag 4 of her/his 4 those 4 five 4 nice
    'Those five nice bags of hers/his.'
16. *Mi-koba i-le y - ake mi-tano mi-zuri.*
    4 bag 4 those 4 of her/his 4 five 4 nice
    'Those five nice bags of hers/his.'
17. *Mi-koba i-le mi-tano y – ake mi-zuri.*
    4 bag 4 those 4 five 4 of her/his 4 nice
    'Those five nice bags of hers/his.'

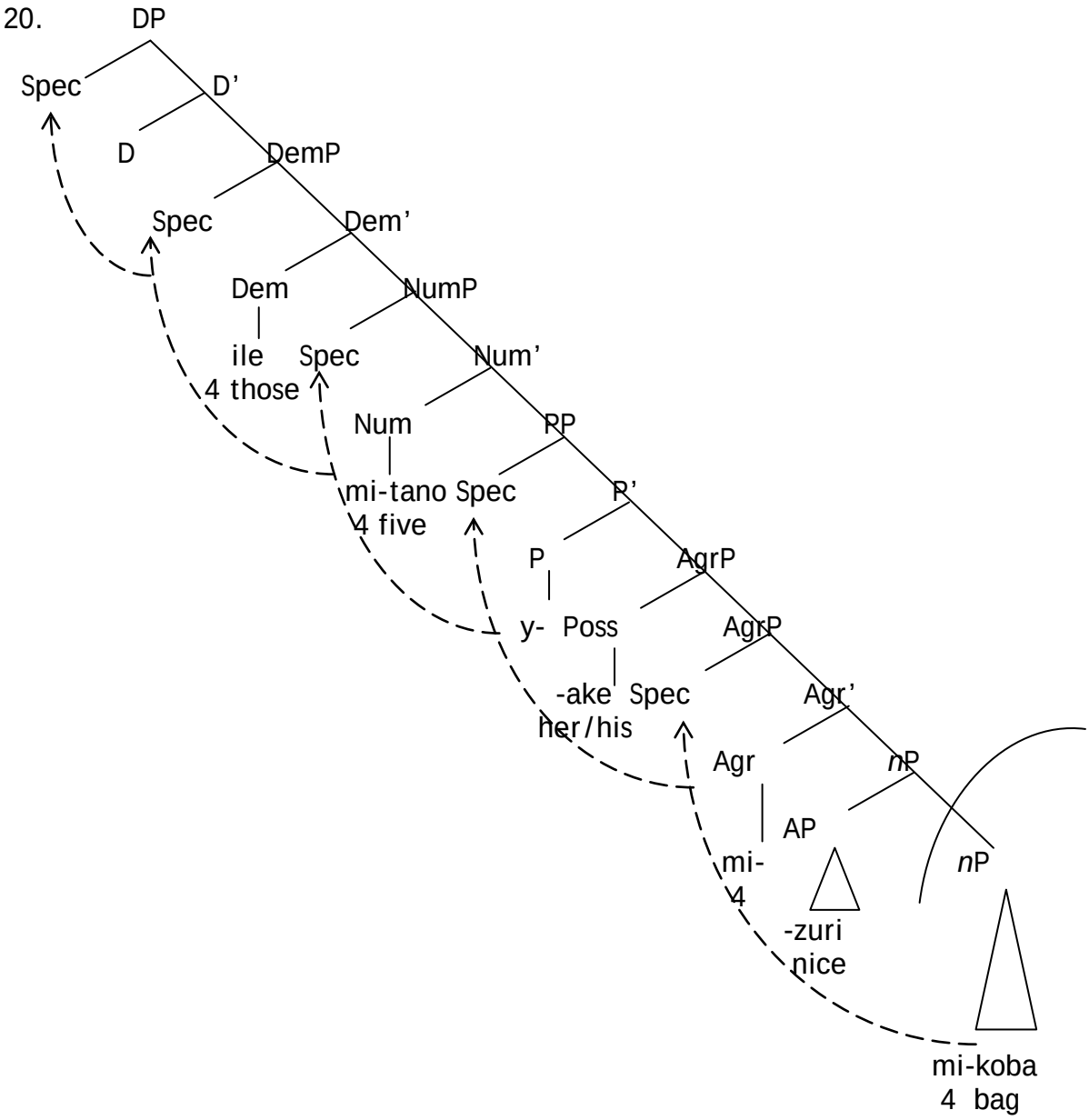
In (15) – (17), the DPs have pronominal possessives instead of lexical possessives in (12) – (14). It has been argued that the introduction of the possessive category in Swahili DPs led to the conclusion that elements in Swahili DPs cannot be tamed in DP structure. However, with the possessives in place it is possible to use (11) to derive Swahili DPs with more complex orders illustrated in (12) – (17). Derivations are provided in (18) – (20) for illustrating (15) – (17).

18.



19.


DP
Spec
D'
D
DemP
Spec
Dem'
Dem
PP
hiyo
4 those
Spec
P'
P
NumP
y-
4
Poss
NumP
-ake
Spec
Num'
Num
AgrP
mi-tano
4 five
Spec
Agr'
Agr
nP
mi-
4
AP
nP
-zuri
nice
mi-koba
4 bag



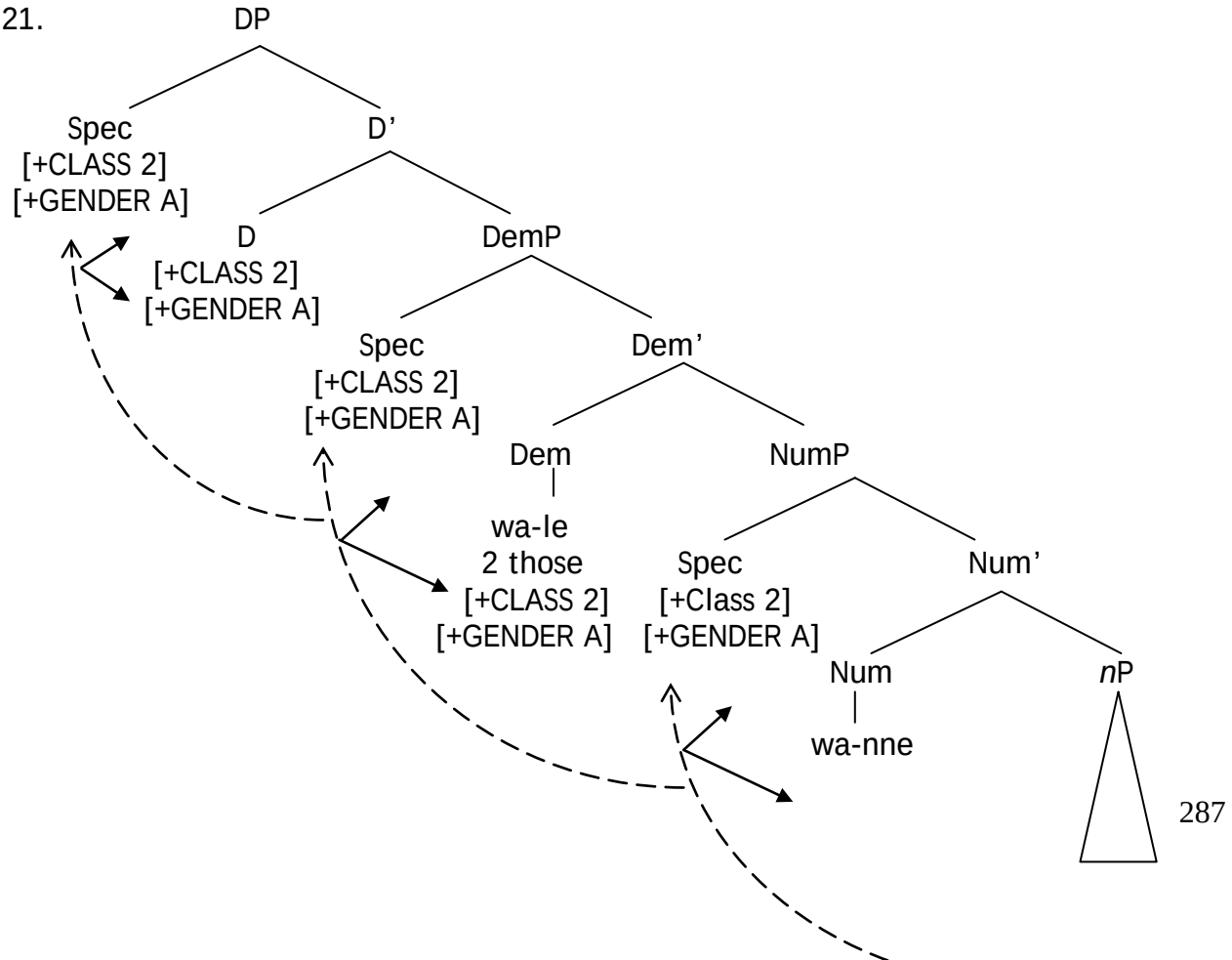
In the above examples (18) – (20), Swahili DPs are derived via same cyclic raising of *n*P to Spec DP as assumed in Chapter 1. The structures become more varied and complex with the possessive which appears to have no fixed position in DP hierarchy. The possessive appears before the demonstrative in (18), precedes the numeral in (19), and finally it predeces the adjective in (20).

6.4 Agreement on Modifiers

One advantage of deriving Swahili DP via XP raising to Spec DP is explained in terms of agreement on the modifiers – Dem, Num, Poss, and Adjective. This view on agreement departs from agreement by feature copying in a top-down fachion. Agreement by feature copying assumes that agreement on modifiers spreads from the head *n*P which is assumed to be the controller of agreement. The approach to agreement pursued in this thesis, however, departs from agreement spreading by showing that agreement is achieved in a Spec head relation stemming from *n*P movement to specifier positions.

In this view, agreement is considered the by product of cyclic movement of *n*P to Spec DP accompanied by checking of features in a Spec head relation. It has been argued in this thesis that agreement relations cannot be explained using head Spec relation as assumed in the past. The approach on XP movement assumes that agreement features are checked step-by-step by the raising *n*P resulting into the controller-controlee agreement between head *n*P and its modifiers in DP structure as illustrated in *wa-toto wa-le wa-nne* 'those four children' in (21) (see Chapter 1).

21.



2 four
[+CLASS 2]
[+GENDER A]

wa-toto
2 child
[+CLASS 2]
[+GENDER A]

In (21) agreement features for Class 2 *wa-toto* 'children' are inherited on the modifiers via the raising of *n*P to Spec DP. The process is accomplished by checking of the features in a Spec head relation. The approach adopted in this thesis assumes that despite the surface structure, like when animate nouns such as *kifaru* 'rhino' *kicheche* 'polecat' or *kiboko* 'hippo' are involved, agreement facts are explained in terms of underlying features – animate; and not the noun class they belong as illustrated in (22) – (27).

22. *Vi-faru w-ale wa-nne wa-dogo wa-me-kwenda mi-toni.*
    8 rhino 2 those 2 four 2 little 2 PERF. to go 4 river LOC
    'Those four little rhinos have gone to the rivers.'
23. **Vi-faru v-ile vi-nne vi-dogo vi-me-kwenda mi-toni.*
    8 rhino 8 those 8 four 8 little 8 PERF. to go 4 river LOC
    'Those four little rhinos have gone to the rivers.'
24. *Vi-cheche w-ale wa-nne wa-dogo wa-mekamata kuku.*
    8 polecat 2 those 2 four 2 little 2 PERF. to catch 2 chicken
    'Those four little polecats have caught chickens.'
25. **Vi-cheche v-ile vi-nne vi-dogo vi-mekamata kuku.*
    8 polecat 8 those 8 four 8 little 8 PERF. to catch 2 chicken
    'Those four little polecats have caught chickens.'
26. *Vi-boko w-ale wa-nne wa-dogo wa-me-zama topeni.*
    8 rhino 2 those 2 four 2 little 2 PERF sink mud LOC
    'Those four little hippos are sank in mud.'
27. **Vi-boko v-ile vi-nne vi-dogo vi-me-zama topeni.*
    8 rhino 8 those 8 four 8 little 8 PERF sink mud LOC
    'Those four little hippos are sank in mud.'

In (22), (24), (26), modifiers and the verb of animate nouns belonging to Class 8 take the underlying Class 2 agreement irrespective of the noun class they belong. Any attempt to make these modifiers agree with the surface noun Class 8 yields ungrammatical results as in (23), (25), and (27). It can be observed that animate nouns above belong to Class 8 nouns but they take agreement forms from the underlying Class 2 nouns. This fact can be explained in terms of underlying features which are inherited and checked in a Spec head relation via movement rather than copying in a top-down fashion.

6.5 The Determiner in Swahili DP

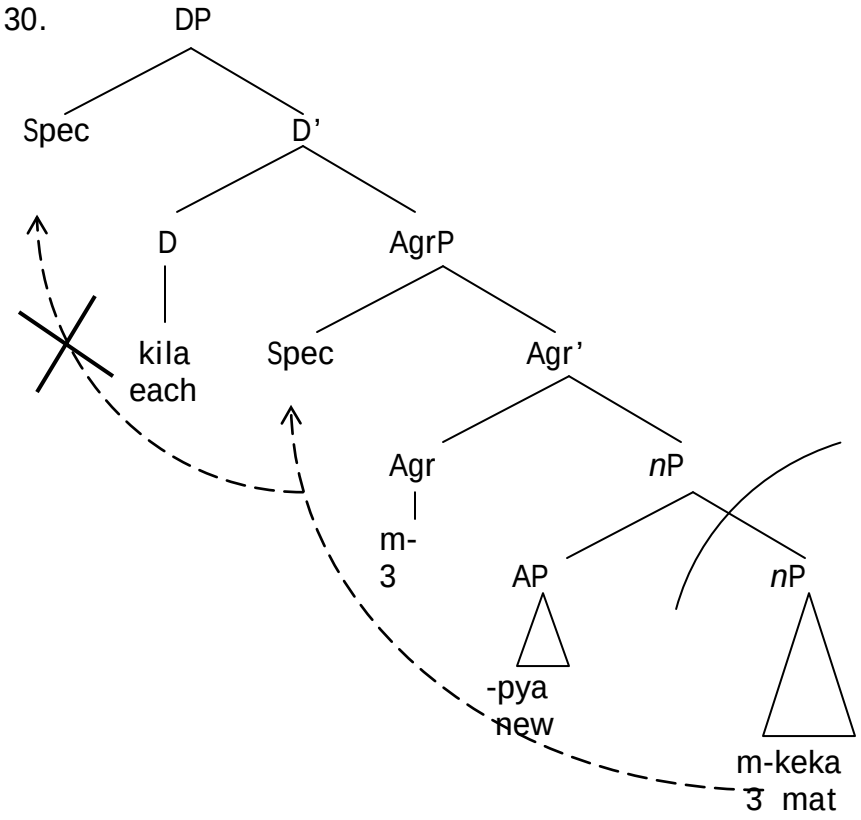
This thesis has departed from assuming that Swahili DP projects a null D to which the head noun raises (head-to-head movement). The analysis involving head noun (also dubbed X, Num, or *n*) raising to D assumed that Swahili lacks overt determiners. Departing from the head movement – *n*–movement to D, this thesis has illustrated consistently that Swahili DPs are derived via the movement of XP functional category; NumP or *n*P (this thesis has adopted *n*P approach), to Spec DP via successive stages as explained in the preceding sections.

The argument in support of *n*P movement to Spec DP in Swahili can be found in the distribution of the distributive non-numeral (quantifier) *kila* 'each' which appears pronominally only (28) – (29).

28. *Kila m-keka m-pya.*
each 3 mat 3 new
'Each new mat.'
29. **M-keka kila m-pya.*
3 mat each 3 new
'Each new mat.'

In (28), *kila* 'each' is assumed to be base generated prenominally since post nominal appearance of this category leads to ungrammaticality as illustrated in (29). It is assumed that *kila* is base generated under D as illustrated in (30).

30.



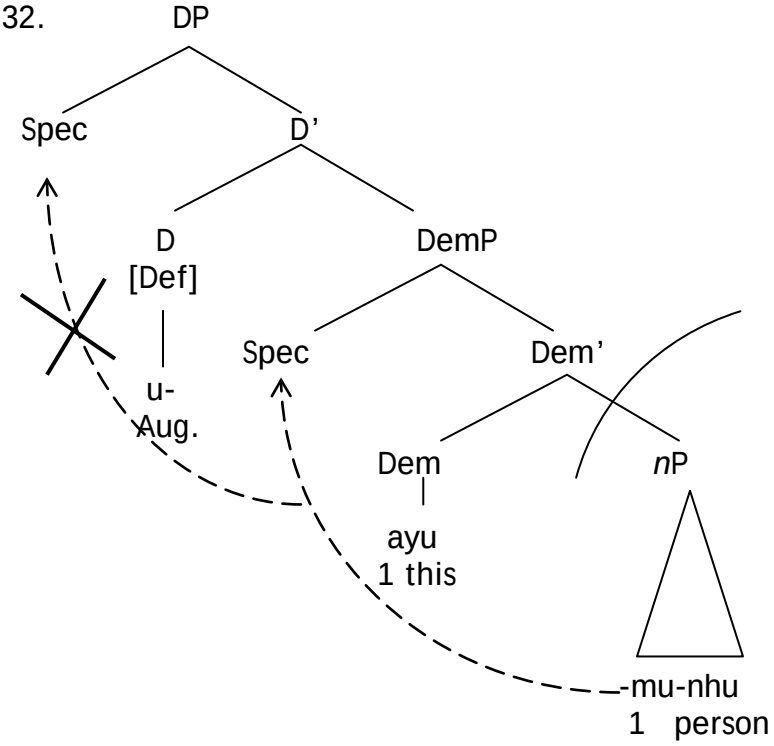
In (30), the distributive non-numeral quantieir *kila* 'each' appears in D where it is assumed to be base generated and consequently; the raising of *n*P to Spec DP is not possible. It follows that the only possible landing site for *n*P is specifier position below D. In (30), the raising *n*P lands on Spec AgrP.

Another strong evidence for supporting that D is specified for a separate category from *n*P comes from the analysis of augmented *n*Ps and demonstratives in augment Bantu languages. The theisis has revealed that these structural categories function as definite articles when appearing in D (see Chapter 2). While the augment is assumed to be base generated in D the demonstrative is assumed to appear in D via raising.

An instance of the augmented *n*P (*n*P with an augment or Initial Vowel – IV) with the augment in D is presented in (31) and derived in (32).

31. *U-mu-nhu ayu.*
Aug 1 person 1 this
'The person this' (Gogo, PC. Amani Chipalo)

32.

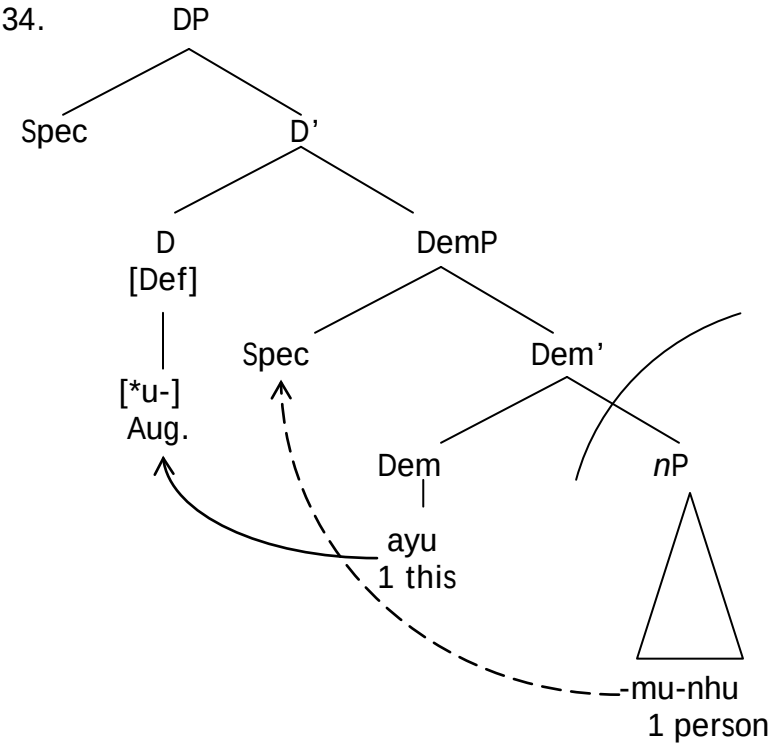


In (32), the augment *u-* appears in D the position specified for the definite article just like the distributive non-numeral quantifier *kila* 'each'. Since the augment appears in D, the raising of *n*P *–mu-nhu* to Spec DP is not possible. The raising *n*P lands below D on Spec DemP instead. In D, the augment serves a definite article function. In Gogo, the demonstrative appearing in the initial position also acts as the definite article. This view is illustrated in (33).

33. *Ayu mu-nhu.*
1 this 1 person
'The person.'

It has been observed that the demonstrative in (33) occupy D position – the position specified for definite article. The appearance of the demonstrative in D results from its movement from Dem as illustrated in (34).

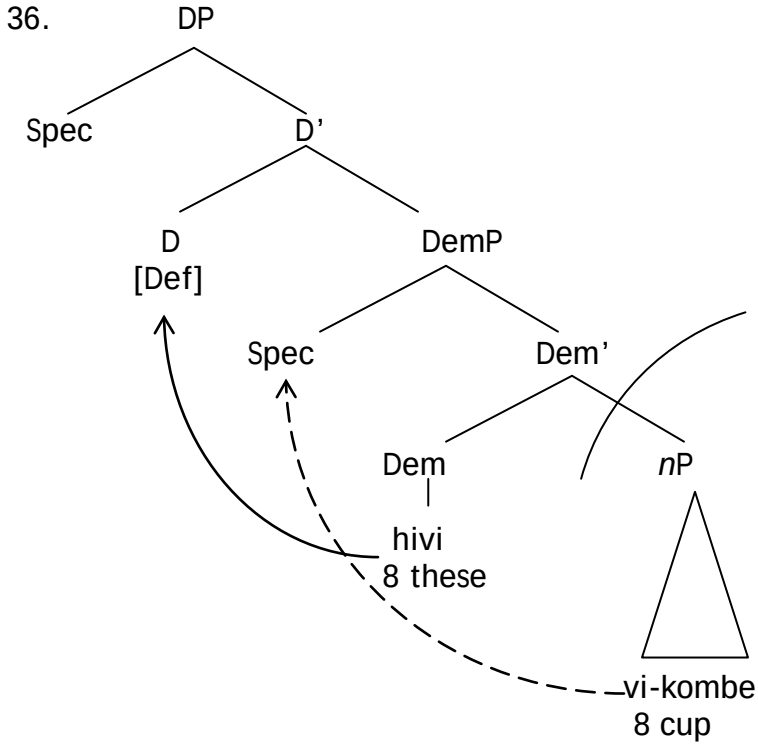
34.



In (34), the demonstrative appearing in D serves as the definite article just like the augment. In Gogo, however, the augment and the prenominal demonstrative are in complementary distribution hence the raising demonstrative deletes the augment in D. This analysis provides support for the Swahili DP where the demonstrative appearing in D appears to function as the definite article – a determiner. This view is illustrated in (35) – (36).

35. *Hivi* *vi-kombe.*
8 these 8 cup
'(These) the cups.'

36.



In (36), the raising of *n*P to Spec DP is blocked since the demonstrative moves to D. The *n*P lands on Spec DemP instead. It is assumed that the appearance of the demonstrative in D results from raising form its base generated position to D. In D, the demonstrative functions as the definite article on a par with other functional categories illustrated from Gogo, an augment Bantu language. Thus, the analysis based on XP movement provides a plausible account of the structural relations holding between *n*P and the modifiers, agreement forms, and the observed varied orders of elements in Swahili DP.

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